2024 API PUBLICATIONS CATALOG

American Petroleum Institute

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Full document details: 2024 API Catalog

Driving Safety, Environmental Protection, and Sustainability Across the Natural Gas and Oil Industry

API is pleased to present its 2024 Publications Catalog. The 2024 Edition lists API standards, recommended practices, and other technical documents to help the natural gas and oil industry operate safely and efficiently, supplying energy to billions of people around the world. API standards and recommended practices are developed by leading industry subject-matter experts to establish and maintain consensus guidelines and good practices for the industry.

As we look to the future, we continue to strive to deliver energy in ways that protect our workers, communities, and the environment. This commitment to improvement is underscored by the release of the 10th Edition of API Specification Q1, *Quality Management System Requirements for Organizations Providing Products for the Petroleum and Natural Gas Industry*—a significant evolution that establishes revised quality management system benchmarks. Designed to foster continuous improvement, reduce the risk of using nonconforming products, and streamline efficiency, the 10th Edition includes a broadened scope that reinforces our commitment to upholding the highest quality standards in an industry that continues to evolve.

The publications in this catalog are intended for all segments of the natural gas and oil industry.

- For **upstream**, API publications cover offshore structures and floating production systems, tubular goods, valves and wellhead equipment, and drilling and production equipment.

- **Midstream** standards cover pipeline and transportation-related subjects.

- In the **downstream** arena, API publications address marketing and refinery equipment, including storage tanks, pressure-relieving systems, compressors, turbines, and pumps.

API also has publications that apply across industry sectors, covering fire and safety protection and petroleum measurement.

Other API publications cataloged here include API Statistical Data Reports, economic analysis, research reports, and other educational materials that provide basic information about the oil and natural gas industry and how technology is transforming it.

API's influence extends globally, with standards that are referenced in at least 31 countries. This is a testament to the quality and best-in-class reputation of API documents for advancing environmental, health, safety, and operational performance.

Through the publication and use of our 800+ standards—and initiatives like API Energy Excellence®, API's foundational performance program—we are accelerating industry's practices in driving safety, health, and environmental progress while meeting global demand for affordable, reliable, and cleaner energy.

For more information or questions about the catalog, please contact the API Standards Department at 202-682-8417 or standards@api.org.

Alexa Burr
Vice President, Standards & Segment Services
API

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Ordering Information

Print and PDF versions of API standards are available for purchase at **www.apiwebstore.org.**

API provides the public with online access to nearly 200 key industry standards via our IBR (Incorporated by Reference) Reading Room. These standards cover all aspects of the oil and gas industry, including process safety, refinery and chemical plant operations and equipment, offshore drilling, hydraulic fracturing and well construction, and pipeline safety on welding, and public awareness programs. API's goal is to provide the public with access to these standards, particularly those related to safety or that have been incorporated into federal regulation.

Please view the read-only publications at http://publications.api.org.

The standards are available for review only.

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www.api.org

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GENERAL: OIL FIELD EQUIPMENT AND MATERIALS

The API Composite List

This is a directory of companies licensed to use the API Monogram and APIQR Registration Mark. This directory also lists the companies who have registered Perforator Designs with API. It provides an alphabetical list of approximately 1,400 manufacturers licensed (at the time of publication) to mark their products with the API Monogram. It also contains a classified listing (by specific API specification) of these licensed manufacturers, as well as over 200 APIQR ISO 9000 registered firms. This directory was developed to assist those individuals desiring to purchase products and services meeting API specifications from companies whose quality systems and capabilities are verified by API's Quality Programs. It is updated and published quarterly.

A searchable on-line version of the composite list is updated weekly and can be found at https://mycerts.api.org/Search/CompositeSearch.

Free*

Spec Q1 ◆■

Quality Management System Requirements for Organizations Providing Products for the Petroleum and Natural Gas Industry (includes Errata 1 dated October 2023)

Establishes minimum quality management system requirements for organizations that provide products for use in the petroleum and natural gas industry. Pages: 43

10th Edition | September 2023
Product Number: G0Q110 | Price: $131.00

Spec Q1 *■

Quality Management System Requirements for Organizations Providing Products for the Petroleum and Natural Gas Industry—Chinese (includes Errata 1 dated October 2023)

Chinese translation of Spec Q1.

10th Edition | September 2023
Product Number: G0Q110CH | Price: $131.00

Spec Q1 *■

Quality Management System Requirements for Organizations Providing Products for the Petroleum and Natural Gas Industry—Ukrainian (includes Errata 1 dated October 2023)

Ukrainian translation of Spec Q1.

10th Edition | September 2023
Product Number: G0Q109U | Price: $131.00

Spec Q2 ◆

Quality Management System Requirements for Service Supply Organizations for the Petroleum and Natural Gas Industries

Defines the quality management system (QMS) requirements for service supply organizations for the petroleum and natural gas industries. It is intended to apply to the execution of services for the petroleum and natural gas industry. This includes, but is not limited to, activities such as well construction, intervention, production, and abandonment, as well as repair/maintenance/configuration of service-related product. Pages: 33

2nd Edition | July 2021 | Product Number: G0Q202 | Price: $96.00

Spec Q2 *

Quality Management System Requirements for Service Supply Organizations for the Petroleum and Natural Gas Industries—Russian

Russian translation of Q2.

2nd Edition | July 2021 | Product Number: G0Q202R | Price: $96.00

RP 1FSC

Facilities Systems Completion Planning and Execution

Applies to a wide variety of projects within the oil and gas industry excluding subsurface. Although intended for oil and gas industry, the process described in this document can be applied to other industries as well. It is intended that the processes and practices established herein can be adapted and applied from a single piece of tagged equipment to a complex petrochemical facility. The process described is intended to be applied at a system level. The systems completion process is the sequential activities within a project that verify and prove the construction, installation, integration, testing, and preparation of systems have been completed as designed, and thus, the facility is ready for start-up and operations. The systems completion process is designed to help prepare and manage the transfer of care, custody, and control of facilities under construction through appropriate certification and documentation, such that the details of progress are evident. Pages: 11

1st Edition | July 2013 | Reaffirmed: December 2019
Product Number: G1FSC01 | Price: $66.00

TR 1PER15K-1

Protocol for Verification and Validation of High-Pressure High-Temperature Equipment

Focuses on an evaluation process for HPHT equipment in the petroleum and natural gas industries that includes design verification analysis, design validation, material selection considerations, and manufacturing process controls necessary to ensure the equipment is fit-for-service in the applicable HPHT environment where HPHT environments are intended to mean one or more of the following well conditions exist:

- the completion of the well requires completion equipment or well control equipment assigned a pressure rating greater than 15,000 psig or a temperature rating greater than 350 °F;
- the maximum anticipated surface pressure or shut-in tubing pressure is greater than 15,000 psig on the seafloor for a well with a subsea wellhead or at the surface for a well with a surface wellhead; or
- the flowing temperature is greater than 350 °F on the seafloor for a well with a subsea wellhead or on the surface for a well with a surface wellhead.

The design verification and validation protocols in this report should be used as a guide by the various API standards committees to develop future documents on equipment specifications for HPHT service. This report is not intended to replace existing API equipment specifications, but to supplement them by illustrating accepted practices and principles that may be considered in order to maintain the safety and integrity of the equipment. This report is intended to apply to the following equipment: wellheads, tubing heads, tubulars, packers, connections, seals, seal assemblies, production trees, chokes, and well control equipment. It may be used for other equipment in HPHT service. Pages: 90

1st Edition | March 2013 | Product Number: G1PER15K11 | Price: $159.00

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■ This publication is a new entry in this catalog. ◆ This publication is related to an API licensing, certification, or accreditation program.

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Std 18LCM ◆
Product Life Cycle Management System Requirements for the Petroleum and Natural Gas Industries

Defines the requirements of a management system for service providers performing lifecycle management of products for organizations in the petroleum and natural gas industry. The document identifies requirements for service providers of lifecycle management and the activities required to perform product lifecycle management including determination of product lifecycle management status, actions required to maintain a status, and development of the lifecycle management plan.

Multiple products used together as part of a system application may be included in the scope of this document, but only as individual products. This document was developed for upstream activities application. This document is intended for pressure-containing and/or pressure-controlling products for wellbore fluids but may also be applied to other equipment that is specified by the product owner or customer. While this document and/or portions thereof could be applicable to other industry segments, it is recommended that other segments carefully review these requirements in order to determine their applicability and, if necessary, to develop an applicable annex identifying any segment-specific requirements.

This document does not include technical requirements for products and does not include requirements for determination of fitness-for-service for a particular product. In addition, this document does not include requirements for original design and manufacture of product. Pages: 14

1st Edition | April 2017 | Product Number: G18LCM1 | Price: $84.00

TR 18TR1 ◆
Guidance on Changes to API Q1, Ninth Edition

Written for experienced quality professionals seeking to implement the new requirements of API Q1, 9th Edition and to gain a deeper understanding of the requirements with an overall view to improving their quality management system (QMS) and conformance to API Q1, 9th Edition. While API Q1, 9th Edition was created independently of ISO 9001:2008, the specification continues to satisfy those requirements and the supplemental requirements in API Q1, 8th Edition. The formatting of API Q1, 9th Edition was revised to align with API Q2, 1st Edition and to follow a chronological order in the production and delivery of the product. Pages: 22

1st Edition | June 2015 | Product Number: G18TR101 | Price: $71.00

TR 18TR4
Evaluation of Welding Requirements as Applicable to API Product Specifications

A result of an evaluation of the consistency of welding requirements between API Product Specifications that are primarily used in exploration and production. The intent of the evaluation was to identify a means to standardize welding requirements across API Product Specifications. Pages: 117

1st Edition | December 2017
Product Number: G18TR401 | Price: $131.00

OFFSHORE STRUCTURES

TR 2A-LFS
Load Factor Study for API Recommended Practice 2A-LRFD

Evaluates the suitability of the load factors in API 2A-LRFD, 1st Edition (1993) given the accumulated experience since the 1980s about hurricane hazards and platform performance. Pages: 124

1st Edition | November 2020
Product Number: G2ALFS01 | Price: $120.00

RP 2A-LRFD
Planning, Designing, and Constructing Fixed Offshore Platforms—Load and Resistance Factor Design

Specifies requirements and provides recommendations applicable to the following types of fixed steel offshore structures for the petroleum and natural gas industries: free-standing and braced caissons, jackets, monotowers, and towers. In addition, it is applicable to compliant bottom founded structures, steel gravity structures, jack-ups, other bottom founded structures, and other structures related to offshore structures (such as underwater oil storage tanks, bridges, and connecting structures), to the extent to which its requirements are relevant. This document contains requirements for planning and engineering of the following tasks: design, fabrication, transportation, and installation of new structures, as well as their future removal; in-service inspection and integrity management of both new and existing structures; assessment of existing structures; and evaluation of structures for reuse at different locations. Pages: 518

2nd Edition | August 2019 | Product Number: G2ALRFD2 | Price: $387.00

RP 2A-WSD
Planning, Designing, and Constructing Fixed Offshore Platforms—Working Stress Design

Contains requirements for the design and construction of new fixed offshore platforms and for the relocation of existing platforms used for drilling, development, and storage of hydrocarbons in offshore areas. In addition, this document should be used in conjunction with RP 2SIM for the assessment of existing platforms in the event that it becomes necessary to make a determination of the fitness-for-purpose of the structure. Pages: 310

22nd Edition | November 2014 | Reaffirmed: September 2020
Product Number: G2AWSD22 | Price: $428.00

RP 2A-WSD *
Planning, Designing, and Constructing Fixed Offshore Platforms—Working Stress Design—Russian

Russian translation of RP 2A-WSD.

22nd Edition | November 2014 | Reaffirmed: September 2020
Product Number: G2AWSD22R | Price: $428.00

Spec 2B ◆
Specification for the Fabrication of Structural Steel Pipe

Covers the fabrication of structural steel pipe formed from plate steel with longitudinal and circumferential butt-welded seams. Pipe is typically in sizes of 14 in. outside diameter and greater, with a wall thickness $^{3}/_{8}$ in. and greater (up to a nominal 40 ft in length), and is suitable for use in construction of welded offshore structures. The use of the ERW process or spiral welded pipe is not included in this specification. Pipe fabricated under this specification is intended to be used primarily in piling and main structural members, including tubular truss connections, where internal stiffeners are not usually required. Pages: 8

6th Edition | July 2001 | Reaffirmed: September 2020
Product Number: G02B06 | Price: $90.00

Spec 2B *
Specification for the Fabrication of Structural Steel Pipe—Chinese

Chinese translation of Spec 2B.

6th Edition | July 2001 | Reaffirmed: September 2020
Product Number: G02B06C | Price: $90.00

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Spec 2B *
Specification for the Fabrication of Structural Steel Pipe—Russian

Russian translation of Spec 2B.

6th Edition | July 2001 | Reaffirmed: September 2020
Product Number: G02B06R | Price: $90.00

Spec 2C ◆
Offshore Pedestal-Mounted Cranes
(includes Errata 1 dated June 2021)

Provides requirements for design, construction, and testing of offshore pedestal mounted cranes. Offshore cranes are defined in this specification as pedestal mounted elevating and rotating lift devices for transfer of materials or personnel to or from marine vessels and structures. Offshore cranes are typically mounted on a fixed (bottom supported) or floating platform structure used in drilling and production operations. Spec 2C is not intended to be used for the design, fabrication, and testing of davits and/or emergency escape devices. Spec 2C is also not intended to be used for shipboard cranes or heavy lift cranes. Pages: 150

8th Edition | October 2020 | Product Number: G02C08 | Price: $175.00

RP 2D
Operation and Maintenance of Offshore Cranes
(includes Errata 1 dated August 2015 and Addendum 1 dated October 2020)

Intended to serve as a guide to crane owners and operators in developing operating and maintenance practices and procedures for use in the safe operation of pedestal-mounted revolving cranes on fixed or floating offshore platforms, jackup drilling rigs, semi-submersible drilling rigs and other types of mobile offshore drilling units (MODUs). Guidelines are also given for the pre-use inspection and testing of temporary cranes (also called self-erecting, leapfrog or bootstrap cranes) that are erected offshore.

Equipment (e.g. davits, launch frames) used only for launching life-saving appliances (life boats or life rafts) are not included in the scope of this document. Pages: 120

7th Edition | December 2014 | Product Number: G02D07 | Price: $157.00

RP 2D-2
Training for Offshore Pedestal-Mounted Crane Riggers, Operators, and Inspectors

Enhances the robustness of previous test programs an improved hands-on style of testing that will strengthen competency and understanding of safety protocols. This standard establishes general principles for the training of personnel for safe operations and maintenance of offshore pedestal-mounted cranes, as a companion to API 2D and API 2C. This standard also provides requirements and recommendations for personnel seeking qualification as a crane rigger, operator, or inspector. The revised training requirements in API 2D-2 will help enhance worker safety at offshore sites, with the goal of improving industry safety by reducing the number of drop incidents while boosting productivity and working to eliminate the economic losses that stem from damage. API 2D-2 means all around improvements when it comes to operational safety, maintenance, and sustainability of pedestal-based cranes, improving the overall lifespan of these key pieces of lifting hardware. Pages: 57

1st Edition | October 2020 | Product Number: G02D21 | Price: $90.00

RP 2EQ/ISO 19901-2:2004
Seismic Design Procedures and Criteria for Offshore Structures
(includes Addendum 1 dated January 2019)

Contains requirements for defining the seismic design procedures and criteria for offshore structures and is a modified adoption of ISO 19901-2. The intent of the modification is to map the requirements of ISO 19901-2 to the United States' offshore continental shelf (U.S. OCS). The requirements are applicable to fixed steel structures and fixed concrete structures. The effects of seismic events on floating structures and partially buoyant structures are also briefly discussed. The site-specific assessment of jack-ups in elevated condition is only covered to the extent that the requirements are applicable. This document defines the seismic requirements for new construction of structures in accordance with RP 2A-WSD, 22nd Edition and later. Earlier editions of RP 2A-WSD are not applicable. Only earthquake-induced ground motions are addressed in detail. Other geologically induced hazards such as liquefaction, slope instability, faults, tsunamis, mud volcanoes, and shock waves are mentioned and briefly discussed. The requirements are intended to reduce risks to persons, the environment, and assets to the lowest levels that are reasonably practicable.

This edition of RP 2EQ is the modified national adoption of ISO 19901-2:2004. Pages: 54

1st Edition | November 2014 | Reaffirmed: January 2021
Product Number: GG2EQ01 | Price: $136.00

Spec 2F ◆
Specification for Mooring Chain

Covers flash-welded chain and forged center connecting links used for mooring of offshore floating vessels such as drilling vessels, pipe lay barges, derrick barges, and storage tankers. Pages: 16

6th Edition | June 1997 | Reaffirmed: September 2020
Product Number: G02F06 | Price: $97.00

Spec 2F *
Specification for Mooring Chain—Chinese

Chinese translation of Spec 2F.

6th Edition | June 1997 | Reaffirmed: September 2020
Product Number: G02F06C | Price: $97.00

RP 2FB
Recommended Practice for Design of Offshore Facilities Against Fire and Blast Loading

Provides an assessment process for the consideration of fire and blast in the design of offshore structures and includes guidance and examples for setting performance criteria. This document complements the contents of the Section 18 of RP 2A-WSD, 21st Edition with more comprehensive guidance in design of both fixed and floating offshore structures against fire and blast loading. Guidance on the implementation of safety and environmental management practices and hazard identification, event definition and risk assessment can be found in RP 75 and the RP 14 series. The interface with these documents is identified and emphasized throughout, as structural engineers need to work closely with facilities engineers experienced in performing hazard analysis as described in RP 14J, and with the operator's safety management system as described in RP 75. Pages: 63

1st Edition | April 2006 | Reaffirmed: September 2020
Product Number: G2FB01 | Price: $171.00

TR 2FC-1
Studlink and Studless Fatigue Curves for Mooring Lines

Summarizes the derivation of fatigue curves for studless and studlink chain mooring lines for inclusion in API 2SK, 3rd Edition. The 2nd of API 2SK has a single fatigue curve for mooring chain; this curve is a non-unique lower bound to all of the in-water and in-air studlink fatigue test data. API 2SK, 2nd Edition does not have separate fatigue curves for studlink and studless chain. The studlink fatigue curve derived in this report is based on the salt water tension-tension fatigue tests performed by the National Engineering Laboratory, Glasgow, UK (NEL) and Exxon Production Research Company (EPR) on oil rig quality (ORQ) studlink chain with bar diameters of 2 in., 3 in., and 4 in. The studless fatigue curve is based on the saltwater tension-tension fatigue tests performed by NEL on R3 and R4 studless chain with a bar diameter of 3 in. Pages: 32

1st Edition | January 2020 | Product Number: G02FC101 | Price: $75.00

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TR 2FC-2
Fatigue TN Curves for Chain, Wire, and Polyester Mooring Lines (Including Corrections for High-tension Ranges)

Summarizes the derivation of high-load, range-low cycle corrections to API 2SK, 3rd Edition studlink and studless chain fatigue curves, and in this respect supplements the derivation of standard fatigue curves reported in API 2FC-1, 1st Edition. In addition, low cycle high load range corrections to API 2SK's independent wire rope core (IWRC) and spiral strand (SS) wire rope fatigue curves are proposed, and polyester rope fatigue data is reviewed and compared to the recommendations presently contained in API 2SM, API 2SK, and ISO 19901-7. The proposed corrections to the API TN curves and chain and polyester fatigue test data are provided; where the lower part of the piecewise linear TN curves (in the log-log space) are the same as in API 2SK, while the upper part is the correction, or change, proposed. Pages: 26

1st Edition | January 2020 | Product Number: G02FC201 | Price: $65.00

RP 2FPS
Planning, Designing, and Constructing Floating Production Systems

Provides guidelines for design, fabrication, installation, inspection, and operation of floating production systems (FPSs). A FPS may be designed with the capability of one or more stages of hydrocarbon processing, as well as drilling, well workover, product storage, and export. This document addresses only floating systems where a buoyant hull of some form supports the deck, production, and other systems. Bottom-fixed components, such as self-supporting risers, and station keeping systems, such as turret mooring, catenary anchor leg mooring (CALM), single anchor leg mooring (SALM), etc. are considered as ancillary components and are addressed in more detail in other API recommended practices. Pages: 191

2nd Edition | October 2011 | Reaffirmed: September 2020
Product Number: G2FPS02 | Price: $202.00

RP 2FSIM
Floating Systems Integrity Management

Provides guidance for floating system integrity management (FSIM) of floating production systems (FPSs), which include tension leg platforms (TLPs), used by the petroleum and natural gas industries to support drilling, production, storage, and/or offloading operations.

FPSs described in this recommended practice are governed by local regulatory requirements and recognized classification society (RCS) rules (if classed). No specific regulatory compliance or RCS requirements are restated in this RP. The requirements of this RP do not apply to mobile offshore drilling units (MODUs) or to mobile offshore units (MOUs) used in support of construction operations. For integrity management (IM) considerations, these units are typically governed by RCS rules. Pages: 101

1st Edition | September 2019
Product Number: G2FSIM01| Price: $175.00

RP 2GEO/ISO 19901-4:2003
Geotechnical and Foundation Design Considerations
(includes Addendum 1 dated October 2014)

Contains requirements and recommendations for those aspects of geoscience and foundation engineering that are applicable to a broad range of offshore structures, rather than to a particular structure type. Such aspects are site characterization, soil and rock characterization, design and installation of foundations supported by the seabed (shallow foundations), identification of hazards, and design of pile foundations.

Aspects of soil mechanics and foundation engineering that apply equally to offshore and onshore structures are not addressed. The user of this document is expected to be familiar with such aspects.

This edition of RP 2GEO is the modified national adoption of ISO 19901-4:2003. Pages: 103

1st Edition | April 2011 | Reaffirmed: January 2021
Product Number: GG2GEO01 | Price: $167.00

Spec 2H ◆
Specification for Carbon Manganese Steel Plate for Offshore Structures

Covers two grades of intermediate strength steel plates up to 4 in. thick for use in welded construction of offshore structures, in selected critical portions that must resist impact, plastic fatigue loading, and lamellar tearing. These steels are intended for fabrication primarily by cold forming and welding as per Spec 2B. The welding procedure is of fundamental importance and it is presumed that procedures will be suitable for the steels and their intended service. Conversely, the steels should be amenable to fabrication and welding under shipyard and offshore conditions. Pages: 24

9th Edition | July 2006 | Effective Date: February 1, 2007
Reaffirmed: September 2020 | Product Number: G02H09 | Price: $102.00

Bull 2HINS
Guidance for Post-Hurricane Structural Inspection of Offshore Structures

Provides guidance for above- and below-water post-hurricane structural inspections of fixed and floating structures in the Gulf of Mexico. The goal of these special inspections is to determine if a structure sustained hurricane-induced damage that affects the safety of personnel, the primary structural integrity of the asset, or its ability to perform the purpose for which it was intended. This document should be used in conjunction with the applicable API recommended practices for the structure as well as any structure specific owner or regulatory requirements. Pages: 16

1st Edition | May 2009 | Product Number: G2HINS01 | Price: $90.00

RP 2I
In-Service Inspection of Mooring Hardware for Floating Structures

Provides guidelines for inspecting mooring components of mobile offshore drilling units (MODUs) and permanent floating installations. This edition includes:

- inspection guidelines for steel permanent moorings on permanent floating installations are added;
- inspection guidelines for fiber ropes used for permanent and MODU moorings are included;
- special guidance for MODU mooring inspection in the areas of tropical cyclone is provided.

Although this recommended practice was developed for the primary moorings of MODUs and permanent floating installations, some of the guidelines may be applicable to moorings of other floating vessels such as pipe-laying barges and construction vessels. Also some of the guidelines may be applicable to secondary or emergency moorings such as mooring for jack-up units, shuttle tanker mooring, and dynamic positioning (DP) vessel harbor mooring. The applicability of this document to other floating vessels and moorings is left to the discretion of the user. Pages: 73

3rd Edition | April 2008 | Reaffirmed: September 2020
Product Number: G02I03 | Price: $160.00

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RP 2MET

Derivation of Metocean Design and Operating Considerations

Gives general requirements for the determination and use of meteorological and oceanographic (metocean) conditions for the design, construction and operation of offshore structures of all types used in the petroleum and natural gas industries.

The requirements are divided into two broad types:

- those that relate to the determination of environmental conditions in general, together with the metocean parameters that are required to adequately describe them;
- those that relate to the characterization and use of metocean parameters for the design, the construction activities or the operation of offshore structures.

The environmental conditions and metocean parameters discussed are:

- extreme and abnormal values of metocean parameters that recur with given return periods that are considerably longer than the design service life of the structure;
- long-term distributions of metocean parameters, in the form of cumulative, conditional, marginal or joint statistics of metocean parameters; and normal environmental conditions that are expected to occur frequently during the design service life of the structure.

Metocean parameters are applicable to:

- the determination of actions for the design of new structures;
- the determination of actions for the assessment of existing structures;
- the site-specific assessment of mobile offshore units;
- the determination of limiting environmental conditions, weather windows, actions and action effects for pre-service and post-service situations (i.e. fabrication, transportation and installation or decommissioning and removal of a structure); and facility operations, where appropriate. Pages: 280

2nd Edition | November 2019
Product Number: GG2MET02 | Price: $227.00

RP 2MIM

Mooring Integrity Management

Provides guidance for the integrity management (IM) of mooring systems connected to a permanent floating production system (FPS) used for the drilling, development, production, and/or storage of hydrocarbons in offshore areas. The scope of this recommended practice (RP) extends from the anchor to the connection to the floating unit (e.g. chain stopper) and includes components critical to the mooring system (e.g. turret bearings, fairleads, chain stoppers, anchors, suction piles).

Specific guidance is provided for the inspection, monitoring, evaluation of damage, fitness-for-service assessment, risk reduction, mitigation planning, and the process of decommissioning. This RP incorporates and expands on the IM recommendations found in API 2I and API 2SK. In the event of any discrepancy between API 2MIM and API 2I/API 2SK, API 2I/API 2SK will govern. Pages: 83

1st Edition | September 2019
Product Number: G2MIM01 | Price: $137.00

RP 2MOP/ISO 19901-6:2009

Marine Operations
(includes Errata 1 dated April 2015)

Provides requirements and guidance for the planning and engineering of marine operations, encompassing the design and analysis of the components, systems, equipment, and procedures required to perform marine operations, as well as the methods or procedures developed to carry them out safely. This document is also applicable to modifications of existing structures, e.g. installation of additional topsides modules.

This edition of RP 2MOP is the identical national adoption of ISO 19901-6:2009. Pages: 168

1st Edition | July 2010 | Reaffirmed: January 2021
Product Number: GG2MOP1 | Price: $263.00

Spec 2MT1 ◆

Specification for Carbon Manganese Steel Plate with Improved Toughness for Offshore Structures

Covers one grade of intermediate strength steel plates for use in welded construction of offshore structures. These steels are intended for fabrication primarily by cold forming and welding as per Spec 2B. The primary use of these steels is for Class "B" applications as defined in RP 2A. Specs 2H, 2W, and 2Y cover other steels providing improved mechanical properties and toughness for Class "A" applications and should be used where substantial z-direction stresses are expected Pages: 6

2nd Edition | September 2001 | Effective Date: March 1, 2002
Reaffirmed: January 2012 | Product Number: G2MT12 | Price: $90.00

Spec 2MT2 ◆

Rolled Shapes with Improved Notch Toughness
(includes Addendum 1 dated December 2019)

Covers rolled shapes (wide flange shapes, angles, etc.), having a specified minimum yield strength of 50 ksi (345 Mpa), intended for use in offshore structures. Commonly available Class A, Class B, and Class C beams refer to degrees of fracture criticality as described in RP 2A-WSD, with Class C being for the least critical applications. For special critical applications, Class AAZ shapes may be specified, by agreement, using Supplement S101. Pages: 8

1st Edition | June 2002 | Effective Date: December 1, 2002
Reaffirmed: June 2015 | Product Number: G2MT21 | Price: $86.00

RP 2N/ISO 19906:2010

Planning, Designing, and Constructing Structures and Pipelines for Arctic Conditions

Specifies requirements and provides recommendations and guidance for the design, construction, transportation, installation, and removal of offshore structures, related to the activities of the petroleum and natural gas industries in arctic and cold regions. Reference to arctic and cold regions includes both the Arctic and other cold regions that are subject to similar sea ice, iceberg, and icing conditions. The objective of this standard is to ensure that offshore structures in arctic and cold regions provide an appropriate level of reliability with respect to personnel safety, environmental protection, and asset value to the owner, to the industry, and to society in general.

This standard does not contain requirements for the operation, maintenance, service-life inspection, or repair of arctic and cold region offshore structures, except where the design strategy imposes specific requirements. While this standard does not apply specifically to mobile offshore drilling units, the procedures relating to ice actions and ice management contained herein are applicable to the assessment of such units. This standard does not apply to mechanical, process, and electrical equipment or any specialized process equipment associated with arctic and cold region offshore operations except in so far as it is necessary for the structure to sustain safely the actions imposed by the installation, housing, and operation of such equipment.

