



BSI Standards Publication

Oil and gas industries including lower carbon energy — Pipeline transportation systems — Vocabulary

National foreword

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Standard**

ISO 5872

**Oil and gas industries including
lower carbon energy — Pipeline
transportation systems —
Vocabulary**

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Foreword

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This document was prepared by Technical Committee ISO/TC 67, *Oil and gas industries including lower carbon energy*, Subcommittee SC 2, *Pipeline transportation systems*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

This document provides the basis for common understanding for all future ISO standards for pipeline transportation systems and a comprehensive list of terms and their definitions for pipeline transportation systems in order to facilitate communication among:

- experts involved in the development of ISO standards for pipeline transportation systems;
- professionals involved in design, construction, operation, maintenance and abandonment of pipeline transportation systems.

Oil and gas industries including lower carbon energy — Pipeline transportation systems — Vocabulary

1 Scope

This document establishes basic terms and definitions for the design, materials, construction, testing, operation, maintenance and abandonment of pipeline transportation systems in oil and gas industries.

This document is applicable to the design, construction, operation and maintenance of pipeline systems for transportation of oil and gas.

This document is not applicable to the process piping in the factory area of oil refining and chemical enterprises.

2 Normative references

There are no normative references in this document.

3 Terms related to general concepts

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

3.1

acceptance criteria

specified indicators or measures employed in assessing the ability of a *component* (3.2), structure, or system to perform its intended function

3.2

component

pipeline component

mechanical element suitable for joining together or assembly into pressure-tight fluid-containing *pipeline systems* (3.10)

EXAMPLE Tubing, *fittings* (4.1.10), flanges, gaskets, bolting, *valves* (4.2.21) and devices such as expansion joints, flexible joints, pressure hoses, traps, strainers, in-line portions of instruments, and separators.

3.3

fluid

gaseous or liquid medium being transported through the *pipeline system* (3.10)

3.4

in-service pipeline

pipeline (3.9) that has been commissioned and in operation for the transportation of *fluid* (3.3)

3.5

life cycle

set of stages in the development of the *pipeline system* (3.10) including its design, construction, *commissioning* (5.4.1), operation, *maintenance* (6.2.17), *preservation* (6.4.5) and *abandonment* (6.4.2)

3.6

mitigation

limitation of any negative consequence of a particular event

3.7

offshore pipeline

pipeline (3.9) laid in maritime waters and estuaries seaward of the ordinary high water mark

3.8

onshore pipeline

on-land pipeline

pipeline (3.9) laid on or in the ground, including pipelines laid under inland waterways

3.9

pipeline

those *components* (3.2) of a *pipeline system* (3.10) connected together to convey *fluids* (3.3) between *stations* (3.12) and/or plants, including pipe, *pig traps* (5.1.18), components, appurtenances, spools, risers, *isolation valves* (4.2.3), and sectionalizing valves

3.10

pipeline system

pipeline transportation system

pipelines (3.9), *stations* (3.12), *supervisory control and data acquisition (SCADA)* (6.1.15) system, safety systems, *corrosion* (7.1.1) protection systems, and any other equipment, facility or building used in the transportation of *fluids* (3.3)

3.11

pipeline network

system of interconnected *pipelines* (3.9), both national and international, that serve to transport or distribute *fluids* (3.3)

[SOURCE: ISO 20675:2018, 3.46, modified — "transmit and distribute natural gas" has been replaced by "transport or distribute fluids".]

3.12

station

facility for the purpose of increasing pressure, decreasing pressure, storage, distributing, metering, heating, cooling or isolating the transported *fluid* (3.3)

EXAMPLE *Compressor* (4.2.4) station, measuring station, pump station, pressure-regulating station, pressure-limiting station, pressure relief station.

