

GP 09-02-01	Additional Requirements for Pressure Storage Spheres	July 2001
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Additional Requirements for Pressure Storage Spheres

GP 09-02-01

Scope

[I] This Global Practice (GP) covers the modifications and additions to [GP 05-01-01](#) for the design, fabrication, and inspection of non-refrigerated carbon steel pressure storage spheres.

[I] An asterisk (*) indicates that a decision by the Purchaser is required or that additional information is furnished by the Purchaser.

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GP 09-02-01	Additional Requirements for Pressure Storage Spheres	July 2001
-------------	--	-----------

Table of Contents

1. Required References	3
1.1. Global Practices–ExxonMobil Engineering Practices	3
1.2. ASME–American Society of Mechanical Engineers	3
1.3. ASSE–American Society of Safety Engineers	3
2. Additional Requirements	3
2.1. Global Practices–ExxonMobil Engineering Practices	3
2.2. API–American Petroleum Institute	4
3. Revisions to GP 05-01-01	4
Modifications to Section 2: Additional Requirements	4
Modifications to Section 3: Documentation	4
Modifications to Section 4: Materials	6
Modifications to Section 5: Design	7
Modifications to Section 6: Auxiliary Structures	8
Modifications to Section 7: Fabrication	10
Modifications to Section 8: Inspection and Testing	10
Modifications to Section 9: Accessories	11
Record of Change	15
Attachment: Purpose Codes Definitions	16

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Page 2 of 14	©ExxonMobil Development Company	



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GP 09-02-01	Additional Requirements for Pressure Storage Spheres	July 2001
-------------	--	-----------

1. Required References

[I] This Section lists Practices and Standards that are generically referenced and assumed to be a part of this document. Unless otherwise specified herein, use the latest edition.

1.1. Global Practices–ExxonMobil Engineering Practices

GP 03-02-03	Firewater Systems
GP 05-01-01	Pressure Vessels

1.2. ASME–American Society of Mechanical Engineers

ASME B16.11	Forged Fittings, Socket-Welding and Threaded
ASME SEC VIII D1	BPVC Section VIII - Rules for Construction of Pressure Vessels - Division 1
ASME SEC VIII D1 A PT UG	Part UG General Requirements for All Methods of Construction and All Materials
ASME SEC VIII D1 NMA APP W	Appendix W Guide for Preparing Manufacturer's Data Reports
ASME SEC VIII D2	BPVC Section VIII - Rules for Construction of Pressure Vessels - Division 2 Alternative Rules

1.3. ASSE–American Society of Safety Engineers

ASSE/SAFE A1264.1	Safety Requirements for Workplace Floor and Wall Openings, Stairs, and Railings Systems
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2. Additional Requirements

* [I] The following Practices and Standards shall be used with this Practice as specified by the Purchaser.

2.1. Global Practices–ExxonMobil Engineering Practices

GP 03-15-01	Pressure Relief Valves
GP 05-01-02	Additional Requirements for Special Criteria Pressure Vessels

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GP 09-02-01	Additional Requirements for Pressure Storage Spheres	July 2001
-------------	--	-----------

2.2. API–American Petroleum Institute

API STD 620	Design and Construction of Large, Welded, Low-Pressure Storage Tanks
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3. Revisions to GP 05-01-01

All headings contained herein correspond to paragraph numbering within [GP 05-01-01](#) and reflect additions, substitutions, modifications, and deletions. All provisions not modified or deleted remain in force.

[I] For User convenience, the beginning of each Section in this Practice is noted as follows:

- a) Addition: The Section specifies additions to [GP 05-01-01](#).
- b) Modification: The Section specifies modifications to [GP 05-01-01](#).

Modifications to Section 2: Additional Requirements

2.1. Modification

[R] This Practice covers the design, fabrication, inspection, and testing of spheres under the provisions of ASME SEC VIII D1 (ASME SEC VIII D1) or ASME SEC VIII D2 (ASME SEC VIII D2), API STD 620, or recognized codes of other nations.

Spheres may be designed, fabricated, inspected and tested under the provisions of a code which is accepted by the authorities where the sphere is to be located and by the Owner's Engineer plus the additional requirements of this Practice; such codes are referred to as recognized codes in this Practice.

The requirements of the recognized code (of other nations or ASME SEC VIII D2 [ASME SEC VIII D2]) may be used in lieu of any specific ASME requirements referenced herein for non-ASME SEC VIII D1 (ASME SEC VIII D1) spheres.

Modifications to Section 3: Documentation

3.1. Modification

[I] An outline drawing shall be furnished for each sphere, and shall contain the data shown in Table 3. Location of the sphere marking or nameplate shall be indicated on this drawing.

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GP 09-02-01	Additional Requirements for Pressure Storage Spheres	July 2001
-------------	--	-----------

Modification: Table 3

Sphere Data
Design Pressure, psig
Design Temperature, °F
Maximum allowable stress at Design Temperature, psi
Hydrostatic Test Pressure at uppermost part of Sphere, psig
Hydrostatic Test Temperature, °F
Orientation of sphere in hydrotest
Corrosion Allowance: shell, in (each course)
Efficiency of Shell Joints, %
Postweld Heat Treatment required
Sphere is (100%) (spot) Radiographed
Flanges for nozzles and manholes are Class _____ per _____ standard, or designed
Per _____ code
Weight of Sphere empty (including all internals), lb
Weight of Sphere filled with water, lb
Specifications
This Sphere is Constructed to EMRE GP 09-02-01 Rev. _____ and _____ Code
Materials
Shell: Spec. _____ :Min. or Guaranteed: Yield _____ psi, Ultimate _____ psi,
Forgings or Castings: Spec. _____
Nozzles: Spec. _____
Basis Used for Establishing Allowable Stresses: _____ (Code Used or Basis)
Impact Requirements (each component): (average/minimum ft-lb @ specified Critical Exposure Temperature) °F
General Note: For data reporting in SI units: fluid pressure in kPa, temperature in °C, linear measurements in mm, material Stress in MPa, energy valves in J.

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