This edition of RP 2N is the modified national adoption of ISO 19906:2010. Pages: 458

3rd Edition | April 2015 | Reaffirmed: January 2021
Product Number: G02N03 | Price: $216.00

TR 2PY

Effect of Best-Estimate Geotechnical p-y Curves on Performance of Offshore Structures

Performs structural analyses using soil models developed by 2GEO, 1st Edition criteria and 2GEO, 2nd Edition draft criteria to determine the effect of the new clay soil p-y formulations on the structural responses of these platforms. The predicted responses were then compared with measured or observed platform performance in field. Pages: 89

1st Edition | February 2020 | Product Number: G2PY01 | Price: $105.00

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Std 2RD
Dynamic Risers for Floating Production Systems

Addresses structural analysis procedures, design guidelines, component selection criteria, and typical designs for all new riser systems used on FPSs. Guidance is also given for developing load information for the equipment attached to the ends of the risers. The recommended practice for structural design of risers, as reflected in this document, is generally based on the principles of limiting stresses in the risers and related components under normal, extreme, and accidental conditions. This document assumes that the risers will be made of steel or titanium pipe or unbonded flexible pipe. However, other materials, such as aluminum, are not excluded if risers built using these materials can be shown to be fit for purpose. Design considerations for unbonded flexible pipe are included primarily by reference to RP 17B and Spec 17J. Pages: 81

2nd Edition | September 2013 | Reaffirmed: September 2020
Product Number: G2RD02 | Price: $265.00

RP 2RIM
Integrity Management of Risers from Floating Production Facilities

Provides guidance for the integrity management (IM) of risers connected to a permanent floating production system (FPS) used for the drilling, development, production, and storage of hydrocarbons in offshore areas.

For the purposes of this recommended practice, a riser has a top boundary that is somewhere at or above the point where it transfers load to the platform structure, and it has a lower boundary where it transfers load into a foundation, which could be a wellhead, pipeline, or subsea structure. Pages: 72

1st Edition | September 2019
Product Number: G2RIM01 | Price: $137.00

Bull 2S
Design of Windlass Wildcats for Floating Offshore Structures

Covers the design of windlass wildcats to ensure proper fit and function between wildcat and mooring chain. Wildcats are of the five-whelp type for use with studlink anchor chain conforming to the classification society Grades 1, 2, and 3, ORQ and Grade 4 chain. Wildcat dimensions are provided for chains in integral $^{1}/_{8}$ in. (3 mm) steps, ranging in size from 2 in. to 4 in. (51 mm to 102 mm). Wildcat dimensions for chain in intermediate $^{1}/_{16}$ in. (1.5 mm) steps are not provided, but wildcats in these sizes are permitted within the scope of this publication. Pages: 7

2nd Edition | November 1995 | Reaffirmed: January 2001
Product Number: G02S02 | Price: $82.00

Spec 2SC ◆
Manufacture of Structural Steel Castings for Primary Offshore Applications

Castings manufactured to this specification are intended for use in the fabrication of offshore structures, manufacture of critical marine or mechanical or other system components intended for application on permanent offshore structures, or for components used in the construction of offshore tendons, risers and pipelines. This specification is based on the experience acquired during the design, construction, operation, and maintenance of offshore processing units and permanent facilities, as supplemented with the experience of operating companies with topsides, fixed platforms, floating structures (e.g. TLPs and spars), and their tendons and risers. Castings in these applications tend to be limited production components, with relatively few replications, and receive more intense scrutiny than routine mass production runs. Pages: 29

1st Edition | September 2009 | Effective Date: March 1, 2010
Reaffirmed: September 2020 | Product Number: G2SC01 | Price: $123.00

Spec 2SF ◆
Manufacture of Structural Steel Forgings for Primary Offshore Applications

Forgings manufactured to this specification are intended for use in the fabrication of offshore structures, marine risers, TLP tendons and pipelines, or other system components intended for application on permanent offshore structures. This specification defines the minimum requirements for manufacture, testing, and inspection of carbon and low-alloy steel forgings, including extrusions and heavy-wall seamless tubular product, grades 345 N/mm^2 to 586 N/mm^2 (50 ksi to 85 ksi) for use in primary steel applications. Service categories A, B, and C (SCA, SCB, and SCC) reflect forging geometry and method of incorporation into the overall system, rather than levels of criticality. They may also be designated by the user (purchaser) to reflect moderately different but standardized levels of performance. Pages: 26

1st Edition | August 2013 | Reaffirmed: September 2020
Product Number: G2SF01 | Price: $93.00

RP 2SIM
Structural Integrity Management of Fixed Offshore Structures

Serves as a guide for the structural integrity management of fixed offshore structures used for the drilling, development, production, and storage of hydrocarbons in offshore areas. Specific guidance is provided for the evaluation of structural damage, above and below water structural inspection, fitness-for-purpose assessment, risk reduction, and mitigation planning, and the process of decommissioning.

The SIM process provided in this recommended practice is applicable to platforms installed at any location worldwide. However, this recommended practice also provides specific metocean criteria, which are only applicable for use in fitness-for-purpose assessments of platforms located in the U.S. Gulf of Mexico and the U.S. West Coast. Pages: 97

1st Edition | November 2014 | Reaffirmed: September 2020
Product Number: G2SIM01 | Price: $184.00

RP 2SK
Design and Analysis of Stationkeeping Systems for Floating Structures (includes Addendum 1 dated May 2008)

Presents a rational method for analyzing, designing, or evaluating mooring systems used with floating units. This method provides a uniform analysis tool that, when combined with an understanding of the environment at a particular location, the characteristics of the unit being moored, and other factors, can be used to determine the adequacy and safety of the mooring system. Some design guidelines for dynamic positioning systems are also included. Appendix K of 2SK replaces RP 95F. Pages: 181

3rd Edition | October 2005 | Reaffirmed: June 2015
Product Number: G2SK03 | Price: $138.00

RP 2SM
Design, Manufacture, Installation, and Maintenance of Synthetic Fiber Ropes for Offshore Mooring

Covers the design, manufacture, and installation of synthetic fiber ropes to include the design and analysis considerations of mooring systems, design criteria for mooring components, rope design and testing, quality assurance, and in-service maintenance and inspection.

This document applies to synthetic fiber ropes used in the form of taut leg or catenary moorings for both permanent and temporary offshore installations such as:

- monohull-based floating production, storage, and offloading units (FPSOs);
- monohull-based floating storage units (FSOs, FSUs);
- monohull or semi-submersible based floating production units (FPUs, FPSs);
- mobile offshore drilling units (MODUs);
- spar platforms;
- catenary anchor leg mooring (CALM) buoys;
- mobile offshore units. Pages: 108

2nd Edition | July 2014 | Reaffirmed: September 2020
Product Number: G2SM02 | Price: $201.00

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RP 2T
Planning, Designing and Constructing Tension Leg Platforms

Contains a guide to the designer in organizing an efficient approach to the design of a tension leg platform (TLP). Emphasis is placed on participation of all engineering disciplines during each stage of planning, development, design, construction, installation, and inspection. This publication contains guidelines developed from the latest practices in designing tension leg platforms and are adapted from successful techniques employed for related structural systems in the offshore and marine industries. Pages: 254

3rd Edition | July 2010 | Reaffirmed: June 2015
Product Number: G02T03 | Price: $246.00

Bull 2TD
Guidelines for Tie-Downs on Offshore Production Facilities for Hurricane Season

Addresses the need to evaluate the tie-downs in use on offshore production facilities for drilling rigs, permanent equipment, and facilities such as quarters, helidecks, etc. The information contained in this document is presented as recommendations to improve tie-down performance during hurricanes. Bull 2TD also addresses situations where failure of a drilling or workover rig would result in significant damage to the platform or adjacent infrastructure. Pages: 3

1st Edition | June 2006 | Product Number: G2TD01 | Price: $56.00

RP 2TOP
Topsides Structure

Provides requirements for the design, fabrication, transportation, installation, modification, and structural integrity management for the topsides structure for an oil and gas platform. It complements API 2A-WSD, API 2A-LRFD, ISO 19903, API 2FPS, API 2T, ISO 19905 1, and API 2N, which give requirements for various forms of substructures. It is based on ISO 19901-3:2010 (Corrected version, 15-Dec-2011) and is consistent with ISO 19901-3:2014. In fact, ISO 19901-3 was followed to the fullest extent possible and modified only where needed to conform to standards and practices of API.

Requirements in API 2TOP concerning modifications and maintenance relate only to those aspects that are of direct relevance to the structural integrity of the topsides structure. Pages: 136

1st Edition | August 2019 | Product Number: G2TOP1 | Price: $156.00

Bull 2U
Bulletin on Stability Design of Cylindrical Shells

Contains semi-empirical formulations for evaluating buckling strength of stiffened and unstiffened cylindrical shells. Pages: 146

3rd Edition | June 2004 | Product Number: G02U03 | Price: $207.00

Bull 2V
Design of Flat Plate Structures
(includes Errata 1 dated March 2008)

Provides guidance for the design of steel flat plate structures. Pages: 139

3rd Edition | June 2004 | Product Number: G02V03 | Price: $207.00

Spec 2W ◆
Steel Plates Produced by Thermo-Mechanically Controlled Processing for Offshore Structures

Covers four grades of steel plates that are to be produced by thermo-mechanically controlled processing (TMCP) for use in welded construction of offshore structures. Pages: 27

6th Edition | January 2019 | Product Number: G02W06 | Price: $105.00

Spec 2W *
Steel Plates Produced by Thermo-Mechanically Controlled Processing for Offshore Structures—Russian

Russian translation of Spec 2W.

6th Edition | January 2019 | Product Number: G02W06R | Price: $105.00

RP 2X
Recommended Practice for Ultrasonic and Magnetic Examination of Offshore Structural Fabrication and Guidelines for Qualification of Technicians

Contains guidance on commonly used NDE methods such as visual (VT), penetrant (PT), magnetic particle (MT), radiography (RT), and ultrasonic (UT) examinations, which are routinely used in offshore structural fabrication. This recommended practice primarily addresses the MT and UT methods. Guidance on VT, PT, and RT is incorporated by reference to AWS D1.1. Further recommendations are offered for determining the qualifications of personnel using MT and UT techniques. Recommendations are also offered for the integration of these techniques into a general quality control program. The interrelationship between joint design, the significance of defects in welds, and the ability of NDE personnel to detect critical-size defects is also discussed. Pages: 77

4th Edition | May 2004 | Reaffirmed: September 2020
Product Number: G02X04 | Price: $159.00

Spec 2Y ◆
Specification for Steel Plates, Quenched-and-Tempered, for Offshore Structures

Covers two grades of high strength steel plate for use in welded construction of offshore structures, in selected critical portions that must resist impact, plastic fatigue loading, and lamellar tearing. Grade 50 is covered in thicknesses up to 6 in. (150 mm) inclusive, and Grade 60 is covered in thicknesses up to 4 in. (100 mm) inclusive. Pages: 13

5th Edition | December 2006 | Effective Date: June 1, 2007
Reaffirmed: September 2020 | Product Number: G02Y05 | Price: $102.00

RP 2Z
Recommendation Practice for Preproduction Qualification for Steel Plates for Offshore Structures

Covers requirements for preproduction qualification, by special welding and mechanical testing, of specific steelmaking and processing procedures for the manufacture of steel of a specified chemical composition range by a specific steel producer. This is a recommended practice for material selection and qualification, but not for the performance of production weld joints. This recommended practice was developed in conjunction with, and is intended primarily for use with, Specs 2W and 2Y. However, it may be sued as a supplement to other material specifications (e.g. Spec 2H) if so desired. Pages: 19

4th Edition | September 2005 | Reaffirmed: September 2020
Product Number: G02Z04 | Price: $130.00

RP 2Z *
Recommendation Practice for Preproduction Qualification for Steel Plates for Offshore Structures—Russian

Russian translation of RP 2Z.

4th Edition | September 2005 | Reaffirmed: June 2015
Product Number: G02Z04R | Price: $130.00

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RP 95J
Gulf of Mexico Jackup Operations for Hurricane Season

Presents an interim approach to siting jackup mobile offshore drilling units (MODUs) and to recommend certain operational procedures to enhance jackup survivability and stationkeeping during hurricane season in the Gulf of Mexico during drilling and workover and while stacked (idled) at a non-sheltered location. This RP provides guidance and processes, and when combined with an understanding of the environment at a particular location, the characteristics of the unit being utilized, and other factors, it may be used to enhance operational integrity. This RP was developed through a cooperative arrangement with the International Association of Drilling Contractors' (IADC) Jackup Rig Committee. Specifically, this RP provides guidance in the following areas:

- site—including location-specific, geotechnical, and metocean;
- preloading process;
- air gap recommendations;
- unit preparations and evacuation;
- post storm recovery; and
- post storm inspections. Pages: 15

1st Edition | June 2006 | Reaffirmed: September 2020
Product Number: G95J01 | Price: $68.00

DERRICKS AND MASTS

Spec 4F ◆
Specification for Drilling and Well Servicing Structures
(includes Addendum 1 dated August 2023)

Covers the design, manufacture, and use of steel derricks, portable masts, crown block assemblies, and substructures suitable for drilling and well-servicing operations in the petroleum industry. It includes requirements for marking, inspection, a uniform method of rating, and design loading for the equipment. This specification provides two product specification levels (PSLs) that define two levels of technical and quality requirements. Pages: 66

5th Edition | June 2020 | Product Number: G04F05 | Price: $136.00

RP 4G
Operation, Inspection, Maintenance, and Repair of Drilling and Well Servicing Structures
(includes Addendum 1 dated June 2020 and Addendum 2 dated September 2020)

Provides guidelines and establishes recommended procedures for inspection, maintenance, and repair of items for drilling and well servicing structures to maintain the serviceability of this equipment. These recommendations should be considered as supplemental to, and not as a substitute for, the manufacturer's instructions and the recommendations in API 54. Items of drilling and well servicing structures covered are masts/derricks, substructures, and their accessories. Pages: 64

5th Edition | February 2019 | Product Number: G04G05 | Price: $126.00

TUBULAR GOODS

RP 5A3 ■
Thread Compounds for Casing, Tubing, Line Pipe, and Drill Stem Elements

Provides requirements, recommendations, and methods for the testing of thread compounds intended for use on threaded casing, tubing, and line pipe connections; and for thread compounds intended for use on rotary shouldered connections. The tests outlined are used to evaluate the critical performance properties and physical and chemical characteristics of thread compounds under laboratory conditions. These test methods are primarily intended for thread compounds formulated with a lubricating base grease and are not applicable to some materials used for lubricating and/or sealing thread connections. It is recognized that many areas can have environmental requirements for products of this type. This standard does not include requirements for environmental compliance. It is the responsibility of the end-user to investigate these requirements and to select, use and dispose of the thread compounds and related waste materials accordingly. Pages: 80

4th Edition | February 2023 | Product Number: GX5A304 | Price: $157.00

RP 5A3 *■
Thread Compounds for Casing, Tubing, Line Pipe, and Drill Stem Elements—Ukrainian

Ukrainian translation of RP 5A3.

4th Edition | February 2023 | Product Number: GX5A303U | Price: $157.00

RP 5A5/ISO 15463:2003
Field Inspection of New Casing, Tubing, and Plain-End Drill Pipe
(includes Errata 1 dated December 2009)

Specifies requirements and gives recommendations for field inspection and testing of oil country tubular goods (OCTG). This International Standard covers the practices and technology commonly used in field inspection; however, certain practices may also be suitable for mill inspections. Covers the qualification of inspection personnel, a description of inspection methods and apparatus calibration and standardization procedures for various inspection methods. The evaluation of imperfections and marking of inspected OCTG are included. Applicable to field inspection of OCTG and is not applicable for use as a basis for acceptance or rejection.

This edition of RP 5A5 is the identical national adoption of ISO 15463:2003. Pages: 118

7th Edition | June 2005 | Reaffirmed: January 2021
Product Number: GX5A507 | Price: $171.00

RP 5A5/ISO 15463:2003 *
Field Inspection of New Casing, Tubing, and Plain-End Drill Pipe—Chinese
(includes Errata 1 dated December 2009)

Chinese translation of RP 5A5/ISO 15463:2003.

7th Edition | June 2005 | Reaffirmed: January 2021
Product Number: GX5A507C | Price: $171.00

RP 5A5/ISO 15463:2003 *
Field Inspection of New Casing, Tubing, and Plain-End Drill Pipe—Russian
(includes Errata 1 dated December 2009)

Russian translation of RP 5A5/ISO 15463:2003.

7th Edition | June 2005 | Reaffirmed: January 2021
Product Number: GX5A507R | Price: $171.00

RP 5A5/ISO 15463:2003 *■
Field Inspection of New Casing, Tubing, and Plain-End Drill Pipe—Ukrainian
(includes Errata 1 dated December 2009)

Ukrainian translation of RP 5A5/ISO 15463:2003.

7th Edition | June 2005 | Reaffirmed: January 2021
Product Number: GX5A507U | Price: $171.00

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Spec 5B ◆
Threading, Gauging, and Inspection of Casing, Tubing, and Line Pipe Threads
(includes Errata 1 dated June 2018, Errata 2 dated December 2018, Addendum 1 dated December 2018, Addendum 2 dated December 2019, and Addendum 3 dated January 2021)

Covers dimensions, tolerances, and marking requirements for API threads and the gauges that control the acceptance criteria for the threads. Thread element gauges, instruments, and requirements for the inspection of threads for line pipe, round thread casing, round thread tubing, and buttress casing connections are included. Pages: 116

16th Edition | December 2017 | Product Number: G5B016 | Price: $163.00

Spec 5B *
Threading, Gauging, and Inspection of Casing, Tubing, and Line Pipe Threads—Russian
(includes Errata 1 dated June 2018, Errata 2 dated December 2018, Addendum 1 dated December 2018, and Addendum 2 dated December 2019)

Russian translation of Spec 5B.

16th Edition | December 2017 | Product Number: G5B016R | Price: $163.00

Spec 5B *■
Threading, Gauging, and Inspection of Casing, Tubing, and Line Pipe Threads—Ukrainian
(includes Errata 1 dated June 2018, Errata 2 dated December 2018, Addendum 1 dated December 2018, and Addendum 2 dated December 2019)

Ukrainian translation of Spec 5B.

16th Edition | December 2017 | Product Number: G5B016U | Price: $163.00

RP 5B1
Gauging and Inspection of Casing, Tubing and Line Pipe Threads
(includes Addendum 1 dated September 2004)

Covers threading, gauging, gauging practice, and inspection of threads for casing, tubing, and line pipe made under Specs 5CT, 5DP, and 5L. Also covers gauge specifications and certification for casing, tubing, and line pipe gauges. Pages: 48

5th Edition | August 1999 | Reaffirmed: May 2015
Product Number: G05B105 | Price: $154.00

RP 5B1 *
Gauging and Inspection of Casing, Tubing and Line Pipe Threads—Kazakh
(includes Addendum 1 dated September 2004)

Kazakh translation of RP 5B1.

5th Edition | August 1999 | Reaffirmed: May 2015
Product Number: G05B15K | Price: $154.00

RP 5B1 *
Gauging and Inspection of Casing, Tubing and Pipe Line Threads—Russian
(includes Addendum 1 dated September 2004)

Russian translation of RP 5B1.

5th Edition | October 1999 | Reaffirmed: May 2015
Product Number: G05B15R | Price: $154.00

RP 5C1
Recommended Practice for Care and Use of Casing and Tubing

Covers use, transportation, storage, handling, and reconditioning of casing and tubing. Pages: 31

18th Edition | May 1999 | Reaffirmed: July 2020
Product Number: G05C18 | Price: $124.00

RP 5C1 *
Recommended Practice for Care and Use of Casing and Tubing—Chinese

Chinese translation of RP 5C1.

18th Edition | May 1999 | Reaffirmed: July 2020
Product Number: G05C18C | Price: $124.00

RP 5C1 *
Recommended Practice for Care and Use of Casing and Tubing—Russian

Russian translation of RP 5C1.

18th Edition | May 1999 | Reaffirmed: July 2020
Product Number: G05C18R | Price: $124.00

RP 5C1 *■
Recommended Practice for Care and Use of Casing and Tubing—Ukrainian

Ukrainian translation of RP 5C1.

18th Edition | May 1999 | Reaffirmed: July 2020
Product Number: G05C18U | Price: $124.00

TR 5C3
Calculating Performance Properties of Pipe Used as Casing or Tubing

Illustrates the equations and templates necessary to calculate the various pipe properties, including:

- pipe performance properties, such as axial strength, internal pressure resistance, and collapse resistance;
- minimum physical properties;
- product assembly force (torque);
- product test pressures;
- critical product dimensions related to testing criteria;
- critical dimensions of testing equipment; and
- critical dimensions of test samples.

For equations related to performance properties, extensive background information is also provided regarding their development and use. Pages: 400

7th Edition | June 2018 | Product Number: G5C307 | Price: $246.00

TR 5C3*■
Calculating Performance Properties of Pipe Used as Casing or Tubing—Ukrainian

Ukrainian translation of TR 5C3.

7th Edition | June 2018 | Product Number: G5C307U | Price: $246.00

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RP 5C5
Procedures for Testing Casing and Tubing Connections
(includes Addendum 1 dated May 2021)

Defines tests to perform to determine the galling tendency, sealing performance, and structural integrity of threaded casing and tubing connections. The words "casing" and "tubing" apply to the service application and not to the diameter of the pipe. This recommended practice addresses the primary loads to which casing and tubing strings are subjected: fluid pressure (internal and/or external), axial force (tension and/or compression), bending (buckling and/or wellbore deviation), and temperature variations. Pages: 197

4th Edition | January 2017 | Product Number: GX5C504 | Price: $195.00

RP 5C5 *
Procedures for Testing Casing and Tubing Connections—Russian
(includes Addendum 1 dated May 2021)

Russian translation of RP 5C5.

4th Edition | January 2017 | Product Number: GX5C504R | Price: $195.00

RP 5C6
Pipe with Welded Connectors

Provides a practice for facility or field welding of connectors to pipe. The technical content contains guidance and requirements for welding procedure qualification, welder performance qualification, materials, testing, production welding, and inspection. Additionally, this standard covers the weld fabrication of connectors and handling attachments such as lift eyes and landing pads to pipe. This standard also includes practices used within industry and is intended to be analogous to API 6A PSL 1, with additional requirements specific to the equipment fabrication. Pages: 28

3rd Edition | May 2018 | Product Number: G05C63 | Price: $103.00

RP 5C6 *
Pipe with Welded Connectors—Russian

Russian translation of RP 5C6.

3rd Edition | May 2018 | Product Number: G05C63R | Price: $103.00

RP 5C8
Care, Maintenance, and Inspection of Coiled Tubing

Covers the care, maintenance, and inspection of used low alloy carbon steel coiled tubing. Commonly manufactured coiled tubing outside diameters range from 25.4 mm (1.000 in.) to 88.9 mm (3.5 in.). Pages: 122

1st Edition | January 2017 | Product Number: G05C801 | Price: $131.00

Spec 5CRA/ISO 13680:2020 ◆
Corrosion-Resistant Alloy Seamless Products for Use as Casing, Tubing, Coupling Stock, and Accessory Material

Specifies the technical delivery conditions for corrosion-resistant alloy seamless products for casing, tubing, coupling stock, and accessory material (including coupling stock and accessory material from bar) for two product specification levels: PSL-1, which is the basis of this document, and PSL-2, which provides additional requirements for a product that is intended to be both corrosion and cracking resistant for the environments and qualification method specified in Annex G and in the ISO 15156:2020 series. Pages: 152

2nd Edition | October 2022 | Effective Date: April 1, 2023
Product Number: G5CRA02 | Price: $185.00

Spec 5CT ◆■
Casing and Tubing

Specifies the technical delivery conditions for steel pipes (casing, tubing, and pup joints), coupling stock, coupling material, and accessory material. For products covered by this standard, the sizes, masses, and wall thicknesses, as well as grades and applicable end-finishes, are provided. API 5L pipe may be ordered as casing in accordance with API 5C6. By agreement between the purchaser and the manufacturer, this standard can also be applied to other plain-end pipe sizes and wall thicknesses. Pages: 151

11th Edition | December 2023 | Effective December 19, 2024
Product Number: G5CT11 | Price: $310.00

Spec 5DP ◆
Drill Pipe
(includes Errata 1 dated July 2020)

Specifies the technical delivery conditions for steel drill-pipes with upset pipe-body ends and weld-on tool joints for use in drilling and production operations in petroleum and natural gas industries for three product specification levels (PSL-1, PSL-2, and PSL-3). This International Standard covers the following grades of drill-pipe:

- grade E drill-pipe;
- high-strength grades of drill-pipe, grades X, G, and S.

This International Standard can also be used for drill-pipe with tool joints not specified by ISO or API standards. This International Standard is based on Spec 5D and Spec 7.

This edition of Spec 5DP is the identical national adoption of ISO 11961:2008. Pages: 133

2nd Edition | May 2020 | Product Number: G5DP02 | Price: $216.00

Spec 5DP *
Drill Pipe—Russian
(includes Errata 1 dated July 2020)

Russian translation of Spec 5DP.

2nd Edition | May 2020 | Product Number: G5DP02R | Price: $216.00

RP 5EX
Design, Verification, and Application of Solid Expandable Systems

Establishes guidance for design, system verification, and application guidelines of solid expandable systems for the oil and gas industries. This document is not to be used as a specification for purchasing equipment; it is intended for consideration by users for well applications and design of solid expandable systems.

Expandable systems will include drilling liners, hangers, connections, receivers, and launchers for downhole use as defined herein. Only permanently installed equipment/components are covered by this recommended practice. Slotted liners and tools used for the expansion of the tubular goods (such as, but not limited to, implementation tools, pumps, jacks, and expansion tools) are not addressed by this recommended practice. Pages: 54

1st Edition | May 2018 | Product Number: G5EX01 | Price: $114.00

Spec 5L ◆
Line Pipe
(includes Errata 1 dated May 2018)

Specifies requirements for the manufacture of two product specification levels (PSL 1 and PSL 2) of seamless and welded steel pipes for use in pipeline transportation systems in the petroleum and natural gas industries. This specification is not applicable to cast pipe. Pages: 210

46th Edition | April 2018 | Effective Date: November 1, 2018
Product Number: G05L46 | Price: $298.00

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Spec 5L *
Line Pipe—Chinese
(includes Errata 1 dated May 2018)

Chinese translation of Spec 5L.

46th Edition | April 2018 | Product Number: G05L46C | Price: $298.00

Spec 5L *
Line Pipe—Russian
(includes Errata 1 dated May 2018)

Russian translation of Spec 5L.

46th Edition | April 2018 | Product Number: G05L46R | Price: $298.00

RP 5L1
Recommended Practice for Railroad Transportation of Line Pipe

Applies to the transportation on railcars of Spec 5L steel line pipe in sizes 2 3/8 and larger in lengths longer than single random. These recommendations cover coated or uncoated pipe, but they do not encompass loading practices designed to protect pipe coating from damage. Pages: 5

7th Edition | September 2009 | Reaffirmed: May 2015
Product Number: G5L107 | Price: $65.00

RP 5L1 *
Recommended Practice for Railroad Transportation of Line Pipe—Russian

Russian translation of RP 5L1.

7th Edition | September 2009 | Reaffirmed: May 2015
Product Number: G5L107R | Price: $65.00

RP 5L1 *■
Recommended Practice for Railroad Transportation of Line Pipe—Ukrainian

Ukrainian translation of RP 5L1.

7th Edition | September 2009 | Reaffirmed: May 2015
Product Number: G5L107U | Price: $65.00

RP 5L3
Drop-Weight Tear Tests on Line Pipe
(includes Addendum 1 dated October 2020 and Errata 1 dated March 2021)

Describes procedures for a recommended method for conducting drop-weight tear tests to measure the fracture appearance or fracture ductility of line pipe as referenced in Spec 5L. Pages: 11

4th Edition | August 2014 | Reaffirmed: October 2020
Product Number: G5L304 | Price: $103.00

RP 5L3 *
Drop-Weight Tear Tests on Line Pipe—Russian
(includes Addendum 1 dated October 2020 and Errata 1 dated March 2021)

Russian translation of RP 5L3.

4th Edition | August 2014 | Reaffirmed: October 2020
Product Number: G5L304R | Price: $103.00

RP 5L3 *■
Drop-Weight Tear Tests on Line Pipe—Ukrainian
(includes Addendum 1 dated October 2020 and Errata 1 dated March 2021)

Ukrainian translation of RP 5L3.

4th Edition | August 2014 | Reaffirmed: October 2020
Product Number: G5L304U | Price: $103.00

RP 5L8
Recommended Practice for Field Inspection of New Line Pipe

Covers the qualification of inspection personnel, a description of inspection methods, and apparatus calibration and standardization procedures for various inspection methods. The evaluation of imperfections and marking of inspected new line pipe are included. Also included are recommended procedures for field inspection and testing of new plain-end line pipe. This document was prepared specifically to address the practices and technology used in field inspection of line pipe, and certain parts are not suitable or appropriate for mill inspections. Pages: 39

2nd Edition | December 1996 | Reaffirmed: May 2015
Product Number: G05L82 | Price: $136.00

RP 5L8 *
Recommended Practice for Field Inspection of New Line Pipe—Kazakh

Kazakh translation of RP 5L8.

2nd Edition | December 1996 | Reaffirmed: May 2015
Product Number: G05L82K | Price: $136.00

RP 5L8 *
Recommended Practice for Field Inspection of New Line Pipe—Russian

Russian translation of RP 5L8.

2nd Edition | December 1996 | Reaffirmed: May 2015
Product Number: G05L82R | Price: $136.00

Spec 5LC ◆
CRA Line Pipe
(includes Errata 1 dated October 2015)

Covers seamless, centrifugal cast, and welded corrosion resistant alloy line pipe as well as austenitic stainless, martensitic stainless, duplex stainless, and Ni-base alloys. Also includes standard weight, regular weight, special, extra strong, and double extra strong plain end line pipe as well as processes of manufacturer, chemical and physical requirements, and methods of testing. Pages: 110

4th Edition | March 2015 | Effective Date: September 3, 2015
Reaffirmed: July 2020 | Product Number: G5LC04 | Price: $189.00

Spec 5LC *
CRA Line Pipe—Russian
(includes Errata 1 dated October 2015)

Russian translation of Spec 5LC.

