CRA Clad or Lined Steel Pipe

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Suggested revisions are invited and should be submitted to the Standards Department, API, 200 Massachusetts Avenue, NW, Washington, DC, 20001, standards@api.org.

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CRA Clad or Lined Steel Pipe

1 Scope

1.1 Coverage

This specification covers seamless and welded clad steel line pipe and lined steel line pipe with enhanced corrosion-resistant properties suitable for use in pipeline transportation systems in the petroleum and natural gas industries. The clad and lined steel line pipe specified herein is composed of a carbon steel backing or base material outside (in some cases inside and/or outside) and a corrosion-resistant alloy (CRA) layer or lining inside of the pipe. The base material conforms to API 5L (45th Ed.), product specification level (PSL) 2 and applicable annex(es), except as modified herein.

Grades of base material covered by this specification include X42, X46, X52, X56, X60, X65, X70, X80, and grades intermediate to these. Grades of the CRA layer are LC 1812, 2205, 2506, 2242, 2262, unified numbering system (UNS) S31703, UNS N08904, UNS N10276, Alloy 31™[1] (UNS N08031), Alloy 59 (UNS N06059), Alloy 254 SMO™ 1[1] (UNS S31254), Alloy 400 (UNS N04400), AL6NX (UNS N08367), and EN 1.4529 (UNS N08926). Other grades are subject to agreement between the purchaser and the manufacturer.

The delivered product usually has square ends, but other special ends may be furnished by agreement between the purchaser and manufacturer. Included are nominal pipe sizes (NPS) 25 mm (1 in.) through 2134 mm (84 in.). Sizes greater than 2134 mm (84 in.) are outside of the range of API 5L (45th Ed.) but may be supplied up to 2500 mm (100 in.) by agreement, including requirements for materials.

1.2 Application of the API Monogram

If product is manufactured at a facility licensed by API and it is intended to be supplied bearing the API Monogram, the requirements of Annex A apply.

2 Normative References

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies. For a list of other documents and articles associated with this standard, please see the Bibliography.

API Specification 5L, *Specification for Line Pipe*, 45th Edition, December 2012 (Effective July 1, 2013)

API Specification 5LC, *Specification for CRA Line Pipe*, Fourth Edition

API Specification Q1, *Specification for Quality Management System Requirements for Manufacturing Organizations for the Petroleum and Natural Gas Industry*, Ninth Edition, June 2013

ANSI [2]/NACE [3] MR0175/ISO 15156-3:2009(E), *Petroleum and natural gas industries—Materials for use in H_2S-containing environments in oil and gas production—Parts 1, 2, and 3*

ASME *Boiler and Pressure Vessel Code (BPVC)* [4], *Section II, Part C: Specifications for Welding Rods, Electrodes and Filler Metals* (2013.07.01)

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1 This term is used as an example only, and does not constitute an endorsement of this product by API.
2 American National Standards Institute, 1899 L Street, NW, 11th Floor, Washington, DC 20036, www.ansi.org.
3 NACE International, 1440 South Creek Drive, Houston, Texas 77084, www.nace.org.
4 ASME International, 2 Park Avenue, New York, New York 10016-5990, www.asme.org.