AS/NZS 2885.2:2020

Australian/New Zealand Standard™

Pipelines — Gas and liquid petroleum

Part 2: Welding

AS/NZS 2885.2:2020

This Joint Australian/New Zealand Standard™ was prepared by Joint Technical Committee ME-038, Petroleum Pipelines. It was approved on behalf of the Council of Standards Australia on 14 May 2020 and by the New Zealand Standards Approval Board on 6 May 2020.

This Standard was published on 29 May 2020.

The following are represented on Committee ME-038:

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Australian Institute of Petroleum
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Australian Pipelines and Gas Association
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This Standard was issued in draft form for comment as DR2 AS/NZS 2885.2:2019.

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ISBN 978 1 76072 850 2

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Part 2: Welding

Originated as AS CB28—1992.
Previous edition AS 2885.2—2007.
Revised and redesignated as AS/NZS 2885.2:2016.
Second edition 2020.

Preface

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee ME 038, Petroleum Pipelines, to supersede AS/NZS 2885.2:2016.

The inclusion of roles and responsibilities in AS/NZS 2885.2:2020, was approved by the Standards Development Committee on 1 May 2015, as a one-off exemption to the directives of *Standardization Guide 009: Preparation of Standards for Legislative Adoption.*

The objective of this Standard is to provide requirements for the welding of pipelines designed and constructed in accordance with AS 2885.1, *Pipelines—Gas and liquid petroleum, Part 1: Design and construction*.

The objective of this revision is to address the following public comments, which became necessary after the release of the 2016 edition:

(a) All weld metal chemical analysis for boron content is only required for cellulosic consumables with tensile strength greater than or equal to that of E8010 in Clause 4.2.1.

(b) Added a note to Table 7.3 (7.4.1 in this edition) to cover scenarios where CVN tests are not practicable.

(c) Errors in Table 8.1 and 8.2 amended.

(d) Figure 8.1 amended by correcting details for spherical tee and fixing errors.

(e) Removed the requirement in Clause 5.6.2 to have the long sides of rectangular lugs in the circumferential direction of the pipe.

(f) Removed the requirement for over-sizing where STRENGTH MATCHING between run pipe and filler metal does not occur in circumferential fillet welds in Clause 5.6.3.

(g) Clause 6.4.3 has been amended to limit qualification of pipeline assembly welding to alternative standards only for grades below X65.

(h) Removed the requirement for electrode brand name as an ESSENTIAL VARIABLE for root runs performed with E6010 consumable in Table 6.1(B).

(i) The wording in Clause 16.9 has been reverted to the 2007 revision, due to changes that contradicted the statement that ESSENTIAL VARIABLES do not apply to in-service welds.

(j) Changed wording in Clause 16.14 to remove restriction of leak testing hot tap COMPONENTS above the pipeline pressure.

(k) Errors in Table 17.1 (17.2.1 in this edition) have been corrected.

(l) Clauses 17.2.3 and 17.2.5 (17.2.4 and 17.2.6 in this edition) have been revised to account for the difference in severity between surface breaking and embedded flaws. Limits for inadequate penetration due to high/low have been instated in line with API 1104, *Welding of pipelines and related facilities, Spec 5L, Specification for line pipe*.

(m) A new defect acceptance table (Table 17.3.1) has been produced for sentencing to Tier 1 using UT for improved usability of this Standard. Introduced requirement for individual indications with a vertical height (through-wall) dimension determined to be greater than 25 % of the t_N to be deemed as defects when sentencing to Tier 1 using UT, this is based on API 1104.

(n) ENGINEERING CRITICAL ASSESSMENT in Clause 17.5 has been revised to take into account the different toughness testing requirements of the ECA standard used and additional items have been added to input assumptions.

(o) A new defect acceptance table (Table 18.4.1) has been produced for sentencing to Tier 1 using visual inspection, MPT and DPI.

(p) Appendix H has been removed and instead reference has been made to DNV-RP-F118 where required.

The above list of changes is not intended to be complete. Users of this Standard should not rely on the list in order to ascertain whether there have been changes made to the previous version of the Standard.

Statements expressed in mandatory terms in notes to tables are deemed to be requirements of this Standard.

Small caps have been used throughout this document to indicate terms that are defined in Clause 1.5, e.g. AUTOMATIC WELDING.

The terms “may”, “should” and “shall” are not in small caps but are defined terms that are used in this Standard to indicate an option (may), a recommendation (should) or a mandatory statement (shall).

The terms “normative” and “informative” are used in Standards to define the application of the appendices to which they apply. A “normative” appendix is an integral part of a Standard, whereas an “informative” appendix is only for information and guidance.

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Section 1 Scope and general

1.1 Scope

This Standard specifies minimum requirements for safety, welding consumables, weld preparations, welding processes, qualifications of welding procedures and personnel, and fabrication and inspection requirements for the construction and maintenance welding of carbon and carbon-manganese steel pipelines down to 3.2 mm wall thickness designed and constructed in accordance with AS/NZS 2885.1. The welding of corrosion-resistant alloy steel pipelines, or pipelines with NOMINAL THICKNESSES less than 3.2 mm, is not precluded, but is not expressly covered by this Standard. The welding of such pipelines has to be given special consideration.

The following types of welds are covered by this Standard:

(a) MAINLINE PIPE.

(b) Tie-in.

(c) Special class (e.g. golden weld).

(d) Repair welds (see Section 25).

(e) Welds on or between COMPONENTS.

(f) Temporary welds used in construction (e.g. test headers).

(g) Structural attachments.

(h) Aluminothermic or brazing welds for electrical attachments.

(i) In-service welds.

(j) Welds made in accordance with other standards.

(k) PIPELINE ASSEMBLIES.

The welding may be done by a manual metal arc, submerged arc, gas tungsten arc, gas metal arc, flux cored arc or by a combination of these using a manual, semi-automatic, or AUTOMATIC WELDING technique or a combination of these techniques. The welds may be produced by position or roll welding, or by a combination of position and roll welding.

This Standard is applicable to the welding of joints in or on pipelines, and the welding of PIPELINE ASSEMBLIES manufactured from pipes and COMPONENTS.

NOTE 1 For examples of welding of assemblies that are covered by this Standard, see Figure 1.1.

NOTE 2 The welding of COMPONENTS may present special difficulties when using typical pipeline welding procedures (see Appendix B).

It is not intended that this Standard be applied to the following:

(i) STATION pipework as defined in AS/NZS 2885.1.

(ii) Longitudinal welds or spiral welds made during the manufacture of a pipe or a COMPONENT.

(iii) Underwater welding.