4th Edition | March 2015 | Reaffirmed: July 2020
Product Number: G5LC04R | Price: $189.00

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Spec 5LCP ◆
Specification on Coiled Line Pipe
(includes Errata 1 dated July 2007)

Provides standards for pipe suitable for use in conveying gas, water, and oil in both the oil and natural gas industries. Covers welded steel continuously milled coiled line pipe in the size range 0.5 in. (12.7 mm) to 6.625 in. (168.3 mm). Pipe that is pipe-to-pipe welded outside the confines of the manufacturing plant is not included within this document. Pages: 42

2nd Edition | October 2006 | Effective Date: April 18, 2007
Reaffirmed: July 2020 | Product Number: G5LCP2 | Price: $158.00

Spec 5LCP *
Specification on Coiled Line Pipe—Chinese
(includes Errata 1 dated July 2007)

Chinese translation of Spec 5LCP.

2nd Edition | October 2006 | Reaffirmed: July 2020
Product Number: G5LCP2C | Price: $158.00

Spec 5LCP *
Specification on Coiled Line Pipe—Russian
(includes Errata 1 dated July 2007)

Russian translation of Spec 5LCP.

2nd Edition | October 2006 | Reaffirmed: July 2020
Product Number: G5LCP2R | Price: $158.00

Spec 5LD ◆
CRA Clad or Lined Steel Pipe
(includes Errata 1 dated June 2017)

Covers seamless, centrifugal cast, and welded clad steel line pipe, and lined steel pipe with improved corrosion-resistant properties. The clad and lined steel line pipe specified in this document shall be composed of a base metal outside and CRA layer inside the pipe. The base material shall conform to Spec 5L, except as modified in the 5LC document. Provides standards for pipe with improved corrosion resistance suitable for use in conveying gas, water, and oil in both the oil and natural gas industries. Pages: 38

4th Edition | March 2015 | Effective Date: September 3, 2015
Reaffirmed: July 2020 | Product Number: G5LD04 | Price: $157.00

Spec 5LD *
CRA Clad or Lined Steel Pipe—Russian
(includes Errata 1 dated June 2017)

Russian translation of Spec 5LD.

4th Edition | March 2015 | Reaffirmed: July 2020
Product Number: G5LD04R | Price: $157.00

RP 5LT
Recommended Practice for Truck Transportation of Line Pipe

Applies to the transportation on railcars of Spec 5L steel line pipe in sizes $2^3/_8$ and larger in lengths longer than single random. These recommendations cover coated or uncoated pipe, but they do not encompass loading practices designed to protect pipe coating from damage. Pages: 6

1st Edition | March 2012 | Reaffirmed: February 2019
Product Number: G5LT01 | Price: $65.00

RP 5LT *
Recommended Practice for Truck Transportation of Line Pipe—Chinese

Chinese translation of RP 5LT.

1st Edition | March 2012 | Reaffirmed: February 2019
Product Number: G5LT01C | Price: $65.00

RP 5LT *
Recommended Practice for Truck Transportation of Line Pipe—Russian

Russian translation of RP 5LT.

1st Edition | March 2012 | Reaffirmed: February 2019
Product Number: G5LT01R | Price: $65.00

RP 5LW
Recommended Practice for Transportation of Line Pipe on Barges and Marine Vessels

Applies to the transportation of Spec 5L steel line pipe by ship or barge. Covers both inland and marine waterways except in cases where the specific requirement of a paragraph references only marine or only inland-waterway transport. Pages: 5

3rd Edition | September 2009 | Reaffirmed: May 2015
Product Number: G5LW03 | Price: $65.00

RP 5LW *
Recommended Practice for Transportation of Line Pipe on Barges and Marine Vessels—Russian

Russian translation of RP 5LW.

3rd Edition | September 2009 | Reaffirmed: May 2015
Product Number: G5LW03R | Price: $65.00

RP 5LW *■
Recommended Practice for Transportation of Line Pipe on Barges and Marine Vessels—Ukrainian

Ukrainian translation of RP 5LW.

3rd Edition | September 2009 | Reaffirmed: May 2015
Product Number: G5LW03U | Price: $65.00

RP 5MT
Pipeline Inspection Documents for Material Traceability and Electronic Test Reports

Provides a method for the electronic exchange of MTR inspection documents from manufacturer to purchaser to support enhanced material traceability and records for steel line pipe, and could be applied to related steel assets. Pages: 21

1st Edition | September 2021 | Product Number: G5MT01 | Price: $75.00

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Spec 5ST ◆
Specification for Coiled Tubing—U.S. Customary and SI Units

Covers the manufacturing, inspection, and testing of all carbon and low alloy steel coiled tubing in Grades CT70, CT80, CT90, CT100, and CT110, in the designations and wall thicknesses given in Table A.5, that can be used as work strings, completion strings, and static installations in oil and gas wells. Coiled tubing may be ordered to this specification. Coiled tubing is manufactured using the continuously milled process. This specification does not cover the joining of seamless or welded tubing segments in lengths less than 200 ft (61 m). Pages: 68

1st Edition | April 2010 | Reaffirmed: July 2020
Product Number: G5ST01 | Price: $145.00

Spec 5ST *
Specification for Coiled Tubing—U.S. Customary and SI Units—Chinese

Chinese translation of Spec 5ST.

1st Edition | April 2010 | Reaffirmed: July 2020
Product Number: G5ST01C | Price: $145.00

Spec 5ST *
Specification for Coiled Tubing—U.S. Customary and SI Units—Russian

Russian translation of Spec 5ST.

1st Edition | April 2010 | Reaffirmed: July 2020
Product Number: G5ST01R | Price: $145.00

Bull 5T1
Imperfection and Defect Terminology

Provides terms and definitions and example figures of imperfections and defects that occur in manufacturing steel tubulars. The words "imperfection" and "defect" refer to metallurgical and other features of steel tubular products, which may or may not affect the performance of the products. Inspection requirements and acceptance criteria are not defined in this document, and are found instead in the respective product specification. Pages: 65

11th Edition | October 2017 | Product Number: G05T111 | Price: $138.00

Bull 5T1 *
Imperfection and Defect Terminology—Russian

Russian translation of Bull 5T1.

11th Edition | October 2017 | Product Number: G05T111R | Price: $138.00

Bull 5T1 *■
Imperfection and Defect Terminology—Ukrainian

Ukrainian translation of Bull 5T1.

11th Edition | October 2017 | Product Number: G05T11U | Price: $138.00

TR 5TP
Torque-Position Assembly Guidelines for API Casing and Tubing Connections

Provides alternative connection assembly procedures to those found in Spec 5B (power turns) and those found in RP 5C1 (optimum torque). The procedures set forth are referred to as "torque-position" because the make-up torque and final position are used as acceptance criteria for the assembly operation. The connections are threaded in accordance with Spec 5B. The torque-position assembly parameters have been developed for most SC (short round thread casing), LC (long round thread casing), BC (buttress thread casing), and EU (external upset tubing) connections. Torque-position is a precision assembly method that relies on a controlled process for successful implementation. When defined threading and assembly procedures are followed, the performance of the resulting assembled connection is optimized. Pages: 30

1st Edition | December 2013 | Product Number: G5TP01 | Price: $124.00

TR 5TP *
Torque-Position Assembly Guidelines for API Casing and Tubing Connections—Russian

Russian translation of TR 5TP.

1st Edition | December 2013 | Product Number: G5TP01R | Price: $124.00

TR 5TRSR22
Technical Report in SR22 Supplementary Requirements for Enhanced Leak Resistance LTC

Covers the supplemental requirements for Enhanced Leak Resistance LTC (SC22) connections and the changes in Spec 5CT, Std 5B, 5B1, and RP 5C1 needed to produce and inspect these connections. By agreement between the purchaser and manufacturer, the supplemental requirements for SR22 shall apply to connections manufactured in accordance with Spec 5CT. Pages: 24

1st Edition | June 2002 | Product Number: GSR221 | Price: $96.00

RP 5UE
Recommended Practice for Ultrasonic Evaluation of Pipe Imperfections
(includes Addendum 1 dated April 2009)

Describes procedures that may be used to "prove-up" the depth or size of imperfections. Included in this practice are the recommended procedures for ultrasonic prove-up inspection of new pipe using the Amplitude Comparison Technique and the Amplitude-Distance Differential Technique for evaluation of

- surface breaking imperfections in the body of pipe, and
- surface breaking and subsurface imperfections in the weld area of electric resistance, electric induction or laser welded pipe, and
- surface breaking and subsurface imperfections in the weld area of arc welded pipe. Pages: 22

2nd Edition | June 2005 | Reaffirmed: July 2020
Product Number: G5UE02 | Price: $86.00

RP 5UE *
Recommended Practice for Ultrasonic Evaluation of Pipe Imperfections—Russian
(includes Addendum 1 dated April 2009)

Russian translation of RP 5UE.

2nd Edition | June 2005 | Reaffirmed: July 2020
Product Number: G5UE02R | Price: $86.00

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VALVES AND WELLHEAD EQUIPMENT

Spec 6A ◆
Specification for Wellhead and Tree Equipment
(includes Errata 1 dated April 2019, Errata 2 dated June 2020, Addendum 1 dated July 2020, Errata 3 dated September 2020, Addendum 2 dated June 2021, Errata 4 dated September 2021, and Addendum 3 dated August 2022)

Specifies requirements for the performance, dimensional and functional interchangeability, design, materials, testing, inspection, welding, marking, handling, storing, shipment, purchasing, repair, and remanufacture of wellhead and tree equipment for use in the petroleum and natural gas industries. This document does not apply to field use, field testing, or field repair of wellhead and Christmas tree equipment.

This document is applicable to the following specific equipment: wellhead equipment (integral, blind, and test flanges; ring gaskets; threaded connectors; tees and crosses; bullplugs; valve-removal plugs; standard and nonstandard top connectors; crossover connectors; other end connectors; adapter spools and spacer spools; gate, plug, and ball valves; actuated valves [manual and remote]; check valves [swing- and lift-type]; back-pressure valves; slip-type and mandrel-type casing and tubing hangers, casing and tubing heads [housings and adapters]; chokes [fixed, manually actuated, remotely actuated]; actuators [for valves and chokes]; surface safety valve (SSV) assemblies, valves prepared for actuators, and actuators; underwater safety valve [USV] assemblies, valves prepared for actuators, and actuators; boarding shutdown valve [BSDV] assemblies, valves prepared for actuators, and actuators; and tree assemblies).

This document defines service conditions in terms of pressure, temperature, and material class for the well-bore constituents, and operating conditions. This international standard establishes requirements for four product specification levels (PSL). These four PSL designations define different levels of technical quality requirements. Pages: 414

21st Edition | November 2018 | Effective Date: November 1, 2019
Product Number: GX06A21 | Price: $310.00

Spec 6A *■
Specification for Wellhead and Tree Equipment—Chinese
(includes Errata 1 dated April 2019, Errata 2 dated June 2020, Addendum 1 dated July 2020, Errata 3 dated September 2020, Addendum 2 dated June 2021, Errata 4 dated September 2021, and Addendum 3 dated August 2022)

Chinese translation of Spec 6A.

21st Edition | November 2018
Product Number: GX06A21C | Price: $310.00

Spec 6A *
Specification for Wellhead and Tree Equipment—Russian
(includes Errata 1 dated April 2019, Errata 2 dated June 2020, Addendum 1 dated July 2020, Errata 3 dated September 2020, Addendum 2 dated June 2021, Errata 4 dated September 2021, and Addendum 3 dated August 2022)

Russian translation of Spec 6A.

21st Edition | November 2018
Product Number: GX06A21R | Price: $310.00

Std 6ACRA
Age-Hardened Nickel-Based Alloys for Oil and Gas Drilling and Production Equipment
(includes Errata 1 dated October 2015, Addendum 1 dated September 2017, Errata 2 dated February 2018, Addendum 2 dated September 2018, and Addendum 3 dated February 2019)

Provides requirements for age-hardened nickel-base alloys that are intended to supplement the existing requirements of Spec 6A. For downhole applications, refer to Spec 5CRA.

These additional requirements include detailed process control requirements and detailed testing requirements. The purpose of these additional requirements is to ensure that the age-hardened nickel-base alloys used in the manufacture of Spec 6A pressure-containing and pressure-controlling components are not embrittled by the presence of an excessive level of deleterious phases and meet the minimum metallurgical quality requirements.

This standard is intended to apply to pressure-containing and pressure-controlling components as defined in Spec 6A. Requirements of this standard may be applied by voluntary conformance by a manufacturer, normative reference in Spec 6A or other product specification(s), or by contractual agreement.

This document expands the scope of Std 6A718. With its issuance, it replaces Std 6A718, 2nd Edition in its entirety. Pages: 33

1st Edition | August 2015 | Product Number: G6ACRA1 | $98.00

Std 6ACRA *
Age-Hardened Nickel-Based Alloys for Oil and Gas Drilling and Production Equipment—Russian
(includes Errata 1 dated October 2015, Addendum 1 dated September 2017, Errata 2 dated February 2018, Addendum 2 dated September 2018, and Addendum 3 dated February 2019)

Russian translation of Std 6ACRA.

1st Edition | August 2015 | Product Number: G6ACRA1R | $98.00

TR 6AF
Technical Report on Capabilities of API Flanges Under Combinations of Load
(includes Errata 1 dated March 2017)

Presents the results of analysis work done in to establish the load capacity of all flanges give in the April 1986 editions of Spec 6A and Spec 6AB. A total of 69 different geometries were analyzed initially. The various loads considered were bolt makeup (preload), internal pressure, tension, and bending moment. All flanges were analyzed with an axisymmetric finite model for each of the four load cases. A post-processor program was written to calculate the maximum moment capacity for various levels of pressure and tension, based on linear superposition of results. Three different criteria were used to establish the maximum moment:

- ASME Section VIII, Division 2 allowable stress categories for the flange with the basic membrane stress allowable established by API;
- allowable bolt stresses as established by API; and
- loss of preload on the ring joint.

The results of this post-processing are presented in plots of pressure vs. allowable moment for various tension levels. Limitations to this work include: the effects of transverse shear or torsion were not considered in the analysis; dynamic, fatigue, or fretting phenomena were not considered in these results; and thermal stresses or elevated temperature effects were not considered. The charts are intended to be used only as general guidelines for design. These charts are not intended to replace a critical evaluation of any particular connection in an application where the charts show the flange to be marginal. Pages: 79

3rd Edition | September 2008 | Product Number: G6AF03 | Price: $163.00

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TR 6AF *
Technical Report on Capabilities of API Flanges Under Combinations of Load—Russian
(includes Errata 1 dated March 2017)

Russian translation of TR 6AF.

3rd Edition | September 2008 | Product Number: G6AF03R | Price: $163.00

TR 6AF1
Technical Report on Temperature Derating of API Flanges Under Combination of Loading

Continuation to the report on the capabilities of flanges under combined loadings (PRAC 86-21) that resulted in the publication of Bull 6AF. Included in this technical report is an in-depth look into the effect of elevated temperatures of API flanges. The results in this report are analytical and assume a temperature gradient across the flange as stated in this report. Pages: 256

2nd Edition | November 1998 | Product Number: G06AF1 | Price: $171.00

TR 6AF2
Technical Report on Capabilities of API Integral Flanges Under Combination of Loading—Phase II
(includes Errata 1 dated November 2018)

Result of the evaluation of the load carrying capacity of Spec 6A integral flanges, including the end tension and bending moment in addition to the conventional rated pressure and makeup forces. The effect of a temperature difference corresponding to 250 °F on the inside and 30 °F on the outside is also evaluated. Three-dimensional finite element meshes are generated for the Type 6B and Type 6BX flanges. The computer program SESAM is used to obtain the stresses at selected critical flange and hub sections and to determine the gasket reaction due to each of the four unit load cases and the temperature difference load case. The leakage criterion is defined as the load combination with reduces the initial makeup compressive forces in the gasket to zero. The stresses in each defined section are linearized in accordance with the ASME Section VIII, Division 2 procedure to determine the membrane and membrane-plus-bending stress intensities. The stress intensities are checked against the allowable conditions specified in Spec 6A. Pages: 119

5th Edition | April 2013 | Product Number: G6AF25 | Price: $184.00

TR 6AF3
High-Pressure High-Temperature (HPHT) Flange Design Methodology

Provides design guidelines for API 6BX style flanges utilized as end and outlet connectors in high-pressure, high-temperature (HPHT) surface and subsea applications. For this document, HPHT applications are intended to mean flanges assigned a temperature rating greater than 350 °F or a pressure rating greater than 15,000 psi. This document does not address thermal effects including gradient effects or subsea production equipment. Service temperature ratings above 550 °F (288 °C) are outside the scope of this technical report. The flange designer should address thermal effects when designing flanges rated for high temperatures. Pages: 34

1st Edition | August 2020 | Product Number: G6AF301 | Price: $86.00

TR 6AM
Technical Report on Material Toughness

Includes CVN toughness requirement that can be used as a quality assurance measure in Spec 6A equipment to screen materials with poor notch toughness. Pages: 12

2nd Edition | September 1995 | Product Number: G06AM2 | Price: $82.00

Std 6AR
Repair and Remanufacture of Wellhead and Tree Equipment

Identifies the requirements for repair and remanufacture of wellhead and tree equipment under a quality management system and manufactured in conformance with API 6A for continued service when specified by the user/purchaser of the equipment.

This standard applies to equipment manufactured to editions of API 6A in which a product specification level (PSL) identifies the quality, material, and testing requirements for a specific product. Equipment identified as manufactured in conformance with API 6A prior to April 1986 (API 6A, 15th Edition) is outside the scope of this document. A repair and remanufacture specification level (RSL) is designated to provide the appropriate quality control requirements for the repair and remanufacture of wellhead and tree equipment under this standard. Pages: 25

2nd Edition | September 2019 | Product Number: G6AR02 | Price: $75.00

Spec 6AV1 ◆
Validation of Safety and Shutdown Valves for Sandy Service

There are three service classes—Class I, Class II, and Class III—for API 6A surface safety valve (SSV), underwater safety valve (USV), or boarding shutdown valve (BSDV). This standard establishes sandy service design validation for valves to meet Class II and Class III.

Class II is intended to validate the valve bore sealing mechanism if substances such as sand can be expected to cause safety or shutdown valve failure.

Class III adds additional requirements and validation of the bonnet assembly inclusive of stem seals and may be selected by the user/purchaser. Validation to Class III also validates the same SSV/USV/BSDV for Class II in accordance with scaling limitations specified in the document. Pages: 32

3rd Edition | July 2018 | Product Number: G6AV103 | Price: $105.00

Std 6AV2
Installation, Maintenance, and Repair of Safety Valves (SSV, USV, and BSDV)

Provides requirements for installing and maintaining surface safety valves (SSV) and underwater safety valves (USV). Included are requirements for receiving inspection, installation and maintenance, field and offsite repair, testing procedures with acceptance criteria, failure reporting, and documentation. Power and control systems for SSV/USVs are not included. This document is applicable to SSVs/USVs used or intended to be used as part of a safety system, as defined by documents such as API 14C. This standard is the revision of and supersedes RP 14H, 5th Edition. Pages: 36

2nd Edition | August 2020 | Product Number: G6AV202 | Price: $160.00

Spec 6D ◆
Specification for Valves
(includes Errata 1 dated December 2021, Errata 2 dated October 2023, and Addendum 1 dated April 2023)

Defines the requirements for the design, manufacturing, materials, welding, quality control, assembly, testing, marking, documentation, and process controls of axial, ball, check, gate, and plug valves for application in the natural gas and petroleum industry. The specification is used on a global scale to help ensure access to reliable and sustainable energy, and supports UN Sustainable Development Goal 9, Resilient Infrastructure. The title was updated to reflect its broad use and applicability in the natural gas and petroleum industry. Pages: 173

25th Edition | November 2021 | Product Number: G6D025 | Price: $180.00

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RP 6DR
Recommended Practice for the Repair and Remanufacture of Pipeline Valves

Provides guidelines for the repair and remanufacture of steel ball, check, gate, and plug valves normally used in pipeline applications, as defined by Spec 6D. This RP covers repair or remanufacturing of end user's (owner's) valves for continued service in the owner's production applications. Repaired or remanufactured valves may not meet API and/or the OEM standard requirements for new valves. The owner is responsible for the correct application of valves repaired or remanufactured per this document. It does not cover repair or remanufacture of used or surplus valves intended for resale. Furthermore, field repair is outside the scope of this document. Pages: 11

2nd Edition | May 2012 | Reaffirmed: January 2020
Product Number: G06DR2 | Price: $84.00

RP 6DR *
Recommended Practice for the Repair and Remanufacture of Pipeline Valves—Russian

Russian translation of Spec RP 6DR.

2nd Edition | May 2012 | Reaffirmed: January 2020
Product Number: G06DR2R | Price: $84.00

Spec 6DSS ◆
Specification for Subsea Pipeline Valves
(includes Errata 1 dated May 2018, Errata 2 dated July 2018, Addendum 1 dated April 2019, and Addendum 2 dated June 2022)

Defines the requirements for the design, manufacturing, quality control, assembly, testing, and documentation of ball, check, gate, plug, and axial on-off valves for application in subsea pipeline systems for the petroleum and natural gas industries. The document contains requirements for both full-opening and reduced-opening valves.

Valves covered by this specification include one of the following pressure classes: Class 150, Class 300, Class 600, Class 900, Class 1500, or Class 2500. This specification is not applicable to valves for pressure ratings exceeding Class 2500. Pages: 130

3rd Edition | August 2017 | Product Number: G6DSS3 | Price: $179.00

Spec 6DSS *
Specification for Subsea Pipeline Valves—Russian
(includes Errata 1 dated May 2018, Errata 2 dated July 2018, Addendum 1 dated April 2019, and Addendum 2 dated June 2022)

Russian translation of Spec 6DSS.

3rd Edition | August 2017 | Product Number: G6DSS3R | Price: $179.00

Std 6DSSX
Operator and Mounting Kits for Subsea Valves
(includes Errata 1 dated May 2021)

Defines the requirements for design, mechanical integrity, and sizing of operators and related components used on subsea pipeline valves that conform to API Spec 6DSS. This standard is applicable to the following: electric actuators; electro-hydraulic actuators; hydraulic actuators; actuator override systems; diver and remotely operated tool (ROT)-operated gearboxes; other actuators, by agreement; mounting kit; pressure and volume compensation and associated systems; pressure caps; protection covers; and electrohydraulic position indication systems. Pages: 105

1st Edition | March 2021 | Product Number: G6DSSX1 | Price: $156.00

Std 6DX
Standard for Actuators and Mounting Kits for Valves
(includes Addendum 1 dated March 2023 and Errata 1 dated April 2023)

Defines the requirements for mechanical integrity and sizing of actuators used on valves manufactured under Spec 6D. It is applicable to all types of electric, pneumatic, and hydraulic actuators, inclusive of mounting kit, installed on pipeline valves. This document is not applicable to actuators installed on control valves, valves being used for regulation, valves in sub-sea service, handheld powered devices, stand-alone manually operated gearboxes, instrument tubing and associated fittings, and actuator control equipment. Pages: 44

2nd Edition | February 2020 | Product Number: G6DX02 | Price: $156.00

TR 6F1
Technical Report on Performance of API and ANSI End Connections in a Fire Test According to API Specification 6FA

Summarizes the results of four projects to test the performance of API and ANSI end connections in a fire test according to Spec 6FA. The appendixes present the analytical procedures used to generate performance prediction. Pages: 29

3rd Edition | April 1999 | Product Number: G06F13 | Price: $124.00

TR 6F2
Technical Report on Fire Resistance Improvements for API Flanges

Establishes recommended methods for improving the performance of standard API flanges when subjected to the adverse effects of external high temperatures induced by exposure to fires. This publication does not cover fire prevention, suppression, or firefighting practices. Pages: 19

3rd Edition | April 1999 | Product Number: G06F23 | Price: $118.00

Std 6FA
Standard for Fire Test of Valves
(includes Errata 1 dated August 2020 and Errata 2 dated August 2020)

Establishes the requirements for testing and evaluating the pressure-containing performance of API 6A and API 6D valves when exposed to fire. The performance requirements of this document are intended to establish standard limits of acceptability regardless of size or pressure rating. This standard applies to valves with one or more closure members. Pages: 36

5th Edition | May 2020 | Product Number: G06FA5 | Price: $110.00

Std 6FB
Standard for Fire Test for End Connectors

Establishes procedures for testing and evaluating the pressure-containing performance of API end connectors when exposed to fire. Valves, wellhead seals, or other related equipment are not included in the scope of this document. The performance requirements of this standard establish standard qualification criteria for all sizes and pressure ratings of end connectors.

The procedures are presented in two parts: Part I represents conditions in an onshore or open offshore location, and Part II represents conditions in an offshore platform well bay. Pages: 27

4th Edition | May 2019 | Product Number: G06FB4 | Price: $75.00

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RP 6HT ■
Heat Treatment and Testing of Carbon, Micro-Alloyed, and Low Alloy Steel Wrought and Cast Components

Provides recommended practices for batch-type heat treatment, continuous-type heat treatment, and processing of qualification testing coupons (QTCs) for carbon, micro-alloyed, and low-alloy steel wrought and cast components. It is intended to provide a means for the QTC to represent the properties in a part. Pages: 24

3rd Edition | March 2023 | Product Number: G6HT03 | Price: $105.00

RP 6J
Testing of Oilfield Elastomers

Describes practices for the evaluation of elastomeric seal materials and seal designs for the oil and gas industry for wellhead and tree applications. It can also serve as a general guideline for elastomer materials or elastomer seal members used for other applications, which have similar material and application issues. It is the intent of this document to provide an overview of testing criteria, environments, evaluation procedures, and guidelines for methods used to evaluate elastomeric seal materials and members. Pages: 39

2nd Edition | October 2022 | Product Number: G6J02 | Price: $97.00

TR 6J1
Elastomer Life Estimation Testing Procedures

The proposed procedure discussed in this publication outlines a technique based on the Arrhenius principle of chemical reaction rates, which permits the life of an elastomeric material to be estimated when exposed to a severe service environment. This is a companion document to Bull 6J, 2nd Edition. Pages: 14

1st Edition | August 2000 | Product Number: G06J11 | Price: $86.00

TR 6MET
Metallic Material Limits for API Equipment Used in High Temperature Applications

Covers testing performed to develop recommended yield strength reduction ratios and elevated temperature properties for a number of steels, stainless steels, and nickel alloys used in oil and gas drilling and production equipment. Pages: 104

3rd Edition | July 2022 | Product Number: G6MET03 | Price: $138.00

TR 6RT
Guidelines for Design and Manufacture of Surface Wellhead Running, Retrieving and Testing Tools, Clean-Out Tools and Wear Bushings

Provides guidance for the design, materials selection, manufacture, and testing of tools and equipment for running, retrieving, clean-out, and testing of wellhead components and wear bushings. The equipment manufactured in accordance with this technical report is designed to satisfy the manufacturer's documented performance characteristics and the applicable service conditions. This technical report is derived from requirements previously found in API 6A, 20th Edition and earlier editions. Pages: 22

1st Edition | February 2020 | Product Number: G06RT1 | Price: $65.00

Std 6X
Design Calculations for Pressure-Containing Equipment

Describes a design analysis methodology and requirements that apply to design verification of certain pressure-containing products and equipment in the oil and natural gas industry. The methods included in this document apply to designs where normative reference to this standard is made in an API product specification and to those components for which the methods of this standard are required or permitted.

Methods are in accordance with the rules of Appendix 4 of the ASME *Boiler and Pressure Vessel Code,* 2004, Section VIII, Division 2. API has adopted slightly different stress limits from the ASME *Boiler and Pressure Vessel Code*, 2004. The criteria used assume defect-free, tough, and ductile material behavior. Pages: 20

2nd Edition | February 2019 | Product Number: G06X02 | Price: $71.00

DRILLING EQUIPMENT

Spec 7-1 ◆■
Rotary Drill Stem Elements
(includes Errata 1 dated September 2023)

Specifies the technical delivery conditions for rotary drill stem elements: upper and lower kelly valves, square and hexagonal kellys, drill stem subs, drill collars (steel and non-magnetic, round and spiral), heavy-weight drill pipe (HWDP), drilling and coring bit connections, and stabilizers. This standard is not applicable to drill pipe and tool joints, rotary shouldered connection designs, thread gauging practices, or grand master, reference master, and working gauges, and does not include or identify performance properties. A typical drill stem assembly applicable to this standard is provided. Pages: 125

2nd Edition | February 2023 | Product Number: GX7102 | Price: $195.00

Spec 7-2 ◆
Threading and Gauging of Rotary Shouldered Connections
(includes Errata 1 dated August 2017, Errata 2 dated November 2019, Addendum 1 dated March 2020, and Addendum 2 dated September 2023)

Specifies requirements on rotary shouldered connections for use in petroleum and natural gas industries, including dimensional requirements on threads and thread gauges, stipulations on gauging practice and gauge specifications, as well as instruments and methods for inspection of thread connections. These connections are intended primarily for use in drill-string components.

Other supplementary specifications can be agreed between interested parties for special tolerance requirements, qualification, testing, inspection, and finishing. This standard applies both to newly manufactured connections and connections that are recut after service. It should be realized that recut connections are subject to additional inspection and testing—the user is referred to API 7G-2 for such information.

This standard is applicable to the following preferred rotary shouldered connection designs. These are traceable to an internationally supported system of gauges and calibration that can be described as number (NC) style, regular (REG) style, or full-hole (FH) style. Pages: 114

2nd Edition | January 2017 | Product Number: GX70202 | Price: $206.00

Spec 7-2 *
Threading and Gauging of Rotary Shouldered Connections—Russian
(includes Errata 1 dated August 2017, Errata 2 dated November 2019, Addendum 1 dated March 2020, and Addendum 2 dated September 2023)

Russian translation of Spec 7-2.

