

Steel fittings



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Contents

Technical Committee on Petroleum and Natural Gas Industry Pipeline Systems and Materials vi

Subcommittee on Materials ix

Preface xi

1 Scope 1

- 1.1 General 1
- 1.2 Size, grade, and category 1
 - 1.2.1 Size 1
 - 1.2.2 Grade 1
 - 1.2.3 Category 1
- 1.3 Assemblies 1
- 1.4 Terminology 1

2 Reference publications 1

3 Definitions 3

4 General requirements 4

- 4.1 Product ordering requirements 4
 - 4.1.1 Standard requirements 4
 - 4.1.2 Optional requirements 4
 - 4.1.3 Additional requirements 4
- 4.2 Weldability 5
- 4.3 Pressure rating 5
- 4.4 Rounding procedure 5
- 4.5 Quality program 5

5 Design proof test 5

6 Materials and manufacture 6

- 6.1 Steelmaking process 6
- 6.2 Deoxidation practice 6
- 6.3 Fittings containing yield point elongation 6
- 6.4 Forming and heat-treating processes 7
 - 6.4.1 Fittings other than bends 7
 - 6.4.2 Bends 7
- 6.5 Installation of scraper bars 7

7 Chemical test requirements 8

- 7.1 General 8
- 7.2 Heat analysis 8
- 7.3 Product analysis 8

8 Heat-treatment procedures 8

- 8.1 General 8
- 8.2 Stress relieving 8
- 8.3 Normalizing 8
- 8.4 Normalizing and tempering 8
- 8.5 Quenching and tempering 8

9 Mechanical test requirements 9

- 9.1 General 9
 - 9.1.1 Selection of test specimens 9
 - 9.1.2 Defective test specimens 9
 - 9.1.3 Fittings other than bends 9
 - 9.1.4 Bends 10
- 9.2 Tension tests 10
 - 9.2.1 General 10
 - 9.2.2 Requirements 10
- 9.3 Notch-toughness tests — Category II fittings 10
 - 9.3.1 General 10
 - 9.3.2 Test specimen orientation 10
 - 9.3.3 Test specimen size 10
 - 9.3.4 Requirements 11
- 9.4 Macrohardness tests 11
- 9.5 Guided-bend tests 11

10 Dimensions and tolerances 12

- 10.1 Standard dimensions and tolerances 12
- 10.2 Non-standard dimensions and tolerances 12
- 10.3 Wall thickness tolerances 12
- 10.4 Pipe bend tolerances 12
- 10.5 Recommended end preparations 12
- 10.6 Design of ends for unequal grades 12
- 10.7 Maximum bevel thickness 12

11 Inspection, work quality, and repair of fittings containing defects 12

- 11.1 Plant inspection 12
- 11.2 Inspection notice 13
- 11.3 Plant access 13
- 11.4 Work quality 13
- 11.5 Repair of fittings containing defects 13

12 Non-destructive inspection 14

- 12.1 Fittings other than bends 14
 - 12.1.1 Radiographic inspection 14
 - 12.1.2 Ultrasonic inspection 14
 - 12.1.3 Liquid penetrant or magnetic particle inspection 14
 - 12.1.4 Inspection of cold-formed tees 15
- 12.2 Bends 15

13 Sour service 15**14 Markings 15**

- 14.1 General 15
- 14.2 Required markings 16
- 14.3 Omission of markings 16

15 Certification 16**Annexes**

- A** (informative) — Pipeline component size nomenclature 50
- B** (informative) — Recommended practice for the calibration and survey of heat-treating equipment 52

Tables

- 1** — Tensile requirements 17
 - 2** — Dimensions of straight tees and crosses 18
 - 3** — Dimensions of reducing outlet tees and reducing outlet crosses 20
 - 4** — Tolerances for standard fittings Grades 290 and higher 27
 - 5** — Tolerances for standard fittings less than Grade 290 28
 - 6** — Chemical composition limits for heat and product analyses 30
 - 7** — Location of test samples and frequency of testing for bends 31
 - 8** — Charpy test specimens — Body 31
 - 9** — Dimensions of caps 32
 - 10** — Dimensions of short radius elbows 34
 - 11** — Dimensions of long radius elbows 35
 - 12** — Dimensions of 3R elbows 37
 - 13** — Dimensions of reducers 38
 - 14** — Pipe bend tolerances 43
-

Figures

- 1** — Guided-bend test specimen 44
- 2** — Guided-bend test jig dimensions 45
- 3** — Recommended end preparations 46
- 4** — Design of ends for unequal grades 47
- 5** — Extent of non-destructive inspection on cold-formed tees 48
- 6** — Welding procedure qualification macrohardness test location 49

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Preface

This is the sixth edition of CSA Z245.11, *Steel fittings*. It supersedes the previous editions published in 2005, 2001, 1996, 1991, and 1985.

