

## Steel fittings



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## **Steel fittings**



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# Preface

This is the ninth edition of CSA Z245.11, *Steel fittings*. It supersedes the previous editions published in 2017, 2013, 2009, 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.

As of this edition, induction bends and cold bends have been removed from this Standard, and are now covered in CSA Z245.16 and CSA Z245.17, respectively.

Other changes to this edition include:

- a) requirements for intermediate grades;
- b) revised optional product ordering requirements;
- c) revised quality management system requirements;
- d) revised requirements for fittings containing welds;
- e) updated requirements for the installation of scraper bars;
- f) revised chemical test requirements and records;
- g) revised requirements for heat treatment procedures and records;
- h) revised mechanical test requirements;
- i) new requirements for elevated temperature service;
- j) revised requirements for material test reports (MTR) and starting raw material test certificates; and
- k) new requirements for records.

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.

## 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 Standard 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 Standard.*
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- d) *rationale for the change.*

# CSA Z245.11:22

## Steel fittings

### 1 Scope

#### 1.1 General

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

**Note:** *As of this edition, induction and cold bends have been removed from this Standard and are now covered in CSA Z245.16 and CSA Z245.17, respectively.*

#### 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

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 can be used in accordance with Clause [9.2.2](#).*

##### 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 this Standard, “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; and “may” is used to express an option or that which is permissible within the limits of the Standard.

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.