2nd Edition | January 2017 | Product Number: GX70202R | Price: $206.00

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TR 7CR
Cold Working Thread Roots with CNC Lathes for Rotary Shouldered Connections

Describes procedures for cold root rolling the thread roots on API 7-2 thread sizes using CNC Lathes (CW/CNC). Cold working can be applied by a couple methods: (1) cold rolling under pressure with a roller shaped like the thread form, or (2) shot peening. Both methods achieve acceptable results, but machine thread root rolling is more controllable. Pages: 49

1st Edition | January 2020 | Product Number: G7CR01 | Price: $75.00

Std 7CW
Casing Wear Tests

Provides a method by which results will be reproducible, under a specified set of conditions, for conducting tests that determine casing wear due to rotation of drill stem elements.

This standard is intended to be used in a laboratory environment and is not intended for use in the field during operations. The testing requirements in this standard are not represented at well conditions. This standard is divided into four major areas: machine apparatus, procedures, materials, and reporting.

This standard will not address the significance of specific data values. It is the responsibility of the user of this standard to establish the appropriate test data values that are acceptable based on their respective application, operational limitations, and safety practices. Pages: 18

1st Edition | June 2015 | Reaffirmed: July 2020
Product Number: G7CW01 | Price: $93.00

Spec 7F ◆
Oil Field Chain and Sprockets
(includes Errata 1 dated May 2013)

Covers the manufacture of the components for, and the assembly and packaging of, single and multiple strand, numbers 40 through 240, standard and heavy series roller chains for oil field applications, including chain designation, chain length tolerance, tensile strength specifications, pin and bushing press-out specifications, and dynamic test requirements. For informational purposes, Annex A provides recommendations for installation, lubrication, and maintenance of oil field chain drives, and Annex B includes a basic description of roller chain sprockets. Pages: 29

8th Edition | November 2010 | Effective Date: May 1, 2011
Reaffirmed: July 2022 | Product Number: G7F008 | Price: $125.00

Spec 7F *
Oil Field Chain and Sprockets—Chinese
(includes Errata 1 dated May 2013)

Chinese translation of Spec 7F.

8th Edition | November 2010 | Reaffirmed: July 2022
Product Number: G7F008C | Price: $125.00

RP 7G-1 ■
Drill Stem Performance Properties
(supersedes RP 7G)

Includes the performance properties for certain drill stem elements and gives general cautions regarding the use of the performance properties. The properties of drill pipe and tool joints, drill collars, heavy weight drill pipe, kellys, rock bits, and lift subs are given. Also provided are the properties of rotary shoulder connections and associated special processes, and break-in steps. Pages: 99

17th Edition | April 2023 | Product Number: G7G117 | Price: $230.00

RP 7G-2
Inspection and Classification of Used Drill Stem Elements

Specifies the requirements for each level of inspection and procedures for the inspection and testing of used drill stem elements. This document has been prepared to address the practices and technology commonly used in inspection. This document also specifies the qualification of inspection personnel, a description of inspection methods, and apparatus calibration and standardization procedures for various inspection methods. The evaluation of imperfections and the marking of inspected drill stem elements is included. Pages: 227

2nd Edition | October 2020 | Product Number: G7G202 | Price: $167.00

RP 7HU1
Safe Use of 2-Inch Hammer Unions for Oilfield Applications
(includes Errata 1 dated February 2014)

Sets forth procedural recommendations as well as an engineering solution to the mismatching of a female 2-in. Figure 402, a female 2-in. Figure 602, or a female 2-in. Figure 1002 hammer union component (sub) with a male 2-in. Figure 1502 hammer union component (wing nut) as described in 3.2. The procedural recommendations described in this recommended practice should be implemented to reduce further incidents. The engineering solution, which makes impossible the mating of female 2-in. Figure 402, 2-in. Figure 602, and/or 2-in. Figure 1002 subs with the wing nut of the 2-in. Figure 1502 hammer union, applies to the manufacture of new hammer union components and should not be applied in the modification of existing hammer union components due to unknown factors caused by field wear. Pages: 12

1st Edition | May 2009 | Reaffirmed: February 2020
Product Number: H7HU11 | Price: $40.00

Spec 7HU2
Oilfield Hammer Unions

Addresses the incompatibility of hammer union components, a common issue in the industry that has led to equipment mismatching incidents. Its application will serve to improve operations through interoperability of a field proven standard design. This standard specifies minimum requirements for the dimensional and functional interchangeability, design, materials, inspection, marking, storing, and shipment of hammer union parts and assemblies for use in the petroleum and natural gas industries. Pages: 50

1st Edition | March 2022 | Product Number: H7HU21 | Price: $116.00

Spec 7K ◆
Drilling and Well Servicing Equipment
(includes Errata 1 dated May 2016, Errata 2 dated August 2016, and Errata 3 dated October 2017)

Provides general principles and specifies requirements for design, manufacture, and testing of new drilling and well-servicing equipment and of replacement primary load-carrying components manufactured subsequent to the publication of this specification. This specification is applicable to the following equipment:

- rotary tables;
- rotary bushings;
- high-pressure mud and cement hoses;
- piston mud-pump components;
- drawworks components;
- manual tongs;
- safety clamps not used as hoisting devices;
- blowout preventer (BOP) handling systems;
- pressure-relieving devices for high-pressure drilling fluid circulating systems;
- snub-lines for manual and power tongs;
- rotary slips, both manual and powered;
- slip bowls; and
- spiders, both manual and powered. Pages: 130

6th Edition | December 2015 | Product Number: G07K06 | Price: $217.00

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Spec 7K *
Drilling and Well Servicing Equipment—Russian
(includes Errata 1 dated May 2016, Errata 2 dated August 2016, and Errata 3 dated October 2017)

Russian translation of Spec 7K.

6th Edition | December 2015
Product Number: G07K06R | Price: $217.00

RP 7L
Procedures for Inspection, Maintenance, Repair, and Remanufacture of Drilling Equipment
(includes Addendum 1 dated February 2006 and Addendum 2 dated March 2006)

Provides owners and users of drilling equipment with guidelines for inspection, maintenance, repair, and remanufacture procedures that may be utilized to maintain serviceability of the drilling equipment. Covers the following drilling equipment:

- rotary tables;
- rotary bushings;
- rotary slips;
- rotary hoses;
- slush pump connectors;
- drawworks components;
- spiders not used as elevators; manual tongs; and
- safety clamps not used as hoisting devices. Pages: 26

1st Edition | December 1995 | Effective Date: April 1, 1996
Reaffirmed: August 2019 | 2-Year Extension: July 2016
Product Number: G07L01 | Price: $118.00

Spec 7NRV ◆
Specification for Drill String Non-Return Valves
(includes Addendum 1 dated December 2019)

Provides the minimum acceptable requirements for drill string non-return valve (NRV) equipment. It covers drill string non-return valves, non-return valve subs, non-return valve landing nipples, non-return valve equalizing heads, and all components that establish tolerances and/or clearances that may affect performance or interchangeability of the NRV equipment. Non-return valve subs, non-return valve landing nipples, non-return valve equalizing heads, and NRVs manufactured by different facilities or manufacturers may be supplied as separate items. Pages: 19

1st Edition | July 2006 | Reaffirmed: July 2020
Product Number: G7NRV01 | Price: $76.00

Spec 7NRV *
Specification for Drill String Non-Return Valves—Chinese
(includes Addendum 1 dated December 2019)

Chinese translation of Spec 7NRV.

1st Edition | July 2006 | Reaffirmed: July 2020
Product Number: G7NRV01C | Price: $76.00

HOISTING TOOLS

RP 8B
Recommended Practice for Procedures for Inspection, Maintenance, Repair, and Remanufacture of Hoisting Equipment
(includes Addendum 1 dated March 2019 and Addendum 2 dated July 2021)

Provides guidelines and establishes requirements for inspection, maintenance, repair, and remanufacture of items of hoisting equipment manufactured according to Spec 8A, Spec 8C, or ISO 13535 used in drilling and production operations, in order to maintain the serviceability of this equipment. Items of drilling and production hoisting equipment covered are:

- crown-block sheaves and bearings;
- traveling blocks and hook blocks;
- block-to-hook adapters;
- connectors and link adapters;
- drilling hooks;
- tubing hooks and sucker-rod hooks;
- elevator links;
- casing elevators, tubing elevators, drill-pipe elevators, and drill-collar elevators;
- sucker-rod elevators;
- rotary swivel-bail adapters;
- rotary swivels;
- power swivels;
- power subs;
- spiders, if capable of being used as elevators;
- dead-line tie-down/wireline anchors;
- drill-string motion compensators;
- kelly spinners, if capable of being used as hoisting equipment;
- riser-running tool components, if capable of being used as hoisting equipment;
- wellhead-running tool components, if capable of being used as hoisting equipment;
- safety clamps, capable of being used as hoisting equipment;
- top drives;
- casing running tools. Pages: 16

8th Edition | May 2014 | Product Number: G08B08 | Price: $103.00

Spec 8C ◆
Drilling and Production Hoisting Equipment (PSL 1 and PSL 2)
(includes Errata 1 dated May 2014 and Errata 2 dated November 2020)

Provides requirements for the design, manufacture, and testing of hoisting equipment suitable for use in drilling and production operations. This specification is applicable to numerous drilling and production hoisting equipment, some of which include: hoisting sheaves, traveling and hook blocks; elevator links, casing elevators, sucker rod elevators, rotary and power swivels, drilling hooks, wireline anchors, drill string motion compensators, and safety clamps. Pages: 53

5th Edition | April 2012 | Effective Date: October 1, 2012
Reaffirmed: August 2019 | Product Number: GX08C05 | Price: $152.00

Spec 8C *
Drilling and Production Hoisting Equipment (PSL 1 and PSL 2)—Chinese
(includes Errata 1 dated May 2014 and Errata 2 dated November 2020)

Chinese translation of Spec 8C.

5th Edition | April 2012 | Reaffirmed: August 2019
Product Number: GX08C05C | Price: $152.00

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Spec 8C *
Drilling and Production Hoisting Equipment (PSL 1 and PSL 2)—Russian
(includes Errata 1 dated May 2014 and Errata 2 dated November 2020)

Russian translation of Spec 8C.

5th Edition | April 2012 | Reaffirmed: August 2019
Product Number: G08C05R | Price: $152.00

WIRE ROPE

Spec 9A ◆
Specification for Wire Rope
(includes Addendum 1 dated May 2023)

Specifies the minimum requirements and terms of acceptance for the manufacture and testing of steel wire ropes not exceeding rope grade 2160 for the petroleum and natural gas industries. The following products are covered by this specification:

- wire rope,
- bright- or drawn-galvanized wire rope,
- well-measuring wire, and
- well-measuring strand.

Typical applications include tubing lines, rod hanger lines, sand lines, cable-tool drilling and clean out lines, cable tool casing lines, rotary drilling lines, winch lines, horse head pumping unit lines, torpedo lines, mast raising lines, guideline tensioner lines, riser tensioner lines, and mooring and anchor lines. Ropes for lifting slings and cranes, and wire for well-measuring and strand for well-servicing, are also included. The minimum breaking forces for the more common sizes, grades, and constructions of stranded rope are given in tables. However, this standard does not restrict itself to the classes covered by those tables. Other types, such as ropes with compacted strands and compacted (swaged) ropes, may also conform with its requirements. The minimum breaking force values for these ropes are provided by the manufacturer. For information only, other tables present the minimum breaking forces for large diameter stranded and spiral ropes (i.e. spiral strand and locked coil), while approximate nominal length masses for the more common stranded rope constructions and large diameter stranded and spiral ropes are also given. Pages: 91

27th Edition | August 2020 | Product Number: G9A027 | Price: $138.00

RP 9B
Application, Care, and Use of Wire Ropes for Oil Field Service
(includes Addendum 1 dated August 2020)

Covers typical wire rope applications for the oil and gas industry. Typical practices in the application of wire rope to oil field service are indicated in Table 1, which shows the sizes and constructions commonly used. Because of the variety of equipment designs, the selection of other constructions than those shown is justifiable.

In oilfield service, wire rope is often referred to as wire line or cable. For the purpose of clarity, these various expressions are incorporated in this recommended practice. Pages: 44

14th Edition | October 2015 | Product Number: G9B014 | Price: $131.00

OIL WELL CEMENTS

Bull E3
Wellbore Plugging and Abandonment Practices

Addresses the environmental concerns related to well abandonment and inactive well practices. The primary environmental concerns are protection of usable aquifers from fluid migration; and isolation of hydrocarbon production and water injection intervals. Additional issues in the document include protection of surface soils and surface waters, future and use, and permanent documentation of plugged and abandoned wellbore locations and conditions. Pages: 22

2nd Edition | April 2018 | Product Number: G11008 | Price: $149.00

Spec 10A ◆
Cements and Materials for Well Cementing
(includes Addendum 1 dated November 2019 and Addendum 2 dated August 2022)

Specifies requirements and gives recommendations for six classes of well cements, including their chemical and physical requirements and procedures for physical testing.

This specification is applicable to well cement classes A, B, C, and D, which are the products obtained by grinding Portland cement clinker and, if needed, calcium sulfate, as an interground additive. Processing additives can be used in the manufacture of cement of these classes. Suitable set-modifying agents can be interground or blended during manufacture of class D cement. This specification is also applicable to well cement classes G and H, which are the products obtained by grinding clinker with no additives other than one or more forms of calcium sulfate, water, or chemical additives as required for chromium (VI) reduction. Pages: 76

25th Edition | March 2019 | Effective Date: September 2019
Product Number: GX10A25 | Price: $163.00

Spec 10A *
Cements and Materials for Well Cementing—Russian
(includes Addendum 1 dated November 2019 and Addendum 2 dated August 2022)

Russian translation of Spec 10A.

25th Edition | March 2019 | Product Number: GX10A25R | Price: $163.00

RP 10B-2
Recommended Practice for Testing Well Cements
(includes Errata 1 dated June 2006 and Errata 2 dated January 2007)
(supersedes RP 10B)

Specifies methods and gives recommendations for the testing of cement slurries and related materials under simulated well conditions. Pages: 111

2nd Edition | April 2013 | Reaffirmed: April 2019
Product Number: G10B202 | Price: $239.00

RP 10B-2 *
Recommended Practice for Testing Well Cements—Russian
(includes Errata 1 dated June 2006 and Errata 2 dated January 2007)
(supersedes RP 10B)

Russian translation of RP 10B-2.

2nd Edition | April 2013 | Reaffirmed: April 2019
Product Number: G10B202R | Price: $239.00

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RP 10B-3
Testing of Well Cements Used in Deepwater Well Construction

Provides procedures for testing well cement slurries and cement blends for use in a deepwater environment or wells drilled in areas with a low seafloor temperature or areas where low well temperatures exist. For the purposes of this document the term "deepwater" includes areas where low seafloor temperatures exist, independent of water depth.

The procedures contained in this document serve as guidance for the testing of well cement slurries used in deepwater well construction. Additionally, testing methods contained in this document (most notably at mudline conditions) may also be used in those circumstances where low seafloor temperatures are found at shallow water depths. These conditions are found in areas including the North Sea, Norwegian Sea, Barents Sea, Kara Sea, Beaufort Sea, Chukchi Sea, Caspian Sea, and Black Sea.

The test methods contained in this recommended practice, though generally based on API 10B-2, take into account the specialized testing requirements and unique wellbore temperature profiles found in deepwater wells or wells in areas with low seafloor temperatures. This document does not address the mitigation of shallow water flow zones in deepwater wells, which is addressed in RP 65. Pages: 32

2nd Edition | January 2016 | Reaffirmed: February 2020
Product Number: G10B32 | Price: $103.00

RP 10B-4
Preparation and Testing of Foamed Cement Formulations at Atmospheric Pressure

Defines the test methods including the generation of unfoamed base and their corresponding foamed cement slurries at atmospheric pressure. These procedures are developed for foaming cement slurries with air, at atmospheric conditions, which could mimic a foam quality experienced with nitrogen at downhole conditions; they may be modified to accommodate other gases such as nitrogen. Slurries that are foamed with nitrogen, and their properties, will also be discussed within this standard as they are relevant to the scope of the standard.

This standard does not address testing at pressures above atmospheric conditions nor does this standard include or consider the effects of nitrogen solubility in the nitrogen fraction calculations. Pages: 40

2nd Edition | October 2015 | Product Number: G10B402 | Price: $103.00

RP 10B-5/ISO 10426-5:2004
Recommended Practice on Determination of Shrinkage and Expansion of Well Cement Formulations at Atmospheric Pressure

Provides the methods for the testing of well cement formulations to determine the dimension changes during the curing process (cement hydration) at atmospheric pressure only. This is a base document, because under real well cementing conditions shrinkage and expansion take place under pressure and different boundary conditions.

This edition of RP 10B-5 is the identical national adoption of ISO 10426-5:2004. Pages: 13

1st Edition | April 2005 | Reaffirmed: August 2020
Product Number: GX10B501 | Price: $87.00

RP 10B-6/ISO 10426-6:2008
Recommended Practice on Determining the Static Gel Strength of Cement Formulations
(includes Addendum 1 dated January 2020)

This document specifies requirements and provides test methods for the determination of static gel strength (SGS) of the cement slurries and related materials under simulated well conditions.

This edition of RP 10B-6 is the modified national adoption of ISO 10426-6:2008. Pages: 7

1st Edition | August 2010 | Reaffirmed: December 2019
Product Number: GG10B601 | Price: $68.00

Spec 10D ◆
Casing Bow-Spring Centralizers

Provides testing, performance, and marking requirements for casing bow-spring centralizers to be used in oil and natural gas well construction. The procedures provide verification testing for the manufacturer's design, materials, and process specifications, and periodic testing to confirm the consistency of product performance. This specification is not applicable to other devices, such as rigid centralizers and cement baskets, or bow-spring centralizers used for other purposes (e.g. wireline tools, gravel pack, inner string). Pages: 36

7th Edition | April 2021 | Product Number: G10D07 | Price: $107.00

RP 10D-2 ■
Centralizer Placement and Stop-Collar Testing

Provides calculations for determining centralizer spacing, based on centralizer performance and desired standoff, in deviated and dogleg holes in wells for the petroleum and natural gas industries. It also provides a procedure for testing stop-collars and reporting test results. Pages: 58

2nd Edition | August 2023 | Product Number: G10D-202 | Price: $90.00

Spec 10F
Cementing Float Equipment Testing
(includes Errata 1 dated May 2020 and Errata 2 dated May 2020)

Provides testing and marking requirements for cementing float equipment to be used in oil and natural gas well construction. Pages: 28

4th Edition | July 2018 | Product Number: GX10F04 | Price: $81.00

Spec 10F *
Cementing Float Equipment Testing—Russian
(includes Errata 1 dated May 2020 and Errata 2 dated May 2020)

Russian translation of Spec 10F.

4th Edition | July 2018 | Product Number: GX10F04R | Price: $81.00

RP 10G
Product Evaluation, Application, and Testing of Stage Cementing Collars

Provides requirements, guidelines, and recommended practices for stage cementing collars used in cementing applications in the petroleum and natural gas industry. Information is included on the types, application, specification, validation, manufacturing, job planning and execution, and preventing and diagnosing problems. Use of stage cementing collars for non-cementing applications or annulus casing packers, or both, are outside the scope of this document. Products covered under another API or international specification are not included. This document does not cover the connections to the well conduit. Pages: 61

1st Edition | August 2020 | Product Number: G10G01 | Price: $140.00

TR 10TR1
Cement Sheath Evaluation

Provides the current principles and practices regarding the evaluation and repair of primary cementations of casing strings in oil and gas wells. Cement bond logs, compensated logging tools, ultrasonic cement logging tools, and borehole fluid-compensated logging tools are covered. Pages: 124

2nd Edition | September 2008
Product Number: G10TR12 | Price: $157.00

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TR 10TR1 *
Cement Sheath Evaluation—Kazakh

Kazakh translation of TR 10TR1.

2nd Edition | September 2008
Product Number: G10TR12K | Price: $157.00

TR 10TR1 *
Cement Sheath Evaluation—Russian

Russian translation of TR 10TR1.

2nd Edition | September 2008
Product Number: G10TR12R | Price: $157.00

TR 10TR2
Shrinkage and Expansion in Oilwell Cements

Presents the results of research into shrinkage and expansion of oilwell cements in the wellbore as well as a series of test methods and procedures developed to measure these phenomena. Pages: 57

1st Edition | July 1997 | Reaffirmed: September 2002
Product Number: G10TR2 | Price: $133.00

TR 10TR2 *
Shrinkage and Expansion in Oilwell Cements—Russian

Russian translation of TR 10TR2.

1st Edition | July 1997 | Reaffirmed: September 2002
Product Number: G10TR2R | Price: $133.00

TR 10TR3
Technical Report on Temperatures for API Cement Operating Thickening Time Tests

Summarizes work performed by the 1984-91 API Task Group on Cementing Temperature Schedules to update the temperatures in API well-simulation test schedules found in RP 10B. The Task Group reviewed the largest set of temperature data available to the industry to date, resulting in significant improvements to the temperatures in the well-simulation test schedules. Pages: 97

1st Edition | May 1999 | Reaffirmed: May 2005
Product Number: G10TR3 | Price: $171.00

TR 10TR3 *
Technical Report on Temperatures for API Cement Operating Thickening Time Tests—Russian

Russian translation of TR 10TR3.

1st Edition | May 1999 | Reaffirmed: May 2005
Product Number: G10TR3R | Price: $171.00

TR 10TR4
Selection of Centralizers for Primary Cementing Operations

Provides the petroleum industry with information for three types of centralizers, their selection and application, and their advantages and limitations. Pages: 23

1st Edition | May 2008 | Product Number: G10TR40 | Price: $67.00

TR 10TR4 *
Selection of Centralizers for Primary Cementing Operations—Kazakh

Kazakh translation of TR 10TR4.

1st Edition | May 2008 | Product Number: G10TR40K | Price: $67.00

TR 10TR4 *
Selection of Centralizers for Primary Cementing Operations—Russian

Russian translation of TR 10TR4.

1st Edition | May 2008 | Product Number: G10TR40R | Price: $67.00

TR 10TR5
Methods for Testing of Solid and Rigid Centralizers

Provides the industry with methods for testing rigid and solid centralizers. Pages: 16

1st Edition | May 2008 | Product Number: G10TR50 | Price: $67.00

TR 10TR5 *
Methods for Testing of Solid and Rigid Centralizers—Kazakh

Kazakh translation of TR 10TR5.

1st Edition | May 2008 | Product Number: G10TR50K | Price: $67.00

TR 10TR5 *
Methods for Testing of Solid and Rigid Centralizers—Russian

Russian translation of TR 10TR5.

1st Edition | May 2008 | Product Number: G10TR50R | Price: $67.00

TR 10TR6
Evaluation and Testing of Mechanical Cement Wiper Plugs

Provides recommended testing, evaluation, and performance requirements for mechanical cement wiper plugs.

Mechanical cementing wiper plugs are used in most application including casing, liners, drill pipe, and tubing for primary and remedial cementing operations where they serve multiple functions in well operations, such as the following:

- separation of fluids inside of pipe,
- wiping of materials from the inner surface of pipe,
- operation of a downhole tool,
- surface indication of a downhole event, and
- formation of a temporary pressure barrier. Pages: 46

1st Edition | July 2015 | Product Number: G10TR601 | Price: $98.00

TR 10TR7
Mechanical Behavior of Cement

Provides the necessary cement property data for use in cement sheath integrity simulations. The compressive strength tests and nondestructive sonic determination of compressive strength of cement defined in API 10B-2 do not provide suitable data for cement sheath integrity simulations. The methods of API 10B-2 provide information on the strength of cement to ensure that the cement is suitable for general well construction applications and to determine when sufficient strength is developed to allow well operations to continue. Pages: 63

1st Edition | December 2017 | Product Number: G10TR71 | Price: $128.00

RP 65-1
Cementing Shallow-Water Flow Zones in Deepwater Wells

Describes methods designed to prevent shallow-water flow (SWF) during and following cementing of wells located in deep water. It is the compilation of technology and practices developed and used by many operators around the world. Although most of the discussion in this standard is focused on SWF, shallow flows can be mixtures of water, gas, gas hydrates, and formation fines. There is no single method of preventing SWF, and many of the activities described can require customization to fit individual well conditions. Pages: 71

2nd Edition | June 2018 | Product Number: G65102 | Price: $144.00

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Std 65-2 ◆
Isolating Potential Flow Zones During Well Construction

Contains best practices for zone isolation in wells to prevent annular pressure and/or flow through or past pressure-containment barriers that are installed and verified during well construction. Well construction practices that may affect barrier sealing performance are mentioned along with methods to help ensure positive effects or to minimize any negative ones. The objectives of this guideline are two-fold. The first is to help prevent and/or control flows just prior to, during, and after primary cementing operations to install or "set" casing and liner pipe strings in wells. The second objective is to help prevent sustained casing pressure (SCP). The guidance from this document covers recommendations for pressure-containment barrier design and installation and well construction practices that affect the zone isolation process to prevent or mitigate annular fluid flow or pressure. Pages: 83

2nd Edition | December 2010 | Reaffirmed: November 2016
Product Number: G65202 | Price: $141.00
You may download a PDF of this document from https://www.api.org/oil-and-natural-gas/wells-to-consumer/exploration-and-production/hydraulic-fracturing/65-2-isolating-potential-flow-zones

RP 65-3
Wellbore Plugging and Abandonment

Provides guidance for the design, placement, and verification of cement plugs in wells to be temporarily or permanently abandoned, as well as remediation and verification of annular barriers. Wells temporarily abandoned (suspended) are intended to be re-entered in the future. The placement of barriers may depend on whether the well is to be temporarily or permanently abandoned. Cement plug lengths are not considered in this document. Pages: 52

1st Edition | June 2021 | Product Number: G65301 | Price: $112.00

FIELD OPERATING EQUIPMENT

RP 11AR
Recommended Practice for Care and Use of Subsurface Pumps
(includes Errata dated December 2013)

Provides information on the proper selection, operation, and maintenance of subsurface pumps so the best economical life can be obtained. Pages: 50

4th Edition | June 2000 | Reaffirmed: February 2020
Product Number: G11AR4 | Price: $135.00

Spec 11AX ◆
Specification for Subsurface Sucker Rod Pump Assemblies, Components, and Fittings
(includes Addendum 1 dated May 2019 and Errata 1 dated May 2023)

Provides the requirements and guidelines for the design of subsurface sucker rod pumps and their components as defined herein for use in the sucker rod lift method for the petroleum and natural gas industry.

The specification covers subsurface sucker rod pump assemblies (including insert and tubing), components, and fittings in commonly used bore sizes for the sucker rod lift method. Sufficient dimensional and material requirements are provided to assure interchangeability and standardization of all component parts.

The specification does not cover specialty subsurface sucker rod pump accessories or special design components. Also, installation, operation, and maintenance of these products are not included in this specification; however, recommendations can be found in RP 11AR. Pages: 107

13th Edition | May 2015 | Effective Date: November 4, 2015
Product Number: G11AX13 | Price: $189.00

Spec 11AX *
Specification for Subsurface Sucker Rod Pump Assemblies, Components, and Fittings—Russian
(includes Addendum 1 dated May 2019 and Errata 1 dated May 2023)

Russian translation of Spec 11AX.

13th Edition | May 2015 | Product Number: G11AX13R | Price: $189.00

Spec 11B ◆ ■
Sucker Rods and Rod-Related Products

Provides the requirements and guidelines for the design of thread form requirements, steel sucker rods and pony rods, fiber reinforced plastic (FRP) sucker rods and pony rods, sinker bars, polished rods, couplings and sub-couplings, thread gauges, pumping tees, stuffing boxes, polished rod clamps, calibration of measuring equipment, standard methods of mechanical properties testing, and polished rod liners as defined for use in the sucker rod lift method for the petroleum and natural gas industry. Pages: 188

28th Edition | December 2023 | Effective Date: December 12, 2024
Product Number: G11B28 | Price: $185.00

RP 11BR
Recommended Practice for the Care and Handling of Sucker Rods

Covers the care and handling of steel sucker rods, including guidelines on selection, allowable stress, proper joint makeup, corrosion control, and used rod inspection. Pages: 28

9th Edition | August 2008 | Reaffirmed: July 2020
Product Number: G11BR09 | Price: $114.00

RP 11BR *
Recommended Practice for the Care and Handling of Sucker Rods—Chinese

Chinese translation of RP 11BR.