This Standard covers the requirements for steel fittings intended to be used for transporting fluids as specified in CSA Z662.

Changes to this edition include the following:

- (a) new grades have been added, together with the corresponding tensile requirements;
- (b) the requirements for the installation of scraper bars, and the associated heat treatment requirements, have been modified;
- (c) Charpy test specimen sizes have been modified;
- (d) requirements for methods for the determination of inside diameter at the ends of fittings have been added;
- (e) the requirements for repairing defects have been revised;
- (f) liquid penetrant or magnetic particle inspection requirements have been modified;
- (g) inspection requirements for cold-formed tees and bends have been modified; and
- (h) marking requirements have been revised.

This Standard was prepared by the Subcommittee on Materials, under the jurisdiction of the Technical Committee on Petroleum and Natural Gas Industry Pipeline Systems and Materials and the Strategic Steering Committee on Petroleum and Natural Gas Industry Systems, and has been formally approved by the Technical Committee.

September 2009

Notes:

- (1) Use of the singular does not exclude the plural (and vice versa) when the sense allows.
- (2) Although the intended primary application of this Standard is stated in its Scope, it is important to note that it remains the responsibility of the users of the Standard to judge its suitability for their particular purpose.
- (3) This publication was developed by consensus, which is defined by CSA Policy governing standardization — Code of good practice for standardization as “substantial agreement. Consensus implies much more than a simple majority, but not necessarily unanimity”. It is consistent with this definition that a member may be included in the Technical Committee list and yet not be in full agreement with all clauses of this publication.
- (4) CSA Standards are subject to periodic review, and suggestions for their improvement will be referred to the appropriate committee.
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 - (b) provide an explanation of circumstances surrounding the actual field condition; and
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Z245.11-09

Steel fittings

1 Scope

1.1 General

This Standard covers wrought steel butt welding fittings, including extruded headers and factory-produced bends, primarily intended for use in oil or gas pipeline systems.

1.2 Size, grade, and category

1.2.1 Size

This Standard covers fittings in sizes from NPS 1/2 to NPS 60. (See [Table A.1](#).)

1.2.2 Grade

For other than sour service, this Standard covers fittings from Grade 207 to Grade 690. For sour service, this Standard covers fittings from Grade 207 to Grade 483.

Note: The standard grades are Grades 207, 241, 290, 317, 359, 386, 414, 448, 483, 550, 620, and 690 (see [Table 1](#)); however, intermediate grades are also permitted.

1.2.3 Category

This Standard covers fittings in the following categories:

- (a) Category I: fittings without requirements for proven notch-toughness properties; and
- (b) Category II: fittings with requirements for proven notch-toughness properties.

1.3 Assemblies

This Standard does not cover assemblies.

Note: An assembly means a grouping of fittings or flanges, or both, joined by one or more circumferential welds.

1.4 Terminology

In CSA Standards, “shall” is used to express a requirement, i.e., a provision that the user is obliged to satisfy in order to comply with the standard; “should” is used to express a recommendation or that which is advised but not required; “may” is used to express an option or that which is permissible within the limits of the standard; and “can” is used to express possibility or capability. Notes accompanying clauses do not include requirements or alternative requirements; the purpose of a note accompanying a clause is to separate from the text explanatory or informative material. Notes to tables and figures are considered part of the table or figure and may be written as requirements. Annexes are designated normative (mandatory) or informative (non-mandatory) to define their application.

2 Reference publications

This Standard refers to the following publications, and where such reference is made, it shall be to the edition listed below, unless the user finds it more appropriate to use newer or amended editions of such publications.

CSA (Canadian Standards Association)

CAN/CSA-ISO 9001-08

Quality management systems — Requirements