3.13

terminal

facility designed for the receipt, storage, transshipment and distribution of oil and natural gas

3.14

threat

activity or condition that can adversely affect the *pipeline system* (3.10) if not adequately controlled

4 Terms related to materials and equipment

4.1 Pipe materials

4.1.1

imperfection discontinuity flaw

anomaly

possible deviation from pipe material or weld soundness

Note 1 to entry: Signs of deviation from the norm can be detected by *non-destructive inspection* ([5.3.13](#)), such as *in-line inspection* ([6.2.5](#)).

4.1.2

arc burn

localized point of surface melting caused by arcing between an electrode or ground (earth) and the *material* surface

Note 1 to entry: Contact marks, which are intermittent marks adjacent to the weld line of EW pipe resulting from electrical contact between the electrodes supplying the welding current and the pipe surface, or contact marks resulting from the use of a spectrometer for the detection of steel chemical composition, are not arc burns.

[SOURCE: ISO 11960:2020, 3.1.3, modified — "product" has been replaced by "material".]

4.1.3

bend

fitting ([4.1.10](#)) that provides for a change of direction within a *pipeline* ([3.9](#))

4.1.4

bend angle

amount of directional change through the *bend* ([4.1.3](#))

4.1.5

qualification test

process of inspection and evaluation of product or *component* ([3.2](#)) compliance test performed on a product or component to verify the requirements of the *manufacturing procedure specification* ([4.1.20](#)) and to demonstrate that products or components meeting the specified requirements can be produced

4.1.6

cold bending

controlled bending process using presses at ambient temperature

4.1.7

deformation

change in shape of a pipe or *component* ([3.2](#)), such as a *bend* ([4.1.3](#)), buckle, *dent* ([4.1.8](#)), *ovality* ([4.1.26](#)), ripple, wrinkle, or any other change that affects the profile or original cross-section or straightness of a pipe or component

4.1.8

dent

depression which produces a disturbance in the curvature of the pipe wall, caused by contact with a foreign body resulting in plastic *deformation* ([4.1.7](#)) of the pipe wall

4.1.9

extrados

outer curved section of the *bend* ([4.1.3](#)) arc

4.1.10

fitting

fabricated item used in joining pipes or *components* ([3.2](#))

4.1.11

gouge

surface damage caused by contact with a foreign object that has scraped material out of a pipe, *fitting* (4.1.10) or equipment, resulting in a *metal loss* (6.2.20) *defect* (5.3.3) or *imperfection* (4.1.1)

4.1.12

steel grade

chemical, physical and mechanical properties of steel used for manufacture of pipe or *component* (3.2)

4.1.13

hard spot

localized increase in hardness through the thickness of a pipe or *component* (3.2), produced during manufacturing

4.1.14

inclusion

slag inclusion

non-metallic contaminant originating from the material manufacturing or welding process

4.1.15

induction bending

continuous bending process that utilizes heating by high frequency alternating electrical power to create a circumferential, heated section around the material being bent

4.1.16

intrados

inner curved section of the *bend* (4.1.3) arc

4.1.17

lamination

<pipeline steel> internal metal separation that creates layers, generally parallel to the material surface

4.1.18

manufacturer's specification

document that specifies the required chemical, physical and mechanical properties, dimensions, tolerances, test requirements and *acceptance criteria* (3.1) during manufacturing

4.1.19

manufacturing defect

defect (5.3.3) in the pipe or *component* (3.2) body or *coating* (7.2.4) created during the pipe or component manufacturing or coating processes

4.1.20

manufacturing procedure specification

MPS

document that specifies the process control parameters and the *acceptance criteria* (3.1) to apply for all manufacturing, inspection and testing activities performed during manufacture

4.1.21

material data sheet

MDS

document containing typical data regarding chemical, physical and mechanical properties of the material

4.1.22

safety data sheet

SDS

document intended to provide procedures for handling and working with the material in a safe manner including physical data such as flash point, toxicity, first aid treatment

4.1.23

mill test

type of proof test used to verify an individual fabricated pipe, *fitting* (4.1.10) or *valves* (4.2.21) and demonstrate its pressure retention capability

4.1.24

mother pipe

straight section of pipe from which a *bend* (4.1.3) or other *component* (3.2) is made

4.1.25

nominal wall thickness

numerical designation of the wall thickness of a pipe, exclusive of tolerances, allowances etc.