9th Edition | August 2008 | Reaffirmed: July 2020
Product Number: G11BR09C | Price: $114.00

Spec 11E ◆
Pumping Units

Provides the requirements and guidelines for the design and rating of beam pumping units for use in the petroleum and natural gas industry. Included are all components between the carrier bar and the gear reducer input shaft. This includes the following: beam pump structures; pumping unit gear reducer. Only loads imposed on the structure and/or gear reducer by the polished rod load are considered in this specification. Also included are the requirements for the design and rating of enclosed gear reducers wherein the involute gear tooth designs include helical and herringbone gearing. The rating methods and influences identified in this specification are limited to single- and multiple-stage designs applied to beam pumping units in which the pitch-line velocity of any stage does not exceed 5000 ft/min and the speed of any shaft does not exceed 3600 rpm. Pages: 109

20th Edition | October 2022 | Effective Date: April 1, 2023
Product Number: G11E20 | Price: $202.00

RP 11ER
Guarding of Pumping Units

Provides a reference or guide for the design, manufacture, and installation of guards for moving parts on pumping units. It is based on knowledge and experience gained through the application of guards for pumping units by the production segment of the petroleum industry. Pages: 27

4th Edition | July 2022 | Product Number: G11ER04 | Price: $96.00

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RP 11G
Recommended Practice for Installation, Maintenance and Lubrication of Pumping Units

Provides guidance related to the proper installation, care, and maintenance of surface mounted beam pumping units, varieties of which are described in Spec 11E. Information provided in this document is of a general nature and is not intended to replace specific instruction provided by the pumping unit manufacturer. This document further establishes certain minimum requirements intended to promote the safe installation, operation, and servicing of pumping unit equipment. Pages: 26

5th Edition | November 2013 | Reaffirmed: July 2019
Product Number: G11G05 | Price: $93.00

TR 11L
Design Calculations for Sucker Rod Pumping Systems (Conventional Units)

Covers recommendations for design calculations for conventional unit sucker rod pumping systems based on test data submitted to API by Sucker Rod Pumping Research, Inc. The topics include vibration characteristics of sucker rod strings, physical characteristics of sucker rods, and dimensional analysis of sucker rod pumping systems. The calculations apply to the broad category of average, normal pumping wells fitting the assumed conditions defined therein. Unusual or out-of-the-ordinary conditions will cause deviations from calculated performance. Pages: 24

5th Edition | June 2008 | Product Number: G11L05 | Price: $115.00

Bull 11L2
Bulletin on Catalog of Analog Computer Dynamometer Cards

Contains over 1100 polished rod dynamometer cards taken with the electronic analog simulator and arranged in convenient form for comparison with field tests. Pages: 77

1st Edition | December 1969 | Reaffirmed: September 1999
Product Number: G05700 | Price: $133.00

Bull 11L3
Sucker Rod Pumping System Design Book
(includes Errata 1 dated November 1973 and Supplement 1 dated February 1977)

Contains print-out tables of computer calculated values for selecting sucker rod systems. Values are included for depths of 200 ft to 12,000 ft in increments of 500 feet, and production rates of 100 barrels per day to over 1,500 barrels per day in varying increments. Various rod string pump stroke, pump size, and pumping speed combinations that will do the job within the limiting parameters are listed. Pages: 574

1st Edition | May 1970 | Product Number: G05800 | Price: $143.00

TR 11L6
Technical Report on Electric Motor Prime Mover for Beam Pumping Unit Service

Covers polyphase, squirrel-cage, induction motors for use as the prime mover for beam pumping units (size range of 200 hp and below). Motors to be operated from solid-state or other types of variable frequency/variable voltage power supplies for adjustable speed applications will require individual consideration to provide satisfactory performance and are beyond the scope of this document. Motors conforming to this document are suitable for operation in accordance with their full load rating under ambient temperature at a maximum altitude of 1000 m (3300 ft) above sea level with outdoor sever duty application, including blowing dust or snow, corrosive atmospheres, high humidity, and cyclic loading. Pages: 13

2nd Edition | May 2008 | Product Number: G11L602 | Price: $94.00

TR 11L6 *
Technical Report on Electric Motor Prime Mover for Beam Pumping Unit Service—Chinese

Chinese translation of TR 11L6.

2nd Edition | May 2008 | Product Number: G11L602C | Price: $94.00

Spec 11PL
Plunger Lift Lubricators and Related Equipment

Provides requirements and guidelines for plunger lift lubricators, which includes plunger catchers as defined herein for use in the petroleum and natural gas industry. Threaded and flanged external connections are covered by the applicable API or proprietary connection design requirements. This specification provides requirements for the functional specification and technical specification, including design requirements (outlet locations, specified and optional), design extensions, design verification and validation, welding, materials, quality controls, marking, documentation and data control, shipment, and storage. Pages: 72

1st Edition | June 2019 | Effective Date: June 2020
Product Number: G11PL01 | Price: $121.00

RP 11S
Recommended Practice for the Operation, Maintenance and Troubleshooting of Electric Submersible Pump Installations

Covers all of the major components that comprise a standard electric submersible pumping system, their operation, maintenance, and troubleshooting. It is specifically prepared for installations in oil and water producing wells where the equipment is installed on tubing. It is not prepared for equipment selection or application. Pages: 18

3rd Edition | November 1994 | Reaffirmed: October 2013
Product Number: G11S03 | Price: $90.00

RP 11S1
Electrical Submersible Pump Dismantle, Inspection and Failure Analysis

Covers the processes and procedures of collecting required information to complete a root cause failure analysis of an electrical submersible pump (ESP) system. These include: procedures for disassembly, inspection, final report, failure classification, and corrective actions. Items covered by this recommended practice include pumps, intakes, gas separators, gas handling devices, seals/protectors, motors (induction and permanent magnet motors), gauges, sensors, motor lead extensions, potheads, and power cables. Tooling and test equipment may differ between suppliers; however, the typical assembly and inspection procedures and principles are generally applicable for most ESP systems. Pages: 60

4th Edition | April 2022 | Product Number: G11S14 | Price: $133.00

RP 11S2
Recommended Practice for Electric Submersible Pump Testing

Provides guidelines and procedures covering electric submersible pump performance testing intended to establish product consistency. These practices are generally considered appropriate for the majority of pump applications. This document covers the acceptance testing of electric submersible pumps (sold as new) by manufacturers, vendors, or users to the prescribed minimum specifications. Pages: 12

2nd Edition | August 1997 | Effective Date: October 1, 1997
Reaffirmed: October 2013 | Product Number: G11S22 | Price: $90.00

RP 11S2 *
Recommended Practice for Electric Submersible Pump Testing—Russian

Russian translation of RP 11S2.

2nd Edition | August 1997 | Reaffirmed: October 2013
Product Number: G11S22R | Price: $90.00

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RP 11S3
Recommended Practice for Electrical Submersible Pump Installations

Addresses the installation and replacement of all major components comprising an electrical submersible pumping system. Specifically, it addresses equipment installation on tubing in oil and gas production operations. Pages: 11

2nd Edition | March 1999 | Reaffirmed: October 2013
Product Number: G11S32 | Price: $97.00

RP 11S3 *
Recommended Practice for Electrical Submersible Pump Installations—Russian

Russian translation of RP 11S3.

2nd Edition | March 1999 | Reaffirmed: October 2013
Product Number: G11S32R | Price: $97.00

RP 11S4
Recommended Practice for Sizing and Selection of Electric Submersible Pump Installations

Discusses in some detail each component of the ESP system (pump, motor, intake, seal or protector, cable, switchboard, etc.) as far as what must be considered for the best selection at a desired rate and well conditions. Examples are given to illustrate the basic design procedure and illustrate how PVT correlations, multiphase flow correlations, and inflow performance relationships are used. Summary designs and computer examples using the detailed design principles are presented that show how design considerations fit together and how tools such as computer programs allow faster solutions resulting in easier trial and error calculations for optimization of designs and study of existing installations. Topics such as PVT correlations, multiphase flow correlations, and inflow performance relationships are discussed in the appendices. Pages: 31

3rd Edition | July 2002 | Reaffirmed: October 2013
Product Number: G11S43 | Price: $86.00

RP 11S5
Recommended Practice for the Application of Electrical Submersible Cable Systems

Covers the application (size and configuration) of electrical submersible cable systems by manufacturers, vendors, or users. The document addresses the varies uses of different cable insulation systems, including jackets, braids, armor, and related coverings, as well as auxiliary cable components for cable conductors. The document also addresses splicing and terminating cables including splicing, lengthening, and repairs. Pages: 38

2nd Edition | April 2008 | Reaffirmed: October 2013
Product Number: G11S52 | Price: $118.00

RP 11S6
Recommended Practice for Testing of Electric Submersible Pump Cable Systems

Covers field testing of electric submersible pump cable systems. This document is organized into three major topic categories. The first category provides general definitions and an overview of terms, safety considerations, and cable system preparation guidelines. The second category identifies various situations under which testing is performed. The third category identifies test methods and procedures. Pages: 18

1st Edition | December 1995 | Reaffirmed: October 2013
Product Number: G11S61 | Price: $97.00

RP 11S7
Recommended Practice on Application and Testing of Electric Submersible Pump Seal Chamber Sections

Applies to the seal chamber section used in support of an electric submersible motor. The recommended practice contains tutorial, testing, and failure evaluation information on the seal chamber section used in support of an electric submersible motor. The document provides a general understanding of construction and functioning of seal chamber sections, identification of well conditions, system requirements, and characteristics that influence component section and application. Pages: 28

1st Edition | July 1993 | Reaffirmed: October 2013
Product Number: G05947 | Price: $97.00

RP 11S8
Recommended Practice on Electric Submersible System Vibrations

Provides guidelines to establish consistency in the control and analysis of electric submersible pump (ESP) system vibrations. This document is considered appropriate for the testing of ESP systems and subsystems for the majority of ESP applications. This RP covers the vibration limits, testing, and analysis of ESP systems and subsystems. Pages: 18

2nd Edition | October 2012 | Product Number: G11S802 | Price: $84.00

RP 11S9 ■
Permanent Magnet Motor Safety

Serves to emphasize safety aspects and recommended practices concerning the handling, installation, troubleshooting, operation, and pulling of permanent magnet motors (PMMs) used in subsurface and surface artificial lift pumping systems. Pages: 115

1st Edition | March 2023 | Product Number: G11S901 | Price: $138.00

LEASE PRODUCTION VESSELS

Spec 12B ◆
Specification for Bolted Tanks for Storage of Production Liquids

Covers material, design, fabrication, and testing requirements for vertical, cylindrical, aboveground, closed and open-top, bolted steel storage tanks in various standard sizes and capacities with internal pressures approximating atmospheric pressure. This specification is designed to provide the oil production industry with safe and economical bolted tanks of adequate safety and reasonable economy for use in the storage of crude petroleum and other liquids commonly handled and stored by the production segment of the industry. Pages: 30

17th Edition | December 2020
Product Number: G12B17 | Price: $143.00

Spec 12D ◆
Specification for Field-Welded Tanks for Storage of Production Liquids

Covers material, design, fabrication, and testing requirements for vertical, cylindrical, aboveground, closed top, welded steel storage tanks with internal pressures approximately atmospheric at various sizes and capacities ranging from 500 to 10,000 barrels. This specification is designed to provide the oil production industry with tanks of adequate safety and reasonable economy for use in the storage of crude petroleum and other liquids commonly handled and stored by the production segment of the industry. This specification is for the convenience of purchasers and manufacturers in ordering and fabricating tanks. Pages: 29

12th Edition | June 2017 | Effective Date: December 1, 2017
Product Number: G12D12 | Price: $116.00

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Spec 12F ◆
Specification for Shop-Welded Tanks for Storage of Production Liquids

Covers material, design, fabrication, and testing requirements for new shop-fabricated vertical, cylindrical, aboveground, welded steel storage tanks in the standard sizes and capacities, and for internal pressures approximately atmospheric, given in Table 1.

This specification is designed to provide the oil production industry with tanks of adequate safety and reasonable economy for use in the storage of crude petroleum and other liquids commonly handled and stored by the production segment of the industry. This specification is for the convenience of purchasers and manufacturers in ordering and fabricating tanks. Pages: 35

13th Edition | January 2019 | Effective Date: July 1, 2019
Product Number: G12F13 | Price: $146.00

Spec 12J ◆
Specification for Oil and Gas Separators

Covers minimum requirements for the design, fabrication, and plant testing of oil and gas separators and oil-gas-water separators that are used in the production of oil and gas and are located at some point on the producing flow line between the wellhead and pipeline. Separators covered by this specification may be vertical, spherical, or single or double barrel horizontal. Unless otherwise agreed upon between the purchaser and the manufacturer, the jurisdiction of this specification terminates with the pressure vessel as defined in Section VII, Division 1 of the ASME *Boiler and Pressure Vessel Code*. Pressure vessels covered by this specification are normally classified as natural resource vessels. Separators outside the scope of this specification include centrifugal separators, filter separators, and desanding separators. Pages: 25

8th Edition | October 2008 | Effective Date: April 1, 2009
Product Number: G12J08 | Price: $105.00

Spec 12J *
Specification for Oil and Gas Separators—Chinese

Chinese translation of Spec 12J.

8th Edition | October 2008 | Reaffirmed: June 2023
Product Number: G12J08C | Price: $105.00

Spec 12J *
Specification for Oil and Gas Separators—Russian

Russian translation of Spec 12J.

8th Edition | October 2008 | Reaffirmed: June 2023
Product Number: G12J08R | Price: $105.00

RP 12N
Recommended Practice for the Operation, Maintenance and Testing of Firebox Flame Arrestors

Covers practices that should be considered in the installation, maintenance, and testing of firebox flame arrestors installed on the air intake of oilfield production equipment. Pages: 6

2nd Edition | November 1994 | Reaffirmed: April 2008
Product Number: G12N02 | Price: $90.00

Spec 12P ◆
Specification for Fiberglass Reinforced Plastic Tanks

Covers material, design, fabrication, and testing requirements for fiberglass reinforced plastic (FRP) tanks. Only shop-fabricated, vertical, cylindrical tanks are covered. Tanks covered by this specification are intended for aboveground and atmospheric pressure service. This specification applies to new tanks. The requirements may be applied to existing tanks at the discretion of the owner/operator. This specification is designed to provide the petroleum industry with various standard sizes of FRP tanks. Because of the versatility of FRP tanks, the user shall be responsible for determining the suitability of FRP tanks for the intended service. Pages: 30

5th Edition | May 2022 | Effective Date: November 1, 2022
Product Number: G12P05 | Price: $129.00

Std 12R1
Installation, Operation, Maintenance, Inspection, and Repair of Tanks in Production Service
(includes Addendum 1 dated June 2021)

For use as a guide for new tank installations and maintenance of existing tanks, Std 12R1 contains recommendations for good practices in the collection of well or lease production; gauging; delivery to pipeline carriers for transportation; and other production storage and treatment operations. This recommended practice is intended primarily for application to tanks fabricated to Specs 12F, 12D, 12F, and 12P when employed in on-land production service, but its basic principles are applicable to atmospheric tanks of other dimensions and specifications when they are employed in similar oil and gas production, treating, and processing services. It is not applicable to refineries, petrochemical plants, marketing bulk stations, or pipeline storage facilities operated by carriers. Pages: 53

6th Edition | March 2020 | Product Number: G12R16 | Price: $157.00

DRILLING, COMPLETION, AND FRACTURING FLUIDS

Spec 13A ◆
Drilling Fluids Materials
(includes Addendum 1 dated April 2020 and Addendum 2 dated June 2022)

Covers physical properties and test procedures for materials manufactured for use in oil- and gas-well drilling fluids. The materials covered are barite; hematite; bentonite; non-treated bentonite; attapulgite; sepiolite; technical grade, low-viscosity carboxymethyl cellulose (CMC-LVT); technical grade, high-viscosity carboxymethyl cellulose (CMC-HVT); starch; low-viscosity polyanionic cellulose (PAC-LV); high-viscosity polyanionic cellulose (PAC-HV); and drilling-grade xanthan gum. This specification is intended for the use of manufacturers, distributors, and end users of named products. Annex A (informative) contains information on the API Monogram Program and requirements for the approved use of the API Monogram by licensees. Pages: 120

19th Edition | October 2019 | Effective Date: April 2020
Product Number: G13A19 | Price: $205.00

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RP 13B-1
Recommended Practice for Field Testing Water-Based Drilling Fluids (includes Errata 1 dated May 2020, Errata 2 dated December 2021, and Errata 3 dated January 2023)

Provides standard procedures for determining the following characteristics of water-based drilling fluids:

- drilling fluid density (mud weight);
- viscosity and gel strength;
- filtration;
- water, oil, and solids contents;
- sand content;
- methylene blue capacity;
- pH;
- alkalinity and lime content;
- chloride content;
- total hardness as calcium;
- low-gravity solids and weighting material concentrations.

Annexes A through K provide additional test methods that may be used for:

- chemical analysis for calcium, magnesium, calcium sulfate, sulfide, carbonate, and potassium;
- determination of shear strength;
- determination of resistivity;
- removal of air;
- drill-pipe corrosion monitoring;
- sampling, inspection, and rejection;
- rig-site sampling;
- calibration and verification of glassware, thermometers, timers, viscometers, retort cup, and drilling fluid balances;
- permeability plugging testing at high temperature and high pressure for two types of equipment;
- sag testing. Pages: 132

5th Edition | May 2019 | Product Number: GX13B15 | Price: $190.00

RP 13B-2 ■
Field Testing Nonaqueous-Based Drilling Fluids

Provides standard procedures for determining the following characteristics of nonaqueous drilling fluids (NADFs): drilling fluid density (mud weight); viscosity and gel strength; filtration; nonaqueous fluid (NAF), water, and solids concentrations; alkalinity, chloride concentration, and calcium concentration; electrical stability (ES); lime and calcium concentrations, calcium chloride, and sodium chloride concentrations; low-gravity solids and weighting material concentrations; sand content; high-temperature, high-pressure (HTHP) filtration using the permeability plugging apparatus (PPA). Pages: 164

6th Edition | July 2023 | Product Number: G13B206 | Price: $222.00

RP 13C ■
Drilling Fluid Processing Systems Evaluation

Specifies procedures for assessing and modifying the performance of solids control equipment systems commonly used in the field in petroleum and natural gas drilling-fluids processing. Pages: 116

6th Edition | December 2023 | Product Number: G13C06 | Price: $197.00

RP 13D
Rheology and Hydraulics of Oil-Well Drilling Fluids

Provides a basic understanding of and guidance about drilling fluid rheology and hydraulics, and their application to drilling operations. For this recommended practice, rheology is the study of flow characteristics of a drilling fluid and how these characteristics affect movement of the fluid. Specific measurements are made on a fluid to determine rheological parameters under a variety of conditions. From this information the circulating system can be designed or evaluated regarding how it will accomplish certain desired objectives. Pages: 98

7th Edition | September 2017 | Reaffirmed: May 2023
Product Number: G13D07 | Price: $167.00

RP 13I
Laboratory Testing of Drilling Fluids
(includes Addendum 1 dated January 2023)

Provides procedures for the laboratory testing of the physical, chemical, and performance properties of both drilling fluid materials and drilling fluid. It is applicable to both water- and oil-based drilling fluids, as well as the base or "make-up" fluid. It is not applicable as a detailed manual on drilling fluid control procedures. Recommendations regarding agitation and testing temperature are presented because the agitation history and temperature have a profound effect on drilling fluid properties. Pages: 93

9th Edition | December 2020 | Product Number: GX13I9 | Price: $288.00

RP 13J ■
Testing of Heavy Brines

Covers the physical properties, potential contaminants, and test procedures for heavy brine fluids manufactured for use in oil and gas well drilling, completion, fracturing, and workover fluids. This standard provides methods for assessing the performance and physical characteristics of heavy brines for use in field operations. It includes procedures for evaluating the density or specific gravity, the clarity or amount of particulate matter carried in the brines, the crystallization point or the temperature at which the brines make the transition between liquid and solid at atmospheric pressure (a discussion of crystallization temperature under pressure is provided in Annex C), the pH, iron contamination, and buffering capacity. Pages: 91

6th Edition | January 2023 | Product Number: G13J06 | Price: $150.00

RP 13K
Chemical Analysis of Barite

Provides a comprehensive, detailed description of the chemical analytical procedures for quantitatively determining the mineral and chemical constituents of barite. These procedures are quite elaborate and will normally be carried out in a well-equipped laboratory. Pages: 79

4th Edition | April 2022 | Product Number: G13K04 | Price: $130.00

RP 13L
Training and Qualification of Drilling Fluid Technologists

Seeks to formalize the specific knowledge base, professional skills, and application skills needed to ensure the competency and professionalism of individuals working in the drilling fluids industry. Drilling fluid technologists should use this recommended practice (RP) as an outline to self-determine any gaps in learning and seek to improve their skills. A company contracting the service of a drilling fluid technologist should use this RP as a checklist of knowledge that a technologist should be able to demonstrate proficiency in applying. Pages: 36

2nd Edition | November 2017 | Reaffirmed: May 2023
Product Number: G13L02 | Price: $94.00

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RP 13M/ISO 13503-1:2003
Recommended Practice for the Measurement of Viscous Properties of Completion Fluids
(RP 13M replaces RP 39)

Provides consistent methodology for determining the viscosity of completion fluids used in the petroleum and natural gas industries. For certain cases, methods are also provided to determine the rheological properties of a fluid.

This edition of RP 13M is the identical national adoption of ISO 13503-1:2003. Pages: 21

1st Edition | July 2004 | Reaffirmed: July 2023
2-Year Extension: June 2015 | Product Number: GX13M01
Price: $107.00

RP 13M/ISO 13503-1:2003 *
Recommended Practice for the Measurement of Viscous Properties of Completion Fluids—Russian
(RP 13M replaces RP 39)

Russian translation of RP 13M/ISO 13503-1:2003.

1st Edition | July 2004 | Reaffirmed: July 2023
Product Number: GX13M01R | Price: $107.00

RP 13M-4/ISO 13503-4:2006
Recommended Practice for Measuring Stimulation and Gravel-Pack Fluid Leakoff Under Static Conditions

Provides for consistent methodology to measure fluid loss of stimulation and gravel-pack fluid under static conditions. However, the procedure in this recommended practice excludes fluids that react with porous media.

This edition of RP 13M-4 is the identical national adoption of ISO 13503-4:2006. Pages: 14

1st Edition | December 2006 | Reaffirmed: July 2015
Product Number: GG13M41 | Price: $62.00

TR 13M-5
Procedure for Testing and Evaluating the Performance of Friction (Drag) Reducers in Aqueous-Based Fluid Flowing in Straight, Smooth Circular Conduits

Provides a consistent methodology to test and evaluate the performance of friction (drag) reducers in straight, smooth circular conduits. This standard includes only smooth-walled tubing and excludes any rough-walled tubing. Pages: 22

1st Edition | October 2018 | Product Number: G13M501 | Price: $89.00

RP 13M-6/ISO 13503-6:2012
Procedure for Measuring Leakoff of Completion Fluids Under Dynamic Conditions

Provides consistent methodology for measuring the fluid loss of completion fluids under dynamic conditions. This standard is applicable to all completion fluids except those that react with porous media.

This edition of RP 13M-6 is the modified national adoption of ISO 13503-6:2012. Pages: 23

1st Edition | May 2020 |Product Number: G13M601 | Price: $110.00

TR 13TR1
Stress Corrosion Cracking of Corrosion Resistant Alloys in Halide Brines Exposed to Acidic Production Gas
(includes Addendum 1 dated July 2022)

Evaluates the stress corrosion cracking (SCC) risks of a range of corrosion resistant alloys (CRAs) in various halide brine compositions for the case of exposure to acidic production gas (CO_2+H_2S). Also evaluated are SCC risks due to air exposure. However, the testing became focused on a group of martensitic stainless steels alloyed with Ni and Mo, which are collectively referred to as modified 13Cr martensitic stainless steel (SS) or alternatively in some publications as super (S13Cr) martensitic SSs. Most tests evaluated the as-received brine, excluding proprietary additives such as corrosion inhibitor or oxygen scavengers. For completeness and comparison, test results provided by member companies in the API program or in the publications are cited; these test protocols may be different from those in the API test protocols hence, where that occurs, significant differences are noted. Pages: 39

1st Edition | November 2017 | Product Number: G13TR11 | Price: $135.00

TR 13TR3
Size Measurement of Dry, Granular Drilling Fluid Particulates

Serves as a guide for selection of appropriate techniques to determine the particle size distribution (PSD) of relatively large, dry solid additives for drilling fluids, especially lost circulation materials (LCMs). Detailed procedures for the utilization of any specific PSD method are not included. The technician should refer to and be guided by the measurement equipment manufacturer's instructions.

The particulates range in size from approximately one micron to as much as several millimeters in diameter and are considered “granular” in shape, i.e. relatively isometric (of similar length, width, and height).

The recommendations in this technical report generally are not applicable to the measurement of the PSD of non-isometric (high aspect ratio) materials, such as fibers or flakes. Pages: 32

1st Edition | October 2018 | Product Number: G13TR31 | Price: $103.00

OFFSHORE SAFETY AND ANTIPOLLUTION

Std 2CCU
Offshore Cargo Carrying Units

Defines the design, material, manufacture, inspection, repair, maintenance, and marking requirements for offshore cargo carrying units (CCU) and lifting sets to include dry goods boxes, baskets, and other skids designed to move equipment and goods offshore with maximum gross weight up to 70,000 kg (154,323 lb). Pages: 57

1st Edition | August 2017 | Product Number: G2CCU01 | Price: $114.00

RP 14B
Design, Installation, Operation, Test, and Redress of Subsurface Safety Valve Systems

Establishes requirements and provides guidelines for subsurface safety valve (SSSV) system equipment. This includes requirements for SSSV system design, installation, operation, testing, redress, support activities, documentation, and failure reporting. SSSV system equipment addressed by this document includes control systems, control lines, SSSVs, and secondary tools as defined herein. SSSV types including surface controlled (SCSSV), sub-surface controlled (SSCSV), and sub-surface injection safety valves (SSISV) are included. Requirements for testing of SSSVs including frequency and acceptance criteria are included. Alternate technology SSSV equipment and systems are included in these requirements.

This document is not applicable to design, qualification, or repair activities for SSSVs. This document does not specify when a SSSV is required. Pages: 37

NOTE Spec 14A provides requirements for SSSV equipment design, qualification, and repair.

6th Edition | September 2015 | Product Number: G14B06 | Price: $137.00

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RP 14C

Analysis, Design, Installation, and Testing of Safety Systems for Offshore Production Facilities
(includes Errata 1 dated May 2018)

Illustrates how system analysis methods can be used to determine safety requirements to protect common process components. This document also includes:

- a method to document and verify process safety system functions (i.e. SAFE chart);
- design guidance for ancillary systems such as pneumatic supply systems and liquid containment systems;
- a uniform method of identifying and symbolizing safety devices;
- procedures for testing common safety devices with recommendations for test data and acceptable test tolerances. Pages: 132

8th Edition | February 2017 | Product Number: G14C08 | Price: $249.00

RP 14E

Recommended Practice for Design and Installation of Offshore Production Platform Piping Systems

Recommends minimum requirements and guidelines for the design and installation of new piping systems on offshore production platforms. Includes general recommendations on design and application of pipe, valves, and fittings for typical processes; general information on installation, quality control, and items related to piping systems such as insulation; and specific recommendations for the design of particular piping systems. Pages: 61

5th Edition | October 1991 | Reaffirmed: September 2019
Product Number: G07185 | Price: $161.00

RP 14E *

Recommended Practice for Design and Installation of Offshore Production Platform Piping Systems—Chinese

Chinese translation of RP 14E.

5th Edition | October 1991 | Reaffirmed: September 2019
Product Number: 811-07185 CN940 | Price: $161.00

RP 14F

Recommended Practice for Design, Installation, and Maintenance of Electrical Systems for Fixed and Floating Offshore Petroleum Facilities for Unclassified and Class I, Division 1, and Division 2 Locations

Recommends minimum requirements and guidelines for the design, installation, and maintenance of electrical systems on fixed and floating petroleum facilities located offshore. For facilities classified as Zone 0, Zone 1, or Zone 2, reference RP 14FZ. These facilities include drilling, producing, and pipeline transportation facilities associated with oil and gas exploration and production.

This RP is not applicable to Mobile Offshore Drilling Units (MODUs) without production facilities. This document is intended to bring together in one place a brief description of basic desirable electrical practices for offshore electrical systems. The recommended practices contained herein recognize that special electrical considerations exist for offshore petroleum facilities. Pages: 189

6th Edition | October 2018 | Product Number: G14F06 | Price: $171.00

RP 14FZ

Recommended Practice for Design, Installation, and Maintenance of Electrical Systems for Fixed and Floating Offshore Petroleum Facilities for Unclassified and Class I, Zone 0, Zone 1, and Zone 2 Locations

Recommends minimum requirements and guidelines for the design, installation, and maintenance of electrical systems on fixed and floating petroleum facilities located offshore. For facilities classified as Division 1 or Division 2, reference RP 14F. These facilities include drilling, producing, and pipeline transportation facilities associated with oil and gas exploration and production. This recommended practice (RP) is not applicable to Mobile Offshore Drilling Units (MODUs) without production facilities. This document is intended to bring together in one place a brief description of basic desirable electrical practices for offshore electrical systems. The recommended practices contained herein recognize that special electrical considerations exist for offshore petroleum facilities. These include:

- inherent electrical shock possibility presented by the marine environment and steel decks;
- space limitations that require that equipment be installed in or near hazardous (classified) locations;
- corrosive marine environment;
- motion and buoyancy concerns associated with floating facilities. Pages: 177

2nd Edition | May 2013 | Reaffirmed: April 2020
Product Number: G14FZ02 | Price: $303.00

RP 14G

Recommended Practice for Fire Prevention and Control on Fixed Open-Type Offshore Production Platforms

Presents recommendations for minimizing the likelihood of an accidental fire, and for designing, inspecting, and maintaining fire control systems. It emphasizes the need to train personnel in firefighting, to conduct routine drills, and to establish methods and procedures for safe evacuation. The fire control systems discussed are intended to provide an early response to incipient fires and prevent their growth. Applicable to fixed open-type offshore production platforms that are generally installed in moderate climates and that have sufficient natural ventilation to minimize the accumulation of vapors. Enclosed areas, such as quarters, buildings, and equipment enclosures, normally installed on this type platform, are addressed. Pages: 38

4th Edition | April 2007 | Reaffirmed: September 2019
Product Number: G14G04 | Price: $135.00

RP 14J

Recommended Practice for Design and Hazards Analysis for Offshore Production Facilities

Provides useful procedures and guidelines for planning, designing, and arranging offshore production facilities and performing a hazards analysis on open-type offshore production facilities. Discusses several procedures that can be used to perform a hazards analysis, and presents minimum requirements for process safety information and hazards analysis that can be used for satisfying RP 75. Pages: 75

2nd Edition | May 2001 | Reaffirmed: September 2019
Product Number: G14J02 | Price: $128.00

Bull 91

Planning and Conducting Surface Preparation and Coating Operations for Oil and Natural Gas Drilling and Production Facilities in a Marine Environment

Worldwide, marine exploration, production, development, and decommissioning operations are conducted from a variety of structures. These installments must be inspected periodically and maintained in order to assure structural integrity and minimize pollution risks. Maintenance of an offshore structure, regardless of its classification, necessarily includes blasting and coating activities. The purpose of this publication is to establish practices and procedures that should be followed to minimize the discharge of spent blast abrasive, and paint overspray to the surrounding waters during these activities. Pages: 16

1st Edition | June 2007 | Product Number: G09101 | Price: $67.00

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FIBERGLASS AND PLASTIC PIPE

Spec 15HR ◆
High-Pressure Fiberglass Line Pipe
(includes Errata 1 dated August 2016 and Errata 2 dated January 2021)

Formulated to provide for the availability of safe, dimensionally, and functionally inter-changeable high-pressure fiberglass line pipe with a pressure rating from 500 lbf/in.^{2} to 5000 lbf/in.^{2} (3.45 MPa to 34.5 MPa), inclusive, in 250 lbf/in.^{2} (1.72 MPa) increments for pipes ≤ than NPS 12 in. and 100 lbf/in.^{2} (0.69 MPa) increments for pipes > than NPS 12 in. This specification is limited to mechanical connections and the technical content provides requirements for performance, design, materials, tests and inspection, marking, handling, storing, and shipping. Critical components are items of equipment having requirements specified in this document. This specification is applicable to rigid pipe components made from thermosetting resins and reinforced with glass fibers. Typical thermosetting resins are epoxy, polyester, vinyl ester, and phenolic. Thermoplastic resins are excluded from the scope of this specification. Any internal liners applied shall be made also from thermosetting resins. Fiberglass line pipe for use in low-pressure systems are covered in Spec 15LR. This specification covers fiberglass pipe utilized for the production of oil and gas. Specific equipment covered by this specification is high-pressure line pipe and couplings, fittings, flanges, reducers, and adapters. Pages: 42

4th Edition | February 2016 | Effective Date: August 1, 2016
Reaffirmed: April 2021 | Product Number: G15HR4 | Price: $119.00

Spec 15HR *
High-Pressure Fiberglass Line Pipe—Russian
(includes Errata 1 dated August 2016 and Errata 2 dated January 2021)

Russian translation of Spec 15HR.

4th Edition | February 2016 | Reaffirmed: April 2021
Product Number: G15HR4R | Price: $119.00

Spec 15LE ◆
Specification for Polyethylene Line Pipe (PE)

Covers polyethylene line pipe (PE) utilized for the production and transportation of oil, gas, mixed-phase fluids, and non-potable water. The piping is intended for use in new construction, insertion renewal, line extension, and repair of both aboveground and buried pipe applications. Pages: 35

5th Edition | September 2022 | Effective Date: March 1, 2023
Product Number: G15LE05 | Price: $110.00

Spec 15LF
Layflat Hose Assemblies for the Transport of Water in Oilfield Applications

Provides requirements for the manufacture and qualification of layflat hose assemblies in onshore oilfield water transfer applications. Also included are performance requirements for materials, hose, and couplings. These products consist of single or multiple layers of woven polymeric fibers lined with a polymeric material that is suitable for onshore oilfield water transfer service. The layflat hose assemblies addressed under this specification are capable of being spooled for storage, transport. and installation by both the original equipment manufacturer and the operator. Pages: 35

1st Edition | May 2021 | Product Number: G15LF1 | Price: $97.00

Spec 15LR ◆
Specification for Low Pressure Fiberglass Line Pipe
(includes Errata 1 dated June 2018 and Errata 2 dated April 2021)

Covers filament wound (FW) and centrifugally cast (CC) fiberglass line pipe and fittings for pipe in diameters up to and including 24 in. in diameter and up to and including 1000 psig cyclic operating pressures. In addition, at the manufacturer's option, the pipe may also be rated for static operating pressures up to 1000 psig. It is recommended that the pipe and fittings be purchased by cyclic pressure rating. The standard pressure ratings range from 150 psig to 300 psig in 50 psig increments, and from 300 psig to 1000 psig in 100 psig increments, based on either cyclic pressure or static pressure. Pages: 25

7th Edition | August 2001 | Effective Date: February 1, 2002
Reaffirmed: October 2018 | Product Number: G15LR7 | Price: $105.00

Spec 15LR *
Specification for Low Pressure Fiberglass Line Pipe—Chinese
(includes Errata 1 dated June 2018 and Errata 2 dated April 2021)

Chinese translation of Spec 15LR.

7th Edition | August 2001 | Reaffirmed: October 2018
Product Number: G15LR7C | Price: $105.00

Spec 15PX
Specification for Crosslinked Polyethylene (PEX) Line Pipe

Covers PEX line pipe used for the production and transportation of oil, gas, and nonpotable water. This specification does not cover pipe for chlorinated water service. The piping is intended for use in new construction, structural pressure-rated liner, line extension, and repair of both aboveground and buried-pipe applications. Equipment covered by this specification is listed as follows: PEX line pipe; fittings; and metallic flange couplers for field installations and PEX face flanges used as internal diameter adapters. Pages: 39

2nd Edition | February 2022 | Product Number: G15PX2 | Price: $108.00

Spec 15S
Spoolable Reinforced Plastic Line Pipe
(includes Addendum 1 dated August 2023)

Provides requirements for the manufacture and qualification of spoolable reinforced plastic line pipe in oilfield and energy applications, including transport of multiphase fluids, hydrocarbon gases, hydrocarbon liquids, oilfield production chemicals, and nonpotable water. Also included are performance requirements for materials, pipe, and fittings. Pages: 56

3rd Edition | April 2022 | Effective Date: October 2022
Product Number: G15S03 | Price: $143.00

RP 15SA
Integrity Management of Spoolable Reinforced Line Pipe

For integrity management of an existing API 15S asset including threat identification, identification of potential failure modes, risk assessment, testing requirements, initial and ongoing inspection practices, end-fitting and coupling inspection, potential mitigations, repair, and associated documentation. Pages: 28

1st Edition | February 2022 | Product Number: G15SA01 | Price: $75.00

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RP 15SIH
Installation and Handling of Spoolable Reinforced Line Pipe

Establishes recommended practices for onshore installation and handling of spoolable reinforced plastic line pipe (API Spec 15S products) to prevent damage to pipe and field-fittings (couplings, connectors, and end-fittings) in the field environment and to assure assembly integrity prior to use. This document covers handling, layout planning, and installation by direct bury (trench and backfill), surface lay, directional drilling, plowing, and pull-through methods. Post-installation inspection and field testing are also covered. This recommended practice outlines and identifies the important items that should be considered by each manufacturer and installer in their detailed procedures. This document is not intended to serve as a procedure or checklist for the installation and handling of spoolable reinforced line pipe products nor is it inclusive of all items that may be required for the installation and handling of these products. Pages: 23

1st Edition | October 2021 | Product Number: G15SIH1 | Price: $75.00

RP 15TL4
Recommended Practice for Care and Use of Fiberglass Tubulars

Provides information on packing, transporting, handling, storing, inspecting, and installing fiberglass tubulars in oilfield usage. Trouble-free service and maximum safety should result if this recommended practice is followed. Fiberglass tubulars differ in properties from metallic tubular goods, and different installation techniques are required. Pages: 34

3rd Edition | October 2022 | Product Number: G15TL403 | Price: $105.00

RP 15WT
Operations for Layflat Hose in Oilfield Water Applications

Provides guidelines and establishes recommended practices for the operation of layflat hose used for the transportation of water associated with onshore upstream oil and gas operations, to prevent damage of layflat hose and damage of layflat hose assemblies.

This document covers the transportation of formation water, injection water, brackish water, fresh water, and saline. The scope of this document excludes the initial and final connections of the layflat hose to the source and receiving points. Pages: 36

1st Edition | December 2019
Product Number: G15WT1 | Price: $105.00

DRILLING WELL CONTROL EQUIPMENT AND SYSTEMS

Spec 16A ◆
Specification for Drill-Through Equipment
(includes Errata 1 dated August 2017, Addendum 1 dated October 2017, Errata 2 dated November 2017, and Errata 3 dated April 2018)

Defines the requirements for performance, design, materials, testing and inspection, welding, marking, handling, storing, and shipping of drill-through equipment used for drilling for oil and gas.

Specifically, this document applies to the manufacture and testing of ram blowout preventers; ram blocks, packers, and top seals; annular blowout preventers; annular packing units; and associated connectors.

It also defines service conditions in terms of pressure, temperature, and wellbore fluids for which the equipment is designed.

Repair and remanufacture of 16A equipment is now covered in Std 16AR. This specification does not apply to field use or field. Pages: 122

4th Edition | April 2017 | Product Number: G16A04 | Price: $179.00

Std 16AR
Standard for Repair and Remanufacture of Drill-Through Equipment
(includes Errata 1 dated August 2017)

Specifies requirements for repair and remanufacture of drill-through equipment built under API 16A. This standard also applies to repair and remanufacture of drill-through equipment manufactured to API 6A requirements and produced prior to the existence of API 16A.

This standard also covers the testing, inspection, welding, marking, certification, handling, storing, and shipping of equipment repaired or remanufactured per this standard. Pages: 104

1st Edition | April 2017 | Product Number: G16AR01 | Price: $170.00

Spec 16C ◆
Choke and Kill Equipment

Identifies requirements for the performance, design, materials, testing, inspection, welding, marking, handling, storing, shipment, and purchasing of surface and subsea choke and kill equipment for use in the petroleum and natural gas industries. These requirements provide for safe and functionally interchangeable surface and subsea choke and kill system equipment. This specification does not apply to field use or field testing. This specification also does not apply to repair of choke and kill equipment, except for weld repair in conjunction with manufacturing. Pages: 121

3rd Edition | March 2021 | Product Number: G16C03 | Price: $186.00

Spec 16D ◆
Control Systems for Drilling Well Control Equipment and Control Systems for Diverter Equipment
(includes Addendum 1 dated July 2023)

Establishes design standards for systems used to control blowout preventers (BOPs) and associated valves that control well pressure during drilling operations. The design standards applicable to subsystems and components do not include material selection and manufacturing process details but may serve as an aid to the purchaser. Although diverters are not considered well control devices, their controls are often incorporated as part of the BOP control system and therefore are included in this specification. The requirements provided in this specification apply to the following control system categories: control systems for surface mounted BOP stacks; control systems for subsea BOP stacks (common elements); discrete hydraulic control systems for subsea BOP stacks; electro-hydraulic/multiplex control systems for subsea BOP stacks; control systems for diverter equipment; auxiliary equipment control systems and interfaces; emergency disconnect sequenced systems; backup systems; special deepwater/harsh environment features. Pages: 144

3rd Edition | November 2018 | Effective Date: May 1, 2019
Product Number: G16D03 | Price: $205.00

Spec 16F ◆
Specification for Marine Drilling Riser Equipment
(includes Errata 1 dated February 2019 and Addendum 1 dated January 2021)

Establishes standards of performance and quality for the design, manufacture, and fabrication of marine drilling riser equipment used in conjunction with a subsea blowout preventer (BOP) stack.

This specification applies to all riser system components that are in the primary load path during operation, running, and retrieval, including but not limited to riser couplings, riser main tube, riser adapters, riser external lines when used for load sharing, riser tensioner rings, telescopic joints, flex/ball joints, and special riser joints. Pages: 120

2nd Edition | November 2017 | Product Number: G16F02 | Price: $150.00

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Spec 16F *
Specification for Marine Drilling Riser Equipment—Russian
(includes Errata 1 dated February 2019, Addendum 1 dated January 2021, and Addendum 2 dated December 2022)

Russian translation of Spec 16F.

2nd Edition | November 2017 | Product Number: G16F02R | Price: $150.00

TR 16G ■
Well Control Equipment Reliability Modeling

Documents methods of reliability analysis for well control equipment systems installed for drilling wells. Well control equipment systems are designed with components that provide wellbore pressure control in support of well operations. As an example, the following typical systems were modeled and analyzed: surface on-shore BOP systems; surface offshore BOP systems; subsea BOP systems with discrete hydraulic control system; offshore DP MODU with a subsea BOP system with electro-hydraulic/multiplex control system. Pages: 39

1st Edition | March 2023 | Product Number: G16G01 | Price: $86.00

Bull 16H
Automated Safety Instrumented Systems for Onshore Blowout Preventer Actuation

Provides a review of the equipment and interfaces to be considered for the automation of a blowout preventer to place the well in a safe state in an onshore environment. It also provides an overview of components that can be considered for future research into developing an automated well control actuation system. These technologies, once fully developed and implemented, can help automate and expand ways to mitigate unexpected events resulting in a loss of primary well control. Pages: 26

1st Edition | February 2022 | Product Number: G16H01 | Price: $75.00

RP 16Q
Design, Selection, Operation and Maintenance of Marine Drilling Riser Systems
(includes Addendum 1 dated March 2023)

Pertains to the design, selection, operation, and maintenance of marine riser systems for floating drilling operations. Its purpose is to serve as a reference for designers, for those who select system components, and for those who use and maintain this equipment. For the purposes of this standard, a marine drilling riser system includes the tensioner system and all equipment between the top connection of the upper flex/ball joint and the bottom connection of the lower flex/ball joint. It specifically excludes the diverter, LMRP, BOP stack, and hydraulic connectors. Pages: 90

2nd Edition | April 2017 | Product Number: G16Q02 | Price: $132.00

RP 16Q *
Design, Selection, Operation and Maintenance of Marine Drilling Riser Systems—Russian
(includes Addendum 1 dated March 2023)

Russian translation of RP 16Q.

2nd Edition | April 2017 | Product Number: G16Q02R | Price: $132.00

Spec 16RCD ◆
Specification for Rotating Control Devices
(includes Addendum 1 dated October 2022 and Addendum 2 dated November 2023)

Provides for the availability of safe and functionally interchangeable rotating control devices (RCDs) utilized in air drilling, drilling operations for oil and gas, and in geothermal drilling operations. Technical content provides requirements for design, performance, materials, tests and inspection, welding, marking, handling, storing, and shipping. This specification does not apply to field use or field testing of RCDs. Critical components are those parts having requirements specified in this document. Pages: 57

3rd Edition | June 2022 | Effective Date: December 1, 2022
Product Number: G16RCD03 | Price: $168.00

RP 16ST
Coiled Tubing Well Control Equipment Systems
(includes Addendum 1 dated February 2022)

Addresses coiled tubing well control equipment assembly and operation as it relates to well control practices. This document covers well control equipment assembly and operations used in coiled tubing intervention and coiled tubing drilling/milling applications performed through: tree equipment constructed in accordance with API 6A or API 11IW or both; a surface flow head or surface test tree constructed in accordance with API 6A; a fracture stimulation wellhead assembly (with at least two gate valves installed for isolation); drill pipe or workstrings with connections manufactured in accordance with API 5CT, API 5DP or API 7-1, or a combination thereof. Pages: 131

2nd Edition | February 2021 | Product Number: G16ST02 | Price: $186.00

TR 16TR1
BOP Shear Ram Performance Test Protocol
(includes Errata 1 dated October 2018)

Outlines the standardized test protocol, including data and reporting requirements, for performing sealing and non-sealing blowout preventer (BOP) shear ram performance tests. This protocol determines the parameters that can support field system performance and confidence in successful shearing and sealing.

This document is not intended to be used for qualifying BOP shear rams or as a factory acceptance test procedure. Qualification and factory acceptance testing of BOP shear rams is per API 16A. Pages: 30

1st Edition | July 2018| Product Number: G16TR11 | Price: $105.00

Std 53
Well Control Equipment Systems for Drilling Wells

Provides requirements on the installation and testing of blowout prevention equipment systems on land and marine drilling rigs (barge, platform, bottom-supported, and floating). Blowout preventer equipment systems are comprised of a combination of various components. The following components are required for operation under varying rig and well conditions: blowout preventers (BOPs); choke and kill lines; choke manifolds; control systems; auxiliary equipment. The primary functions of these systems are to confine well fluids to the wellbore, provide means to add fluid to the wellbore, and allow controlled volumes to be withdrawn from the wellbore. Pages: 86

5th Edition | December 2018 | Product Number: G05305 | Price: $164.00

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RP 59
Recommended Practice for Well Control Operations

Provides information that can serve as a voluntary industry guide for safe well control operations. This publication is designed to serve as a direct field aid in well control and as a technical source for teaching well control principles. This publication establishes recommended operations to retain pressure control of the well under pre-kick conditions and recommended practices to be utilized during a kick. It serves as a companion to RP 53 and RP 64. Pages: 92

2nd Edition | May 2006 | Reaffirmed: December 2018
Product Number: G59002 | Price: $133.00

RP 59 *
Recommended Practice for Well Control Operations—Kazakh

Kazakh translation of RP 59.

2nd Edition | May 2006 | Reaffirmed: December 2018
Product Number: G59002K | Price: $133.00

RP 59 *
Recommended Practice for Well Control Operations—Russian

Russian translation of RP 59.

2nd Edition | May 2006 | Reaffirmed: December 2018
Product Number: G59002R | Price: $133.00

Std 64
Diverter Equipment Systems
(includes Errata 1 dated March 2018 and Addendum 1 dated December 2018)

Provides information on the design, manufacture, quality control, installation, maintenance, and testing of the diverter system, and associated components. The diverter system provides a flow control system to direct controlled or uncontrolled wellbore fluids away from the immediate drilling area for the safety of personnel and equipment. Pages: 69

3rd Edition | August 2017 | Product Number: G64003 | Price: $149.00

SUBSEA PRODUCTION SYSTEMS

RP 17A
Design and Operation of Subsea Production Systems—General Requirements and Recommendations

Provides general requirements and recommendations for the development and operation of subsea production/injection systems, from the concept development phase to decommissioning and abandonment. This document references other API 17-series documents, as well as various relevant industry documents. A complete subsea production/ injection system comprises several subsystems necessary to produce hydrocarbons from one or more subsea wells and transfer them to a processing/host facility located offshore (fixed, floating, or subsea) or onshore, or to inject water/gas via subsea facilities and/or wells. Pages: 55

6th Edition | April 2002 | Product Number: G17A06 | Price: $108.00

RP 17B
Recommended Practice for Flexible Pipe

Provides guidelines for the design, analysis, manufacture, testing, installation, and operation of flexible pipes and flexible pipe systems for onshore, subsea, and marine applications. This recommended practice (RP) supplements Specs 17J and 17K, which specify minimum requirements for the design, material selection, manufacture, testing, marking, and packaging of unbonded and bonded flexible pipe, respectively. This RP applies to flexible pipe assemblies, consisting of segments of flexible pipe body with end fittings attached to both ends. Both bonded and unbonded pipe types are covered. In addition, this RP applies to flexible pipe systems, including ancillary components. The applications covered by this RP are sweet- and sour-service production, including export and injection applications. This RP applies to both static and dynamic flexible pipe systems used as flowlines, risers, and jumpers. This RP does cover, in general terms, the use of flexible pipes for offshore loading systems. This RP does not cover flexible pipes for use in choke and kill lines or umbilical and control lines. Pages: 268

5th Edition | May 2014 | Reaffirmed: March 2021
Product Number: G017B05 | Price: $249.00

Spec 17D ◆
Specification for Subsea Wellhead and Tree Equipment
(includes Addendum 1 dated December 2022)

Provides specifications for subsea wellheads, mudline wellheads, drill-through mudline wellheads, and both vertical and horizontal subsea trees. It specifies the associated tooling necessary to handle, test, and install the equipment. It also specifies the areas of design, material, welding, quality control [including factory acceptance testing (FAT)], marking, storing, and shipping for individual equipment, subassemblies, and subsea tree assemblies. Pages: 256

3rd Edition | October 2021 | Effective Date: October 2022
Product Number: G17D03 | Price: $222.00

Spec 17E
Specification for Subsea Umbilicals
(includes Addendum 1 dated December 2017)

Specifies requirements and gives recommendations for the design, material selection, manufacture, design verification, testing, installation, and operation of subsea control systems, chemical injection, gas lift, utility and service umbilicals, and associated ancillary equipment for the petroleum and natural gas industries. This also applies to umbilicals containing electrical conductors, optical fibers, thermoplastic hoses, and metallic tubes, either alone or in combination, and applies to umbilicals that are for static or dynamic service, and with routings of surface-surface, surface-subsea, and subsea-subsea. Pages: 178

5th Edition | July 2017 | Product Number: G17E05 | Price: $210.00

Spec 17E *
Specification for Subsea Umbilicals—Russian
(includes Addendum 1 dated December 2017)

Russian translation of Spec 17E.

5th Edition | July 2017 | Product Number: G17E05R | Price: $210.00

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Std 17F ■
Standard for Subsea Production and Processing Control Systems

Applies to the design, fabrication, testing, installation, and operation of subsea production and processing control systems (SPCS). This standard covers surface control system equipment, subsea-installed control system equipment, and control fluids. This equipment is used for control of subsea production and process of oil and gas and for subsea water and gas injection services. Where applicable, this standard can be used for secondary users. Pages: 288

5th Edition | April 2023 | Product Number: G17F05 | Price: $262.00

Std 17G
Design and Manufacture of Subsea Well Intervention Equipment

Defines a minimum set of requirements for performance, design, materials, testing and inspection, hot forming, welding, marking, handling, storing, and shipping of new build subsea well intervention equipment [through-BOP intervention riser system (TBIRS) and openwater intervention riser system (OWIRS)].

The requirements in this standard apply to equipment whose rated working pressure (RWP) is less than or equal to 103.4 MPa (15,000 psi) or whose rated temperature is less than or equal to 177 °C (350 °F). For equipment ratings that exceed these limits, see API 17TR8.

Structural design methods and criteria given in API 17G are limited to components manufactured from materials that ensure ductile failure modes (e.g., carbon steels, low-alloy steels, and corrosion-resistant alloys). Components manufactured from materials that may not ensure ductile failure modes (e.g., composite materials, titanium, and titanium alloys) are outside the scope of this standard.

The standard covers equipment that is connected to a fluid conduit tieback riser, either inside the marine riser (TBIRS) or open water (OWIRS). Intervention equipment, such as riserless light well intervention systems, downline connected equipment, and remotely operated vehicle (ROV) intervention equipment, are outside the scope of this standard. Pages: 280

3rd Edition | November 2019 | Product Number: G17G03 | Price: $187.00

RP 17G1
Configuration and Operation for Subsea Well Intervention Systems

Provides guidance for the selection of a subsea well intervention system, defines minimum requirements of a subsea well intervention system for specific operation(s) and environments to ensure the selected system is fit or purpose. This RP applies to new and existing subsea well intervention systems irrespective of whether the equipment complies with the latest requirements of API 17G. All subsea well intervention systems are covered by this RP and the equipment typically included in (but not limited to) the system is described in the suite of API 17G intervention documents. Pages: 82

1st Edition | July 2022 | Product Number: G17G101 | Price: $137.00

RP 17G2 ■
Recommended Practice for Subsea Pumping Well Intervention Systems

Provides recommendations for the design, manufacture, testing, and performance of SPWISs deployed from a mobile offshore work unit such as a multipurpose vessel. This document contains the system-level requirements and recommendations and where not found elsewhere, the information that applies to individual components. To the greatest extent possible, this document points the reader to the API document that is applicable to each system component or subsystem. This information is applicable to all new and existing SPWISs. SPWISs are intended to satisfy the requirements of API 17G and API 17G5, with modifications thereof as given in this document. Therefore, this document is not intended to be a standalone document. It is to be used in conjunction with API 17G (parent document), API 17G1, API 17G5, and end user requirements. Pages: 56

1st Edition | October 2023 | Product Number: G17G201 | Price: $117.00

RP 17G3
Design of Subsea Well Intervention Systems Using Non-Ferrous Alloys

Provides design guidelines for the use of non-ferrous materials in subsea intervention systems and components. Pages: 29

1st Edition | February 2021 | Product Number: G17G301 | Price: $93.00

RP 17G5
Subsea Intervention Workover Control Systems

Provides the requirements for the design, manufacture, and testing of intervention workover control system (IWOCS) equipment typically used in a thru-blowout preventer intervention riser system and an open-water intervention riser system.

Some requirements in this document are specific to the execution of end user-defined safety functions. This document defines "safety class control functions" used to operate safety class devices. This document provides guidance on the determination of safety class control functions based on the end user-provided safety functions. Pages: 42

1st Edition | November 2019 | Product Number: G17G501 | Price: $86.00

RP 17G6 ■
Global Analysis of Subsea Well Intervention Systems

Provides guidelines for global riser analysis (GRA) of subsea well workover/intervention systems and is intended to serve as a common reference for designers. This recommended practice is not intended to replace existing API recommended practices and standards but rather to supplement them by illustrating accepted analysis practices and principles. The end users may elect to adopt a portion of or all the presented guidelines for global riser analysis, subject to their well-specific riser designs and any operational-related design constraints. Pages: 140

1st Edition | October 2023 | Product Number: G17G601 | Price: $156.00

RP 17H
Remotely Operated Tools and Interfaces on Subsea Production Systems

Provides functional requirements and guidelines for ROV/ROT/AUV interfaces in subsea production fields for the petroleum and natural gas industries. It is applicable to both the selection and use of ROV/ROT/AUV interfaces related to subsea production equipment and provides guidance on design as well as the operational requirements for maximizing the potential of standardized equipment and design principles. This recommended practice (RP) identifies the issues to be considered when designing for ROV/ROT/AUV operations to interact with (or near) subsea production systems. The framework and specifications set out enables the user (whether they may be on the ROV/ROT/AUV side or production facility side) to design the appropriate interface for a specific application. These interfaces include subsea docking, recharging, data transfer, data harvesting, and mechanical intervention. Pages: 112

3rd Edition | July 2019 | Product Number: G17H03 | Price: $160.00

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Spec 17J ◆
Specification for Unbonded Flexible Pipe
(includes Errata 1 dated September 2016, Errata 2 dated May 2017, and Addendum 1 dated October 2017)

Defines the technical requirements for safe, dimensionally and functionally interchangeable flexible pipes that are designed and manufactured to uniform standards and criteria. Minimum requirements are specified for the design, material selection, manufacture, testing, marking, and packaging of flexible pipes, with reference to existing codes and standards where applicable. See RP 17B for guidelines on the use of flexible pipes and ancillary components. This specification applies to unbonded flexible pipe assemblies, consisting of segments of flexible pipe body with end fittings attached to both ends. This specification does not cover flexible pipes of bonded structure. This specification does not apply to flexible pipe ancillary components. Guidelines for bend stiffeners and bend restrictors are given in Annex B. This specification does not apply to flexible pipes that include non-metallic tensile armour wires. Pipes of such construction are considered as prototype products subject to qualification testing. The applications addressed by this document are sweet and sour service production, including export and injection applications. Production products include oil, gas, water, and injection chemicals. This specification applies to both static and dynamic flexible pipes used as flowlines, risers, and jumpers. This specification does not apply to flexible pipes for use in choke-and-kill line applications. Pages: 90

4th Edition | May 2014 | Effective Date: November 1, 2014
Reaffirmed: March 2021 | Product Number: G017J04 | Price: $146.00

Spec 17K ◆
Specification for Bonded Flexible Pipe

Defines the technical requirements for safe, dimensionally and functionally interchangeable bonded flexible pipes that are designed and manufactured to uniform standards and criteria. Minimum requirements are specified for the design, material selection, manufacture, testing, marking, and packaging of bonded flexible pipes, with reference to existing codes and standards where applicable. This document applies to bonded flexible pipe assemblies, consisting of segments of flexible pipe body with end fittings attached to both ends. It does not cover flexible pipes of unbonded structure or to flexible pipe ancillary components. This document can be applied to flexible pipes that include non-metallic reinforcing layers, though no effort was made to address the specific and unique technological aspects of this product. Pages: 96

3rd Edition | August 2017 | Reaffirmed: January 2022
Product Number: G17K03 | Price: $147.00

Spec 17L1
Specification for Ancillary Equipment for Flexible Pipes and Subsea Umbilicals

Defines the technical requirements for safe, dimensionally and functionally interchangeable ancillary equipment that is designed and manufactured to uniform standards and criteria. Minimum requirements are specified for the design, material selection, manufacture, testing, documentation, marking, and packaging of ancillary equipment used in flexible pipe systems and subsea umbilical systems, with reference to existing codes and standards where applicable. See API 17L2 for guidelines on the use of ancillary equipment. Pages: 326

2nd Edition | June 2021 | Product Number: G17L102 | Price: $203.00

RP 17L2
Recommended Practice for Ancillary Equipment for Flexible Pipes and Subsea Umbilicals

Provides guidelines for the design, materials selection, analysis, testing, manufacture, handling, transportation, installation, and integrity management of ancillary equipment for flexible pipes and umbilicals. It presents the current best practice for design and procurement of ancillary equipment, and gives guidance on the implementation of the specification for standard ancillary products. In addition, this document presents guidelines on the qualification of prototype products. Pages: 285

2nd Edition | June 2021 | Product Number: G17L202 | Price: $203.00

RP 17N
Recommended Practice on Subsea Production System Reliability, Technical Risk, and Integrity Management
(includes Addendum 1 dated May 2018)

Provides a structured approach that organizations can adopt to manage uncertainty throughout the life of a project. This may range from the management of general project risk through to the identification and removal of potential failure modes in particular equipment.

This recommended practice aims to provide operators, contractors, and suppliers with guidance in the application of reliability techniques to subsea projects within their scope of work and supply only. It is applicable to standard and nonstandard equipment, and all phases of projects, from feasibility studies to operation.

It does not prescribe the use of any specific equipment or limit the use of any existing installed equipment or recommend any action, beyond good engineering practice, where current reliability is judged to be acceptable. It is also not intended to replace individual company processes, procedures, document nomenclature, or numbering; it is a guide. However, this recommended practice may be used to enhance existing processes, if deemed appropriate.