Note 1 to entry: Nominal wall thickness refers to numerical designation of the wall thickness of a pipe, regardless of material manufacturing deviation and machining thinning.

4.1.26

ovality

nominal deviation of the *pipeline* (3.9) circumference from a circle, having the form of an elliptical cross-section

Note 1 to entry: Ovality is sometimes defined in terms of out-of-roundness.

4.1.27

wrinkling

development of ripples in a material such as a *coating* (7.2.4) or a liner

[SOURCE: ISO 4618:2023, 3.278, modified — "film of coating material during drying" has been replaced by "material such as a coating or a liner".]

4.2 Equipment

4.2.1

above-ground storage tank

AST

stationary container, usually cylindrical in shape, consisting of a metallic roof, shell, bottom and support structure where the majority of the tank volume is above ground

4.2.2

actuator

electric, pneumatic or hydraulic device bolted or otherwise attached to a *valve* (4.2.21) intended to apply the mechanical force to open and close a valve

4.2.3

block valve

isolation valve

gate valve (4.2.21.4), *plug valve* (4.2.21.5) or *ball valve* (4.2.21.1) that blocks flow into the downstream *pipeline* (3.9) when in the closed position

4.2.4

compressor

machine that increases the pressure of gas

Note 1 to entry: Different types of compressor include: *centrifugal compressor* (4.2.6) and *reciprocating compressor* (4.2.7).

[SOURCE: ISO 16923:2016, 3.13, modified — Note 1 to entry has been added.]

4.2.5

compressor unit

assemblage of mechanical devices, including the *compressor* (4.2.4) and the driver, together with transmission elements, baseplate, any auxiliary equipment and control units

4.2.6

centrifugal compressor

compressor (4.2.4) in which the general flow direction of the transmitted *fluid* (3.3) is radially outward

[SOURCE: ISO 11086:1996, 11.3, modified — The preferred term "radial flow compressor" has been deleted; "working fluid" has been replaced by "transmitted fluid".]

4.2.7

reciprocating compressor

displacement *compressor* (4.2.4) in which gas intake and compression are achieved by the straightforward alternating movement of a moving element in a space constituting a compression chamber due to a shaft rotation

[SOURCE: ISO 5390:1977, 3.1.1, modified — The term has been changed from "shaft driven reciprocating compressor" to "reciprocating compressor".]

4.2.8

connector

mechanical device used to connect adjacent *components* (3.2) in the *pipeline* (3.9)

4.2.9

control valve

valve (4.2.21) that controls the flow of *fluid* (3.3) in *pipeline system* (3.10)

4.2.10

cooler

device that removes heat from working medium

4.2.11

double-block-and-bleed valve

DBB

double-isolation-and-bleed valve

DIB

single *valve* (4.2.21) with two seating surfaces that, in the closed position, provides a seal against pressure from both ends of the valve with a means of venting/bleeding the cavity between the seating surfaces

Note 1 to entry: This feature can be provided in one direction or in both directions.

4.2.12

electrically operated valve

valve (4.2.21) actuated through an electrical control

[SOURCE: ISO 5598:2020, 3.2.255]

4.2.13

fixed-roof tank

vertical cylindrical storage vessel with a cone-or dome-shaped roof, of either the non-pressure (freely vented) type or the low-pressure enclosed type

[SOURCE: ISO 1998-5:1998, 5.20.010, modified — "type" has been replaced by "enclosed type".]

4.2.14

floating-roof tank

tank in which the roof floats freely on the surface of the liquid contents, except at low levels when the weight of the roof is taken, through its supports, by the tank base foundation

[SOURCE: ISO 1998-5:1998, 5.20.011, modified — "bottom" has been replaced by "base foundation".]