Most organizations will find much that is familiar and recognized as good practice. Some annex sections may only be of interest to a reliability specialist. The basic approach, however, is simple and consistent, and when applied correctly, has the potential to greatly reduce the financial risk of designing, manufacturing, installing, and operating subsea equipment. Pages: 178

2nd Edition | June 2017 | Product Number: G17N02 | Price: $193.00

RP 17N *
Recommended Practice on Subsea Production System Reliability, Technical Risk, and Integrity Management—Russian
(includes Addendum 1 dated May 2018)

Russian translation of RP 17N.

2nd Edition | June 2017 | Product Number: G17N02R | Price: $193.00

RP 17O
Recommended Practice for Subsea High Integrity Pressure Protection Systems (HIPPS)

Addresses the requirements for the use of high integrity pressure protection systems (HIPPS) for subsea applications. RP 14C, IEC 61508, and IEC 61511 specify the requirements for onshore, topsides, and subsea safety instrumented systems (SIS) and are applicable to HIPPS, which are designed to autonomously isolate downstream facilities from overpressure situations. This document integrates these requirements to address the specific needs of subsea production. These requirements cover the HIPPS pressure sensors, logic solver, shutdown valves, and ancillary devices including testing, communications, and monitoring subsystems. Pages: 45

2nd Edition | July 2014 | Reaffirmed: February 2019
Product Number: G17O02 | Price: $131.00

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RP 17P
Recommended Practice for Subsea Structures and Manifolds

Addresses specific requirements and recommendations for subsea structures and manifolds, within the frameworks set forth by recognized and accepted industry specifications and standards. As such, it does not supersede or eliminate any requirement imposed by any other industry specification.

This recommended practice (RP) covers subsea manifolds and templates used for pressure control in both subsea production of oil and gas, and subsea injection services. Equipment within the scope of this RP includes production and injection manifolds; modular and integrated single satellite and multiwell templates; subsea processing and subsea boosting stations; flowline riser bases and export riser bases (FRB, ERB); pipeline end manifolds (PLEM); pipeline end terminations (PLET); T- and Y-connections; subsea isolation valve structures (SSIV); subsea controls and distribution structures; and associated protection structures. Pages: 76

2nd Edition | January 2019 | Product Number: GG17P02 | Price: $150.00

RP 17Q
Recommended Practice on Subsea Equipment Qualification

Provides suppliers, contractors, and operators with process-level guidance to qualify equipment intended for use in subsea applications. This document is intended to provide high-level guidance only, so that the petroleum and natural gas industry has a common set of principles to follow for equipment qualification. It is written to simplify the qualification process and to align associated expectations within individual organizations and within the industry. It is not intended to replace existing company processes or procedures. The application of this recommended practice is dependent on the stakeholder companies (qualifier and end user) accepting its use. Although developed for application to subsea equipment, the process described by the recommended practice can be applied to non-subsea equipment as well. Pages: 54

2nd Edition | May 2018 | Product Number: G17Q02 | Price: $145.00

RP 17R
Recommended Practice for Flowline Connectors and Jumpers

Addresses specific requirements and recommendations for subsea flowline connectors and jumpers within the frameworks set forth by recognized and accepted industry specifications and standards. As such, it does not supersede or eliminate any requirement imposed by any other industry specification. This RP covers subsea flowline connectors and jumpers used for pressure containment in both subsea production of oil and gas, and subsea injection services. Pages: 68

2nd Edition | December 2022 | Product Number: G17R02 | Price: $131.00

RP 17S
Recommended Practice for the Design, Testing, and Operation of Subsea Multiphase Flow Meters

Provides recommendations for the sizing, specification, system integration, testing and operation of in-line subsea multiphase flow meters (MPFMs) for measurement of full stream, multiphase flow for well testing, allocation measurement, fiscal measurement, well management, and/or in flow assurance applications. This recommended practice includes wet gas flow meters as a subset of MPFMs. Pages: 45

2nd Edition | April 2022 | Product Number: G17S02 | Price: $98.00

TR 17TR1
Evaluation Standard for Internal Pressure Sheath Polymers for High Temperature Flexible Pipes

Defines the methodology and test procedures necessary for the evaluation of polymeric materials suitable for use as the internal pressure sheath of an unbonded flexible pipes in high temperature applications. It describes the processes by which the critical material properties, both static and dynamic, can be measured and evaluated against relevant performance criteria.

This document relates primarily to the properties necessary for an internal pressure sheath required for oil and gas production. These are most relevant to high temperature applications. Only thermoplastic materials are considered for the internal pressure sheath. Elastomeric materials, which are used in bonded flexible pipes, are not considered in this document. Pages: 47

1st Edition | March 2003 | Product Number: G17TR11 | Price: $143.00

TR 17TR1 *
Evaluation Standard for Internal Pressure Sheath Polymers for High Temperature Flexible Pipes—Russian

Russian translation of TR 17TR1.

1st Edition | March 2003 | Product Number: G17TR11R | Price: $143.00

TR 17TR2
The Aging of PA-11 In Flexible Pipes

Provides comprehensive guidance on materials and pipe issues regarding the use and operation of PA-11 in flexible pipe applications and concentrates on the use of PA-11 in the internal sheath of flexible pipes. The collective goal of this document is to prevent failure of the internal pressure sheath, as a result of aging and associated loss of mechanical properties, by determining and disseminating the necessary scientific and practical information. Pages: 31

1st Edition | June 2003 | Product Number: G17TR21 | Price: $110.00

TR 17TR3
An Evaluation of the Risks and Benefits of Penetrations in Subsea Wellheads Below the BOP Stack

Provides an evaluation of the risks and benefits of allowing penetrations in subsea wellheads below the blowout preventer (BOP) stack so annuli other than the production tubing (commonly referred to as the "A" annulus) could be monitored. Current industry standards (Spec 17D and ISO 13628-4) for the design of subsea wellheads prohibit penetrations below the (BOP) stack. In contrast, U.S. regulations (30 *CFR* 250.517) require that all annuli be monitored for sustained casing pressure and that every occurrence of sustained casing pressure be reported immediately. The study concludes that the risks outweigh the benefits since the risk of maintaining the pressure barrier using a wellhead with penetrations is approximately 2.5 times that of a system without penetrations.

The scope of this study is limited to completed subsea wells in the Gulf of Mexico (GOM). The risks were evaluated using fault tree analysis for three systems:

- wellhead system without penetrations,
- wellhead system with one penetration, and
- wellhead system with two penetrations. Pages: 123

1st Edition | November 2004 | Product Number: G17TR31 | Price: $143.00

TR 17TR3 *
An Evaluation of the Risks and Benefits of Penetrations in Subsea Wellheads Below the BOP Stack—Russian

Russian translation of TR 17TR3.

1st Edition | November 2004
Product Number: G17TR31R | Price: $143.00

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TR 17TR4
Subsea Equipment Pressure Ratings

The impact of operation in deep water on the pressure rating of equipment is a special concern. The objective of this document is to foster a better understanding of the effects of simultaneous internal and external pressures on the internal pressure rating of well control equipment. Pages: 12

2nd Edition | May 2016 | Product Number: G17TR402 | Price: $71.00

TR 17TR4 *
Subsea Equipment Pressure Ratings—Russian

Russian translation of TR 17TR4.

2nd Edition | May 2016 | Product Number: G17TR402R | Price: $71.00

TR 17TR5
Avoidance of Blockages in Subsea Production Control and Chemical Injection Systems

Addresses the avoidance of blockages in subsea production control and chemical injection systems (CISs). It includes requirements and gives recommendations for the design and operation of subsea production systems (SPSs) with the aim of preventing blockages in control and production chemical fluid (PCF) conduits and associated connectors/fittings. In the context of design, this covers not only installed subsea hardware (trees, manifolds, etc.) and the connecting linkages (jumper arrangements, umbilical systems, etc.) but also the fluids to be conveyed, initially from the fluid manufacturers' facilities through to bunkering at the host facility and, ultimately, injection or usage at remote subsea locations.

The document also addresses the issues of topside equipment that provide the control and chemical injection (CI) services necessary for the operation and performance of a SPS. Pages: 44

1st Edition | March 2012 | Product Number: G17TR501 | Price: $107.00

TR 17TR6
Attributes of Production Chemicals in Subsea Production Systems

Identifies and specifies the essential attributes of production chemicals intended to be introduced to subsea oil and gas production systems. The document is intended for use by chemical suppliers to facilitate the provision of chemicals compatible with existing and intended subsea production systems (SPS) although it is envisaged that use of the document for specification purposes by the operators of such processes will assist in ensuring the completeness of requests to supply.

This document specifies parameters that address manufacture, storage, and transportation of the production chemical, as well as its deployment using the SPS chemical injection system. The document provides for two approaches, requiring that parameters be either:

- measured and reconciled with SPS design and operation, or
- meet, or exceed, acceptance criteria specified, either in this document or by manufacturers of production chemicals or equipment used to deliver production chemicals.

This document is intended to be applicable to all subsea developments, irrespective of whether the development is in shallow or deep water. Pages: 42

1st Edition | March 2012 | Product Number: G17TR601 | Price: $107.00

TR 17TR7
Verification and Validation of Subsea Connectors

Provides requirements and recommendations for the verification and validation of subsea connectors. It is intended to serve as a common reference for designers, manufacturers, and users to improve the performance assessment of subsea connectors and to improve the reliability and integrity of subsea systems.

This technical report is applicable to subsea connectors along the vertical centerline of subsea hardware (i.e. tree, tubing head, tree cap, tree running tool, well control package connectors, and EDP connectors), the subsea wellhead, and the completion/workover riser. The methodology provided herein may also be used in other connector designs. Connectors outboard of the vertical centerline are addressed in API 17R. Pages: 25

1st Edition | April 2017 | Product Number: G17TR71 | Price: $93.00

TR 17TR8
High-Pressure High-Temperature Design Guidelines

Provides design guidelines for oil and gas subsea equipment utilized in high-pressure high-temperature (HPHT) environments. For the purpose of the technical report, HPHT environments are intended to be one or a combination of the following well conditions: 1) the completion of the well requires completion equipment or well control equipment assigned a pressure rating greater than 15,000 psia (15 ksi, 103.5 MPa) or a temperature rating greater than 350 °F (177 °C); 2) the maximum anticipated surface pressure including shut-in tubing pressure is greater than 15,000 psia (15 ksi, 103.5 MPa) on the seafloor for a well with a subsea wellhead or at the surface for a well with a surface wellhead; or 3) the flowing temperature is greater than 350 °F (177 °C) on the seafloor for a well with a subsea wellhead or at the surface for a well with a surface wellhead.Pages: 113

3rd Edition | July 2022 | Product Number: G17TR803 | Price: $156.00

TR 17TR9
Umbilical Termination Assembly (UTA) Selection and Sizing Recommendations

identifies and describes:

- technical, commercial, and installation risks associated with high-functionality umbilicals and umbilical terminations [resulting in large and heavy umbilical termination assemblies (UTAs)], especially with respect to installation;
- implications of decisions made early in the umbilical and subsea umbilical termination (SUT) planning, selection, and design phases, to ease the manufacturing, handling, and final umbilical/UTA installation;
- guidance on specification and sizing of umbilical terminations, including overall size, weight, and handling requirements.

This document acts as a reference guide during the early field development planning stage to ensure that due consideration is given to the implications of the size of UTAs and possible consequences during installation. It is intended to be used as a reference guide by end users and operators, UTA and umbilical manufacturers, installers, and front-end engineering design (FEED) companies. The intention is that the document will enable the currently inherent installation difficulties to be addressed up front by the UTA designers, prior to commencing SUT design and functionality definition. It is also intended to be used as a reference document to enable reviews to be undertaken to ensure that installation risk has been properly considered as part of SUT design and operations reviews on a case-by-case basis. Pages: 53

1st Edition | August 2017 | Product Number: G17TR91 | Price: $113.00

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TR 17TR10
Subsea Umbilical Termination (SUT) Design Recommendations

Provides best practice technical guidance for subsea umbilical design (SUT) design, in order to aid in making informed choices during the design phase.

This document was generated in response to the increasing difficulties in installation of high-functionality SUTs, due to their increasing size.

This document is intended to be used as a reference guide by operators, umbilical termination assembly (UTA) and umbilical specifiers, installers, and front-end engineering design (FEED) companies. It is also intended to be used as a reference document to enable reviews to be undertaken to ensure that installation risk has been properly considered as part of SUT design and operation reviews.

Additionally, the document has been designed to be educational such that persons new to the industry, or, less experienced persons within the industry, can understand the implications of UTA design on installation feasibility.

This document aims at capturing the primary aspects impacting on the overall dimensions and weight of the UTA, and highlighting the consequences of design choices.

This document excludes multibore hub connection-type (MHC) UTAs that can connect the umbilical directly to other subsea hardware. Although MHC UTAs are out of scope, many of the guidelines in this document would apply. Pages: 66

1st Edition | December 2015 | Product Number: G17TR101 | Price: $113.00

TR 17TR11
Pressure Effects on Subsea Hardware During Flowline Pressure Testing in Deep Water

Provides guidance to the industry on allowable pressure loading of subsea hardware components that can occur during hydrotesting of subsea flowlines and risers and during pre-commissioning leak testing of these systems. There are potential problems with confusion arising from high hydrostatic pressure in deep water, partially due to the variety of applicable test specifications and partly from the inconsistent use of a variety of acronyms for pressure terminology. Pages: 11

1st Edition | September 2015
Product Number: G17TR111 | Price: $87.00

TR 17TR12
Consideration of External Pressure in the Design and Pressure Rating of Subsea Equipment

Addresses issues related to the effects of external pressure acting on subsea equipment installed in deepwater for containing or controlling wellbore fluids. External pressure at deepwater can significantly reduce the differential pressure acting on the wall of subsea equipment; therefore, this can improve its internal pressure containment capability. External pressure is typically ambient seawater pressure, but in some cases, external pressure may be due to the hydrostatic head of drilling mud, completion fluids, or other fluids contained within risers or other conduits that connect the subsea equipment to surface facilities.

This document provides guidance for subsea equipment designers/manufacturers to properly account for external pressure (or in some cases, differential pressure) when designing and validating subsea equipment. Additionally, this technical report provides guidance to equipment purchaser/end-user to appropriately select rated equipment for their subsea systems with consideration to the effects of external pressure in addition to internal pressure, including differential pressure across a closure mechanism, and other applied mechanical or structural loads under all potential operating scenarios and functionality criteria.

It is necessary that users of this technical report be aware of regulations from jurisdictional authority that may impose additional or different requirements to the consideration of external pressure or differential pressure in equipment designs. Pages: 28

1st Edition | March 2015 | Product Number: G17TR121 | Price: $103.00

TR 17TR13
General Overview of Subsea Production Systems

Subsea production systems can range in complexity from a single satellite well with a flowline linked to a fixed platform to several wells on a template producing and transferring via subsea processing facilities to a fixed or floating facility or directly to an onshore installation. The objectives of this document are to describe typical examples of the various subsystems and components that can be combined, in a variety of ways, to form complete subsea production systems; to describe the interfaces with typical downhole and topsides equipment that are relevant to subsea production systems; and to provide some basic design guidance on various aspects of subsea production systems. Pages: 100

1st Edition | March 2016 | Product Number: G17TR131 | Price: $131.00

TR 17TR16
Subsea Hydrocarbon Production Leak Detection Systems Using Process Data

Provides considerations and recommendations for design, operation, maintenance, and training related to leak detection on multiphase subsea production gathering systems and gas injection systems. The scope is limited to methods using internal process sensors to detect leaks that are identifiable from process data. This report does not cover leak detection for umbilical systems, subsea trees (upstream of subsea choke), well downhole tubing, water injection systems, and export pipelines. Pages: 31

1st Edition | December 2022
Product Number: G17TR1601 | Price: $97.00

RP 17U ■
Recommended Practice for Wet and Dry Thermal Insulation of Subsea Flowlines and Equipment

Provides guidance for the performance, qualification, application, quality control, handling, and storage requirements of wet and dry thermal insulation for subsea applications in the petroleum and gas industries. This guideline also covers the inspection of the insulation, and the repair of insulation defects. Annex A specifies the minimum recommendations for the performance qualification testing and inspection testing requirements for wet insulation systems (insulations in direct contact with seawater). Annex B specifies the minimum recommendations for the performance qualification testing and inspection testing requirements for dry insulation systems (insulations not in direct contact with seawater). Pages: 33

2nd Edition | December 2023 | Product Number: G17U02 | Price: $81.00

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RP 17V
Recommended Practice for Analysis, Design, Installation, and Testing of Safety Systems for Subsea Applications
(includes Errata 1 dated July 2015)

Presents recommendations for designing, installing, and testing a process safety system for subsea applications. The basic concepts of subsea safety systems are discussed and protection methods and requirements of the system are outlined. For the purposes of this document, "subsea system" includes all process components from the wellhead (and surface controlled subsurface safety valve [SCSSV]) to upstream of the boarding shutdown valve. For gas injection, water injection, and gas lift systems, the shutdown valve is within the scope of this document.

This document is a companion document to API 14C, which provides guidance for topsides safety systems on offshore production facilities. Some sections of this document refer to API 14C for safety system methodology and processes. This recommended practice illustrates how system analysis methods can be used to determine safety requirements to protect any process component. Actual analyses of the principal components are developed in such a manner that the requirements determined will be applicable whenever the component is used in the process. The safety requirements of the individual process components may then be integrated into a complete subsea safety system. The analysis procedures include a method to document and verify system integrity. The uniform method of identifying and symbolizing safety devices is presented in API 14C and adopted in this recommended practice. Pages: 63

1st Edition | February 2015 | Reaffirmed: June 2020
Product Number: G17V01 | Price: $152.00

RP 17V *
Recommended Practice for Analysis, Design, Installation, and Testing of Safety Systems for Subsea Applications—Russian
(includes Errata 1 dated July 2015)

Russian translation of RP 17V.

1st Edition | February 2015 | Product Number: G17V01R | Price: $152.00

RP 17W
Recommended Practice for Subsea Capping Stacks

Contains subsea capping stack recommended practices for designing, building, and using, as well as maintaining and testing during storage. This document focuses on recommended design parameters for subsea capping stacks; guidelines for subsea capping stack operations; and guidelines for storing, preserving, maintaining, and testing a subsea capping stack. Pages: 69

2nd Edition | March 2021 | Product Number: G17W02 | Price: $136.00

RP 17X
Recommended Practice for Subsea Pump Module Systems

Provides guidance for the design, manufacture, installation, and operation of subsea pumps, including rotary displacement and rotodynamic types for single phase, and multi-phase services. The recommended practice applies to all subsea pump modules placed at or above the mud line. This document describes subsea pump modules that are either directly designed or "marinized" for use in a offshore/marine environment. Potential applications include offshore use near subsea wells to boost production and enhance oil recovery (EOR) from partially depleted oil fields, or to boost flowline pressures to flow at higher rates or greater distances or when flowing subsea wells up to a surface facility. Pages: 80

1st Edition | February 2021 | Product Number: G17X01 | Price: $104.00

RP 17Y
Recommended Practice for Design, Testing, and Qualification of Subsea Chemical Injection Delivery Systems

Covers the design, specification, testing, qualification, installation, commissioning, and operation of subsea chemical injection delivery systems (excluding workover and subsurface equipment). It covers subsea chemical injection delivery systems from the chemical storage tank located on a host facility (onshore or offshore) to injection points subsea with a holistic approach. It discusses interfaces between topsides, subsea, and subsurface scopes, as well as between engineering, mechanical equipment, and controls. Pages: 62

1st Edition | April 2022 | Product Number: G17Y01 | Price: $104.00

COMPLETION EQUIPMENT

Spec 11D1 ◆
Packers and Bridge Plugs
(includes Addendum 1 dated April 2022)

Provides requirements and guidelines for packers and bridge plugs as defined herein for use in the petroleum and natural gas industry. This specification provides requirements for the functional specification and technical specification, including design, design verification and validation, materials, documentation and data control, repair, shipment, and storage. Pages: 82

4th Edition | March 2021 | Product Number: G11D104 | Price: $136.00

Spec 14A ◆
Specification for Subsurface Safety Valve Equipment
(includes Errata 1 dated July 2015 and Addendum 1 dated June 2017)

Provides the requirements for subsurface safety valves (SSSVs), and the secondary tools as defined herein necessary to operate the features included within them, including all components that establish tolerances and/or clearances that may affect performance or interchangeability of the SSSV components. It includes repair operations and the interface connections to control conduits and/or other equipment, but does not cover the connections to the primary well conduit. Pages: 140

12th Edition | January 2015 | Effective Date: January 15, 2016
Reaffirmed: July 2020 | Product Number: G14A12 | Price: $244.00

Spec 14L ◆
Lock Mandrels and Landing Nipples

Provides the requirements for lock mandrels and landing nipples within the production/injection conduit for the installation of flow control or other equipment used in the petroleum and natural gas industries. It includes the interface connections to the flow control or other equipment, but does not cover the connections to the well conduit. Pages: 59

3rd Edition | June 2020 | Product Number: G14L03 | Price: $143.00

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Spec 19AC/ISO 14998:2013 ◆
Specification for Completion Accessories

Provides requirements and guidelines for completion accessories, as defined herein, for use in the petroleum and natural gas industry. This international standard provides requirements for the functional specification and technical specifications, including design, design verification and validation, materials, documentation and data control, quality requirements, redress, repair, shipment, and storage. This international standard covers the pressure-containing, nonpressure-containing, load-bearing, disconnect/reconnect, tubing-movement, and opening-a-port functionalities of completion accessories. Products covered under another API or international specification are not included. Also not included are other products such as liner/tubing hangers, downhole well test tools, inflow control devices, surface-controlled downhole chokes, downhole artificial lift equipment, control lines and fittings, and all functionalities relating to electronics or fiber optics. This international standard does not cover the connections to the well conduit. Installation, application, and operation of these products are outside the scope of this international standard.

This edition of Spec 19AC is the modified national adoption of ISO 14998:2013. Pages: 63

1st Edition | September 2016 | Reaffirmed: February 2022
Product Number: G19AC01 | Price: $121.00

RP 19B ◆
Evaluation of Well Perforators
(includes Addendum 1 dated March 2023)

Describes standard procedures for evaluating the performance of perforating equipment so that representations of this performance may be made to the industry under a standard practice. The purpose of this recommended practice is to specify the materials and methods used to evaluate objectively the performance of perforating systems or perforators. Pages: 78

3rd Edition | July 2021 | Product Number: G019B3 | Price: $153.00

Std 19C
Measurement of and Specifications for Proppants Used in Hydraulic Fracturing and Gravel-Packing Operations

Provides standard testing procedures for evaluating proppants used in hydraulic fracturing and gravel-packing operations. The objective of this standard is to provide a consistent methodology for testing performed on hydraulic fracturing and/or gravel-packing proppants. These procedures have been developed to improve the quality of proppants delivered to the well site. They are for use in evaluating certain physical properties used in hydraulic fracturing and gravel-packing operations. Pages: 57

2nd Edition | August 2018 | Product Number: GX19C02 | Price: $122.00

Std 19C *
Measurement of and Specifications for Proppants Used in Hydraulic Fracturing and Gravel-Packing Operations—Russian

Russian translation of Std 19C.

2nd Edition | August 2018 | Product Number: GX19C02R | Price: $122.00

Spec 19CI
Downhole Chemical Injection Devices and Related Equipment

Provides requirements for chemical injection devices intended for use in the worldwide petroleum and natural gas industry. This includes requirements for specifying, selecting, design verification, validation testing, manufacturing, quality control, testing, and preparation for shipping of chemical injection devices. These requirements include in-line debris screen systems, single-use shearable/frangible devices, and information on performance testing and calibration procedures.

The installation and retrieval of chemical Injection devices and systems is outside the scope of this document (see API 19G2 and API 19G3). Pages: 118

1st Edition | June 2019 | Product Number: G19CI01 | Price: $162.00

RP 19D
Measuring Conductivity of Proppants

Provides recommended testing procedures for evaluating proppants used in hydraulic fracturing and gravel-packing operations. The objective of the document is to provide consistent methodology for testing procedures used to measure performance of hydraulic-fracturing and/or gravel-packing proppants. The testing procedures in this document are not designed to provide values of proppant conductivity under downhole reservoir conditions. Long-term test data have shown that time, elevated temperatures, fracturing fluid residues, cyclic stress loading, embedment, formation fines and other factors further reduce fracture proppant pack conductivity. Pages: 45

2nd Edition | November 2021 | Product Number: GX19D02 | Price: $128.00

Spec 19G1 ◆
Side-Pocket Mandrels
(includes Errata 1 dated June 2019, Errata 2 dated July 2019, and Addendum 1 dated October 2021)

Provides requirements for side-pocket mandrels used in the petroleum and natural gas industry. It covers specifying, selecting, designing, manufacturing, quality control, testing, and preparation for shipping of side-pocket mandrels.

This specification addresses standard side-pocket mandrel designs, as well as high-pressure and/or high-temperature (HPHT) equipment rated greater than 103.43 MPa (15,000 psi) and/or greater than 177 °C (350 °F) wellbore conditions as proffered by API 1PER15K-1. Pages: 62

2nd Edition | February 2019 | Product Number: G19G12 | Price: $113.00

Spec 19G2 ◆
Flow-Control Devices for Side-Pocket Mandrels
(includes Addendum 1 dated June 2022)

Provides requirements for subsurface flow-control devices used in side-pocket mandrels (hereafter called flow-control devices) intended for use in the worldwide petroleum and natural gas industry. This includes requirements for specifying, selecting, designing, manufacturing, quality-control, testing, and preparation for shipping of flow-control devices. Additionally, it includes information regarding performance testing and calibration procedures.

The installation and retrieval of flow-control devices is outside the scope of Spec 19G2. Additionally, Spec 19G2 is not applicable to flow-control devices used in center-set mandrels or with tubing-retrievable applications.

Spec 19G2 does not include requirements for side-pocket mandrels, running, pulling, and kick-over tools, and latches that might or might not be covered in other API/ISO specifications. Reconditioning of used flow-control devices is outside of the scope of Spec 19G2. Pages: 116

2nd Edition | September 2020
Product Number: GX19G22 | Price: $185.00

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Spec 19G3/ISO 17078-3:2009 ◆
Running Tools, Pulling Tools and Kick-Over Tools and Latches for Side-Pocket Mandrels

Provides requirements and guidelines for running tools, pulling tools, kick-over tools, and latches used for the installation and retrieval of flow control and other devices to be installed in side-pocket mandrels for use in the petroleum and natural gas industries. This includes requirements for specifying, selecting, designing, manufacturing, quality control, testing, and preparation for shipping of these tools and latches. Additionally, it includes information regarding performance testing and calibration procedures.

The processes of installation, retrieval, maintenance, and reconditioning of used running, pulling, and kick-over tools and latches are outside the scope of Spec 19G3. Center-set and tubing retrievable mandrel applications are not covered.

This edition of Spec 19G3 is the identical national adoption of ISO 17078-3:2009. Pages: 43

1st Edition | June 2011 | Product Number: GG19G301
Reaffirmed: September 2022 | Price: $157.00

RP 19G4/ISO 17078-4:2010
Practices for Side-Pocket Mandrels and Related Equipment

Provides informative documentation to assist the user/purchaser and the supplier/manufacturer in specification, design, selection, testing, calibration, reconditioning, installation, and use of side-pocket mandrels, flow-control devices, and associated latches and installation tools. The product-design and manufacturing-related requirements for these products are included within the other parts of ISO 17078. The content and coverage of several industry documents are compiled and refined within RP 19G4 (all parts).

This edition of RP 19G4 is the identical national adoption of ISO 17078-4:2010. Pages: 48

1st Edition | June 2011 | Product Number: GG19G401
Reaffirmed: September 2022 | Price: $168.00

RP 19GLHB
Gas Lift Handbook
(includes Addendum 1 dated May 2023)

Presents information on the following topics related to gas lift equipment: the basic principles of gas lift; gas lift equipment selection; how various types of gas lift equipment work; and how a gas lift system should be designed. Information is also included on monitoring, adjusting, regulating, and troubleshooting gas lift equipment. It is intended to familiarize operating personnel with the use of gas lift as an artificial lift system. Pages: 285

1st Edition | June 2020 | Product Number: G19GLHB01 | Price: $167.00

Spec 19ICD
Inflow Control Devices

Provides requirements and guidelines for inflow control devices (ICDs) for both production and injection, as defined herein, for use in the petroleum and natural gas industry. This specification provides requirements for the functional specification and technical specification, including design, design verification and validation, materials, documentation and data control, and quality requirements. Products covered by any other API specification, such as sand screens and sliding sleeves, are not included. Also not included are externally controlled downhole devices including interval control valves (ICVs). This specification does not cover the connections to the well conduit, the effects of corrosion, or ICDs designated for use in thermal recovery applications. Installation, application, and operation of these products are outside the scope of this specification. Pages: 58

1st Edition | May 2020 | Product Number: G19ICD01 | Price: $100.00

Spec 19ICD
Inflow Control Devices

Provides requirements and guidelines for inflow control devices (ICDs) for both production and injection, as defined herein, for use in the petroleum and natural gas industry. This specification provides requirements for the functional specification and technical specification, including design, design verification and validation, materials, documentation and data control, and quality requirements. Products covered by any other API specification, such as sand screens and sliding sleeves, are not included. Also not included are externally controlled downhole devices including interval control valves (ICVs). This specification does not cover the connections to the well conduit, the effects of corrosion, or ICDs designated for use in thermal recovery applications. Installation, application, and operation of these products are outside the scope of this specification. Pages: 58

1st Edition | May 2020 | Product Number: G19ICD01 | Price: $100.00

Spec 19ICV ■
Interval Control Valves

Provides the requirements for downhole interval control valves (ICVs) as they are defined herein for use in the petroleum and natural gas industries. Included are the minimum requirements for a functional specification, design verification, design validation of performance ratings, manufacturing, functional evaluations, shipping, handling, and storage. Also included are requirements for downhole control modules that are necessary for the defined operations of the ICV. Pages: 90

1st Edition | June 2023 | Product Number: G19ICV01 | Price: $105.00

Spec 19LH
Liner Hanger Equipment
(includes Addendum 1 dated May 2021)

Provides requirements for conventional and expandable liner systems, including liner hangers, liner packers, liner hanger packers, tie-back/polished-bore receptacles (TBR/PBRs), seal assemblies, setting adaptors/sleeves, and running/setting tools as defined herein for use in the oil and natural gas industry. This specification provides minimum requirements for the functional specification and technical specification, including design, design verification and validation, materials, quality control, documentation and data control, repair, shipment, and storage. Products covered by this specification apply only to applications within a conduit. Installation and field maintenance are outside the scope of this specification. Pages: 99

1st Edition | June 2019 | Product Number: G19LH01 | Price: $120.00

Spec 19OH
Openhole Isolation Equipment

Covers requirements and guidelines for openhole isolation equipment and bridge plugs as defined herein. Openhole isolation equipment includes swellable packers, inflatable packers, expandable packers, and openhole packers that are designed for use in the petroleum and natural gas industries. This specification provides requirements for design verification, design validation, manufacturing, quality, shipping, handling, storage, and related supporting topics.

Requirements for the end connections to the well conduit are not included in this specification. Also not covered are downhole anchoring devices (see API 11D1); cup-style packers; and requirements for the application, installation, and use of openhole isolation equipment. Equipment and technology covered by other API specifications and standards are exempted from this specification, such as:

- production packers,
- liner hanger systems,
- service tools,
- test tool packers.

Repairs, remanufacturing, and redress are excluded from this specification. Pages: 45

1st Edition | January 2018 | Product Number: G19OH1 | Price: $118.00

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Spec 19OH *
Openhole Isolation Equipment—Russian

Russian translation of Spec 19OH.

1st Edition | January 2018 | Product Number: G19OH1R | Price: $118.00

Spec 19PT
Downhole Perforating Tools

Provides requirements and guidelines for the design and use of downhole perforating tools and related equipment, as defined herein for use in the petroleum and natural gas industry. This specification provides the requirements for reporting and validating operational ratings of downhole perforating tools that are not addressed by any current standards or specifications. Thus, it provides well-defined operational ratings for functionality of downhole perforating tools as provided by the supplier/manufacturer, and defines levels of quality control (QC) for downhole perforating tools including validation requirements, acceptance testing, performance ratings, and service center requirements. Pages: 46

1st Edition | May 2022 | Product Number: G19PT01 | Price: $86.00

Spec 19SS/ISO 17824:2009
Sand Screens
(includes Errata 1 dated November 2018)

Provides the requirements and guidelines for sand screens for use in the petroleum and natural gas industry. Included are the requirements for design, design validation, manufacturing, quality, storage, and transport. The requirements of this International Standard are applicable to wire-wrap screens, pre-pack screens, and metal-mesh screens.

The following items are outside the scope of this International Standard:

- expandable and/or compliant sand screens, slotted liners, or tubing and accessory items, such as centralizers or bull plugs;
- shunt screen technology, inflow control devices, downhole sensors, and selective isolation devices, even where they can be an integral part of the sand screen;
- analysis for sand retention efficiency;
- end connections of the basepipe.

This edition of Spec 19SS is the modified national adoption of ISO 17824:2009. Pages: 79

1st Edition | July 2018 | Product Number: G19SS01 | Price: $174.00

Spec 19TT
Specification for Downhole Well Test Tools and Related Equipment

Provides the requirements for downhole well test tools and related equipment as they are defined herein for use in the petroleum and natural gas industries. Included are the requirements for design, design validation, manufacturing, functional evaluation, quality, handling, storage, and service centers. Tools utilized in downhole well test operations include tester valves, circulating valves, well testing packers, safety joints, well testing safety valves, testing surface safety valves (TSSVs), slip joints, jars, work string tester valves, sampler carriers, gauge carriers, drain valves, related equipment, and tool end connections. This specification does not cover open hole well test tools, downhole gauges, samplers, surface equipment, subsea safety equipment, perforating equipment and accessories, pup joints external to well test tool assemblies, work string and its connections, conveyance or intervention systems, installation, control and monitoring conduits, and surface control systems. A downhole well test is an operation deploying a temporary completion in a well to safely acquire dynamic rates, formation pressure/temperature, and formation fluid data. Downhole well test tools are also used in operations of well perforating, well shut-ins, circulation control of fluids, and stimulation activities. This document covers the downhole tools used to perform these operations; however, the operational requirements of performing these operations are not included. Pages: 94

1st Edition | October 2016 | Product Number: G19TT01 | Price: $143.00

Spec 19V ◆
Subsurface Completion Isolation (Barrier) Valves and Related Equipment
(includes Errata 1 dated September 2019 and Addendum 1 dated September 2022)

Provides the requirements for subsurface completion isolation (barrier) valves (SCIVs) and related equipment as they are defined herein for use in the petroleum and natural gas industries. Included are the requirements for design, design validation grades, quality levels, manufacturing, functional evaluation, repair, redress, handling, and storage. SCIVs provide a means of isolating the formation or creating a blockage in the tubular to facilitate the performance of pre- and/or post-production/injection operational activities in the well.

Additional requirements for HPHT products are included in Annex I. Pages: 81

2nd Edition | May 2019 | Effective Date: November 2019
Product Number: G19V02 | Price: $185.00

SUPPLY CHAIN MANAGEMENT

Spec 20A ◆
Carbon Steel, Alloy Steel, Stainless Steel, and Nickel Base Alloy Castings for Use in the Petroleum and Natural Gas Industry
(includes Addendum 1 dated September 2018 and Addendum 2 dated April 2020)

Identifies requirements for the foundry qualification, production, design, marking, and documentation of carbon steel, alloy steel, stainless steel, and nickel-base alloy castings used in the petroleum and natural gas industries when referenced by an applicable API product standard or otherwise specified as a requirement for compliance.

This specification applies to castings used in the manufacture of pressure containing, pressure-controlling, and primary load-bearing components. Castings manufactured in accordance with this API standard may be produced using any industry standard casting method. This specification provides manufacturers with a fixed methodology to examine a qualification casting and to compare the results of that examination to a defined set of acceptance criteria. The results of the qualification testing by material grouping are then used to establish a baseline Casting Specification Level (CSL) for subsequently produced castings.

This specification also provides manufacturers with a fixed production testing methodology to determine if subsequently produced castings conform to the minimum requirements for the intended CSL. The intent is that the production castings meet the minimum CSL requirements established during qualification testing by material grouping and/or the minimum CSL specified by the purchaser. Pages: 39

2nd Edition | August 2017 | Product Number: G20A02 | Price: $94.00

Spec 20A *
Carbon Steel, Alloy Steel, Stainless Steel, and Nickel Base Alloy Castings for Use in the Petroleum and Natural Gas Industry—Chinese
(includes Addendum 1 dated September 2018 and Addendum 2 dated April 2020)

Chinese translation of Spec 20A.

2nd Edition | August 2017 | Product Number: G20A02 | Price: $94.00

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Spec 20B ◆
Open Die Shaped Forgings for Use in the Petroleum and Natural Gas Industry

Specifies requirements for the qualification and production of open die shaped forgings for use in API service components in the petroleum and natural gas industries when referenced by an applicable equipment standard or otherwise specified as a requirement for compliance.

This API standard is applicable to equipment used in the oil and natural gas industries where service conditions warrant the use of individually shaped open die forgings, including rolled rings. Examples include pressure containing or load bearing components. Forged bar, rolled bar, and forgings from which multiple parts are removed are beyond the scope of this specification.

This API standard establishes requirements for four forging specification levels (FSL). These four FSL designations define different levels of forged product technical, quality and qualification requirements. Pages: 26

2nd Edition | November 2020 | Product Number: G20B02 | Price: $102.00

Spec 20C ◆
Closed Die Forgings for Use in the Petroleum and Natural Gas Industry

Specifies requirements and gives recommendations for the design, qualification, and production of closed-die forgings for use in API service components in the petroleum and natural gas industries when referenced by an applicable equipment standard or otherwise specified as a requirement for compliance. Spec 20C is applicable to equipment used in the oil and natural gas industries where service conditions warrant the use of closed die forgings. Examples include pressure containing or load-bearing components. This standard establishes requirements for four forging specification levels (FSL). These FSL designations define different levels of forged product technical, quality and qualification requirements. Pages: 35

3rd Edition | April 2020 | Product Number: G20C03 | Price: $97.00

Std 20D
Qualification of Nondestructive Examination Services for Equipment Used in the Petroleum and Natural Gas Industry

Specifies requirements for the application of nondestructive examination (NDE) methods as well as the development and qualification procedures used in the manufacturing, servicing, and/or service of equipment for the petroleum and natural gas industries.

This is applicable to suppliers providing NDE services for equipment used in the oil and natural gas industries. The requirements of this standard apply to magnetic particle, liquid penetrant, radiography, and ultrasonic methods of NDE. Pages: 30

2nd Edition | August 2019 | Product Number: G20D02 | Price: $101.00

Spec 20E ◆
Alloy and Carbon Steel Bolting for Use in the Petroleum and Natural Gas Industries
(includes Addendum 1 dated September 2018, Addendum 2 dated March 2019, and Errata 1 dated November 2021)

Specifies requirements for the qualification, production, and documentation of alloy and carbon steel bolting used in the petroleum and natural gas industries. This standard applies when referenced by an applicable API equipment standard or otherwise specified as a requirement for compliance. This standard establishes requirements for three bolting specification levels (BSL). These three BSL designations define different levels of technical, quality and qualification requirements, BSL-1, BSL-2, and BSL-3. The BSLs are numbered in increasing levels of requirements in order to reflect increasing technical, quality, and qualification criteria. This standard covers the following finished product forms, processes, and sizes:

- machined studs;
- machined bolts, screws, and nuts;
- cold formed bolts, screws, and nuts with cut or cold formed threads (BSL-1 only);
- hot formed bolts and screws < 1.5 in. (38.1 mm) nominal diameter;
- hot formed bolts and screws ≥ 1.5 in. (38.1 mm) nominal diameter;
- roll threaded studs, bolts, and screws < 1.5 in. (38.1 mm) diameter;
- roll threaded studs, bolts, and screws ≥ 1.5 in. (38.1 mm) diameter;
- hot formed nuts < 1.5 in. (38.1 mm) nominal diameter;
- hot formed nuts ≥ 1.5 in. (38.1 mm) nominal diameter. Pages: 23

2nd Edition | February 2017 | Product Number: G20E02 | Price: $93.00

Spec 20F ◆
Corrosion-Resistant Bolting for Use in the Petroleum and Natural Gas Industries
(includes Errata 1 dated November 2020 and Addendum 1 dated November 2021)

Specifies requirements for the qualification, production, and documentation of corrosion-resistant bolting used in the petroleum and natural gas industries. This standard applies when referenced by an applicable API equipment standard or otherwise specified as a requirement for compliance.

This standard establishes requirements for two bolting specification levels (BSLs). These two BSL designations define different levels of technical, quality, and qualification requirements: BSL-2 and BSL-3. The BSLs are numbered in increasing levels of requirements in order to reflect increasing technical, quality, and qualification criteria. BSL-2 and BSL-3 are intended to be comparable to BSL-2 and BSL-3 as found in API 20E. BSL-1 is omitted from this standard. Pages: 32

2nd Edition | April 2018 | Product Number: G20F02 | Price: $94.00

Std 20G
Welding Services for Equipment Used in the Petroleum and Natural Gas Industry

Specifies requirements for the qualification of suppliers of welding services used in the manufacturer of equipment for the petroleum and natural gas industry. The requirements of this standard apply to welding operations performed in a welding facility or in the field. Included are pressure-containing, pressure-controlling, overlay, and structural welds. Pages: 37

1st Edition | January 2020 | Product Number: G20G01 | Price: $86.00

Std 20H
Heat Treatment Services—Batch Type for Equipment Used in the Petroleum and Natural Gas Industry

Specifies requirements for the qualification of suppliers of heat treatment services used in the manufacture of equipment for the petroleum and natural gas industries.

This standard is applicable to suppliers providing heat treatment services where API product standards require such services or otherwise specified as a requirement for conformance. The requirements of this standard apply to batch heat treatment operations that establish or affect the final mechanical properties and include stress relief operations. This standard applies to carbon steel, low-alloy steel, stainless steel, and nickel-base alloys. Case hardening, induction hardening, and flame hardening are not covered by this standard.

This standard establishes the requirements for three heat treatment specification levels (HSLs). These HSL designations define different levels of heat treatment technical, quality, and qualification requirements. Pages: 26

2nd Edition | April 2020 | Product Number: G20H02 | Price: $78.00

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Std 20J
Qualification of Distributors of Metallic Materials for Use in the Petroleum and Natural Gas Industries

Specifies requirements for the qualification of distributors of metallic materials used in the petroleum and natural gas industries. This standard is applicable to distributors of metallic bar, plate, and tubular products where API product standards require such services or are otherwise specified as a requirement for conformance. Pages: 31

2nd Edition | April 2022 | Product Number: G20J02 | Price: $103.00

Std 20L
Qualification of Polymeric Seal Manufacturers for Use in the Petroleum and Natural Gas Industries

Specifies requirements for the qualification of manufacturers of polymeric seals used in the petroleum and natural gas industries. This standard is applicable to the manufacturers of polymeric seals where API product standards require such services or are otherwise specified as a requirement for compliance. This standard does not consider entities that solely perform assembly of outside manufactured parts as a polymeric seal manufacturer. Pages: 28

1st Edition | April 2018 | Product Number: G20L01 | Price: $71.00

Std 20M
Qualification of Suppliers of Machining Services for Use in the Petroleum and Natural Gas Industries

Specifies requirements for the qualification of suppliers of machining services where API product standards require such services or are otherwise specified as a requirement for compliance. Compliance with this standard is not required to demonstrate compliance with any other API standard or specification. This API standard establishes the requirements for three machining qualification levels (MQL 1, MQL 2, and MQL 3). These three MQL designations define different levels of quality and qualification requirements. These MQLs are numbered in increasing levels of requirements in order to reflect increasing quality and qualification criteria.

Final assembly, component testing (e.g. nondestructive examination, pressure testing) or a broker of machining services are outside the scope of this standard. This standard applies when specified by the customer or voluntarily followed by the machining services supplier. Pages: 27

1st Edition | October 2017 | Product Number: G20M01 | Price: $78.00

Std 20N
Heat Treatment Services—Continuous Line for Equipment Used in the Petroleum and Natural Gas Industry

Specifies requirements for the qualification of suppliers of continuous line heat treatment services used in the manufacture of equipment for the petroleum and natural gas industries.

This standard is applicable to suppliers providing heat treatment services where API product standards specify this standard as a requirement for conformance. The requirements of this standard apply to continuous and semi-continuous heat treatment operations that can establish or affect the final mechanical properties. For batch type heat treatment, refer to API 20H. This standard is applicable to products in tubular, bar, plate, forgings, castings, and upset forged forms. Heat treat that imparts surface hardening or case hardening is outside the scope of this document. Pages: 27

1st Edition | August 2019 | Product Number: G20N01 | Price: $81.00

Std 20S
Additively Manufactured Metallic Components for Use in the Petroleum and Natural Gas Industries

Specifies requirements for qualification of the manufacturing process, production, marking, and documentation of additively manufactured metallic components used in the petroleum and natural gas industries when referenced by an applicable API equipment standard or otherwise specified as a requirement for conformance. This standard applies to additively manufactured metallic components produced by powder bed fusion (PBF), directed energy deposition (DED), and binder jetting (BJT) processes. This standard establishes requirements for three additive manufacturing specification levels (AMSL). These three AMSL designations—AMSL 1, AMSL 2, and AMSL 3—define increasing levels of additive manufacturing technical, quality, and qualification requirements. Pages: 47

1st Edition | October 2021 | Product Number: G20S01 | Price: $86.00

Std 20T
Additively Manufactured Polymer-Based Components for Use in the Petroleum and Natural Gas Industries

Specifies requirements for qualification of the manufacturing process, production, marking, and documentation of additively manufactured polymer-based components used in the petroleum and natural gas industries when referenced by an applicable API equipment standard or otherwise specified as a requirement for conformance. This standard applies to additively manufactured polymer-based components (including composites) produced by material extrusion [also referred to as fused filament fabrication (FFF) or fused deposition modeling (FDM) and fused granulate fabrication (FGF)] and powder bed fusion [also referred to as selective laser sintering (SLS) or multi jet fusion (MJF)]. Additive manufacturing provides the natural gas and oil industry significant efficiency and productivity improvements, cuts lead times and supply chain stress, streamlines transportation and logistics, and can reduce emissions because additive manufacturing takes place near the point of use. Pages: 39

1st Edition | August 2022 | Product Number: G20T01 | Price: $86.00

TR 21TR1
Materials Selection for Bolting
(includes Addendum 1 dated April 2020, Addendum 2 dated June 2020, and Addendum 3 dated May 2022)

Provides guidance for the selection of materials and manufacturing processes for low-alloy steel bolting manufactured in accordance with API 20E and nickel-based and stainless alloys manufactured in accordance with 20F. Table 2 and Table 3 are provided as guidance for materials selection of fasteners. Pages: 37

1st Edition | August 2019 | Product Number: G21TR101 | Price: $94.00

TR 21TR2
S-N Fatigue Design Guidelines and Test Data for Low-Alloy Steel Bolts

New API-backed research on the fatigue life of bolts used in underwater natural gas and oil infrastructure—including critical blowout prevention equipment—resulted in the publication of this technical report, a key advancement in industry's continued efforts to protect workers and the environment from potential problems associated with bolting fatigue in subsea structures. The test program detailed in this technical report was developed to obtain bolting material fatigue data required to perform design verification analysis of fatigue-sensitive bolts to assure accurate design life estimation. The bolting fatigue testing program provided S-N fatigue curves for three alternating stress ranges in air and saltwater with cathodic protection (CP) and for bolt sizes of 1 in., 2 in. (Grade L7), and 3 in. (Grade L43). S-N curves are used to determine the number of cycles (N) required to test a product to failure at a given stress (S). The results of these S-N fatigue tests allow the bolting design to be assessed for this type of fatigue through structural analysis using the nominal root area stresses in the bolt, avoiding the need to define stress and load concentrations in the bolt root radius of engaged threads. Pages: 32

1st Edition | March 2022 | Product Number: G21TR201 | Price: $94.00

■ This publication is a new entry in this catalog. ◆ This publication is related to an API licensing, certification, or accreditation program.

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DRILLING AND PRODUCTION OPERATIONS

RP 31A
Standard Form for Hardcopy Presentation of Downhole Well Log Data

Provides an improved standard format for hardcopy presentation of downhole well log data. Standardizing the log form and data presentation allows the user to more easily combine a broad range of log data in order to interpret well status and performance. Pages: 18

1st Edition | August 1997 | Reaffirmed: February 2014
Product Number: G31A01 | Price: $105.00

RP 45
Recommended Practice for Analysis of Oilfield Waters

Provides analysis methods for the determination of dissolved and dispersed components in oilfield waters (produced water, injected water, aqueous workover fluids, and stimulation fluids). Also includes the applications of oilfield water analyses; the proper collection, preservation, and labeling of field samples; a description of the various analytical methods available, including information regarding interferences, precision, accuracy, and detection limits; as well as the appropriate reporting formats for analytical results. Pages: 60

3rd Edition | August 1998 | Reaffirmed: February 2014
Product Number: G45003 | Price: $154.00

RP 51
Onshore Oil and Gas Production Practices for Protection of the Environment

Provides environmentally sound practices to promote protection of the environment in domestic onshore oil and gas production operations. Production facilities, including produced water handling facilities, are covered. Coverage begins with design and construction of access roads and well locations and carries through to abandonment and site restoration activities. Pages: 17

3rd Edition | March 2001 | Reaffirmed: January 2013
Product Number: G51003 | Price: $56.00

RP 90-1
Annular Casing Pressure Management for Offshore Wells
(formerly RP 90)

Covers the management of annular casing pressure in existing offshore wells to maintain integrity and manage risk. It covers a range of casing annuli pressures including thermal casing pressure, sustained casing pressure (SCP), and operator-imposed pressure. This document also addresses monitoring, diagnostic testing, establishing maximum allowable wellhead operating pressure (MAWOP), and documentation of annular casing pressure for the various types of wells that occur offshore. Included is a discussion of risk assessment methodologies that can be used for the evaluation of individual well situations where the annular casing pressure is not within the MAWOP thresholds. This document includes information regarding annular casing pressure that is applicable to various offshore well types to include fixed platform wells, subsea wells, hybrid wells, and mudline suspension wells. Pages: 85

2nd Edition | August 2021 | Product Number: G09002 | Price: $227.00

RP 90-2
Annular Casing Pressure Management for Onshore Wells

Serves as a guide to monitor and manage annular casing pressure (ACP) in onshore wells, including production, injection, observation/monitoring, and storage wells. This document applies to wells that exhibit thermally induced, operator-imposed, or sustained ACP. It includes criteria for establishing diagnostic thresholds (DTs), monitoring, diagnostic testing, and documentation of ACP for onshore wells. Also included is a discussion of risk management considerations that can be used for the evaluation of individual well situations where the annular casing pressure falls outside the established diagnostic thresholds.

This document recognizes that an ACP outside of the established DTs can result in a risk to well integrity. The level of risk presented by ACP depends on many factors, including the design of the well, the performance of barrier systems within the well, the source of the annular casing pressure, and whether there is an indication of annular flow exists. This document provides guidelines in which a broad range of casing annuli that exhibit annular casing pressure can be managed while maintaining well integrity. Pages: 60

1st Edition | April 2016 | Product Number: G090201 | Price: $197.00

Bull 92L
Drilling Ahead Safely with Lost Circulation in the Gulf of Mexico

Identifies items that should be considered to safely address lost circulation challenges when the equivalent circulating density (ECD) exceeds the fracture gradient. It addresses drilling margins and drilling ahead with mud losses, which are not addressed in Std 65-2. It provides guidance when lost circulation is experienced with either surface or subsea stack operations (excluding diverter operations). These practices may apply to other Outer Continental Shelf (OCS) environments such as offshore California and Florida.

Lost circulation during drilling operations, in the form of both seepage and fracture losses, is a common occurrence in the Gulf of Mexico and other OCS environments. Through extensive practical experience, operators and drilling contractors have learned that with proper information, planning, and execution, lost circulation can be safely managed to allow well construction goals to be met. The methods used to repair or manage lost circulation are based on well location, geology, pore and fracture pressures, drilling depth, well design, hydraulics, mud properties, and available contingencies. Pages: 14

1st Edition | August 2015 | Product Number: G92L01 | Price: $76.00

RP 92M
Managed Pressure Drilling Operations with Surface Back-Pressure
(includes Addendum 1 dated April 2023 and Errata 1 dated November 2023)

Provides information for planning, installation, testing, and operation of wells drilled with surface backpressure managed pressure drilling (MPD). This document applies only to drilling rigs with surface blowout preventers (BOPs).

This document considers situations where the total drilling operation is performed balanced or overbalanced, including both hydrostatically overbalanced (no supplemental surface pressure needed to control inflow) and hydrostatically underbalanced (supplemental surface pressure needed to control inflow) systems. For underbalanced operations, refer to API 92U.

This document does not cover MPD operations with subsea BOP stacks. Pages: 33

1st Edition | September 2017 | Product Number: G92M01 | Price: $107.00

RP 92P
Managed Pressure Drilling Operations—Pressurized Mud Cap Drilling with a Subsea Blowout Preventer

Addresses recommended practices for pressurized mud cap drilling (PMCD) from a floating rig with a subsea BOP stack. When massive lost circulation conditions are encountered, PMCD can be implemented to allow well construction operations to continue.

Although this document only addresses PMCD, most of the equipment described may also be used for the surface back-pressure (SBP) method of managed pressure drilling. However, much of the equipment used for SBP is not required for PMCD and is beyond the scope of this document. Pages: 67

1st Edition | June 2019 | Product Number: G92P01 | Price: $117.00

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RP 92S

Managed Pressure Drilling Operations—Surface Back-Pressure with a Subsea Blowout Preventer

(includes Addendum 1 dated April 2023)

Provides information for planning, installation, testing, and operation of wells drilled with surface back-pressure (SBP) managed pressure drilling (MPD). This document applies only to drilling rigs with subsea blowout preventers (BOPs). This document considers situations where the total drilling operation is performed balanced or overbalanced, including both hydrostatically overbalanced (no supplemental surface pressure needed to control inflow) and hydrostatically underbalanced (supplemental surface pressure needed to control inflow) systems. Pages: 64

1st Edition | September 2018 | Product Number: G92S01 | Price: $132.00

RP 92U

Underbalanced Drilling Operations

(includes Addendum 1 dated November 2015)

Provides information that can serve as a guide for planning, installation, operation, and testing of underbalanced drilling equipment systems on land and offshore drilling rigs [barge, platform, bottom-supported, and floating with surface blowout preventers (BOP) installed] thereby ensuring consideration of personnel safety, public safety, integrity of the underbalanced drilling (UBD) equipment, and preservation of the environment for onshore and offshore UBD operations (including tripping of drill string). Pages: 72

1st Edition | November 2008 | Reaffirmed: April 2013
Product Number: G92U01 | Price: $114.00

RP 96

Deepwater Well Design and Construction

Provides engineers a reference for deepwater (DW) well design as well as drilling and completion operations. This recommended practice (RP) will also be useful to support internal reviews, internal approvals, contractor engagements, and regulatory approvals.

The scope of this RP is to discuss DW drilling and completion activities performed on wells that are constructed using subsea blowout preventers (BOPs) with a subsea wellhead. This document addresses the following.

- Identifies the appropriate barrier and load case considerations to maintain well control during DW well operations (drilling, suspension, completion, production, and abandonment).
- Supplements barrier documentation in Std 65-2 with a more detailed description of barriers and discussion of the philosophy, number, type, testing, and management required to maintain well control. This document also supplements the barrier documentation in RP 90 in regard to annular pressure buildup. Abandonment barrier requirements are described for use when designing the well.
- Discusses load assumptions, resistance assumptions, and methodologies commonly used to achieve well designs with high reliability. The load case discussion includes less obvious events that can arise when unexpected circumstances are combined.
- Describes the risk assessment and mitigation practices commonly implemented during DW casing and equipment installation operations.

The purpose of this document is to enhance safety and minimize the likelihood of loss of well control or damage to the environment. These practices are generally intended to apply to subsea wells drilled with subsea BOPs in any water depth. Some of the descriptions of rig hardware and operations, such as remotely operated vehicles, are less relevant in shallower water depths [e.g. less than 500 ft (152 m)]. In these shallower water depths the operator may substitute alternative hardware or operations that maintain safety and system reliability.

The following aspects of DW well design and construction are outside the scope of this document.

- Detailed casing design load case definitions (does not include specific casing designs or design factors). Individual companies combine differing severities of loads and resistances or differing calculation methods to achieve designs with similar high levels of reliability.
- Wells drilled and/or completed with a surface BOP and high pressure riser from a floating production system; however, considerations for wells predrilled with floating rigs to be completed to a floating production system are included.
- Well control procedures (refer to RP 59 for well control information).
- Managed pressure drilling operations (including dual gradient drilling).
- Production operations and fluids handling downstream of the tree (subsea facilities/subsea architecture and surface facilities/offloading hydrocarbons).
- Intervention operations.
- Quality assurance programs. Pages: 158

1st Edition | March 2013 | Product Number: G09601 | Price: $189.00

Bull 97

Well Construction Interface Document Guidelines

Contains the structure and contents of a well control interface document (WCID) that links the drilling contractor's safety case with the lease operator's safety management system. It includes well-specific information such as the basis of design, the well execution plan, and critical well activity risk assessment. This document exhibits how management of change and risk assessment processes will apply during well construction activities and assure personnel competency. A WCID also aligns all parties to assure their health, safety, and environment (HSE) standards are not compromised and all applicable regulatory requirements are met while undertaking shared activities. A WCID will assign or delineate specific responsibilities for the lease operator's personnel as well as provide a vehicle for the drilling contractor to intervene in the case that unsafe acts are identified. Pages: 18

1st Edition | December 2013 | Product Number: G09701 | Price: $71.00

RP 97L

Onshore Well Construction Interface Document

Provides guidance on information that is to be shared regarding onshore well construction and rig-specific operating guidelines. It is intended to align the lease operator's and drilling contractor's safety and environmental management systems (SEMS). The purpose of the well construction interface document (WCID) is to enhance the health and safety of the workers and protect the environment by facilitating communication between the lease operator and drilling contractor regarding well construction work (drilling, suspension, completion, testing, and abandonment). Pages: 24

1st Edition | December 2020 | Product Number: G97L01 | Price: $75.00

RP 98

Personal Protective Equipment Selection for Oil Spill Responders

Provides general information and guidance for the development of oil spill responder Personal Protective Equipment (PPE) control measures. Although an extensive amount of information has been developed on the topic of PPE for emergency responders, this document focuses on the PPE selection process as well as its technical evaluation based on the hazards present.

The purpose of this recommended practice is to assist users in developing effective PPE control measures for oil spill responses using a systematic approach. This recommended practice is intended for any company, organization, or agency that oversees or responds to oil spills. It is not a comprehensive "how-to" guide to selecting PPE for every type of situation that may be encountered; rather, it is a guidance document that discusses how proper PPE selection may be a useful control measure for responders when engineering and administrative controls may not be feasible or effective in reducing exposure to acceptable levels. Pages: 79

1st Edition | August 2013 | Product Number: G09801 | Price: $141.00

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