



WHAT IS API 5CRA?

For more than 90 years, the American Petroleum Institute, commonly referred to as API, has led the development of petroleum, natural gas, and petrochemical equipment and operating standards. API maintains nearly 700 standards and recommended practices. Many have been incorporated into state and federal regulations, and they are also the most widely cited standards by the international regulatory community.¹

API 5CRA serves as the leading industry standard for corrosion resistant alloy seamless pipe for casing, tubing, and coupling stock. It was first issued in 2010 and reaffirmed in 2015. The API 5CRA spec is currently an identical document to the ISO specification 13680 titled “Petroleum and Natural Gas Industries – Corrosion-Resistant Alloy Seamless Tubes for use as Casing, Tubing, and Coupling Stock – Technical Delivery Conditions.” These specifications provide the following quality control requirements to manufacture:

- Manufacturing Processes
- Traceability
- Chemical Composition
- Mechanical Properties
- Microstructure
- Surface Condition
- Dimensions
- Non-Destructive Evaluation
- Testing and Inspection Procedures
- Product Marking
- Certification

There are two product specification levels within API 5CRA, PSL 1 and PSL 2. PSL-1 provides the minimum specification requirements. The PSL-2 requirements are intended for sour service applications where the material must also comply with NACE MR0175. Both PSL-1 and PSL-2 are limited to seamless plain end pipe made of martensitic stainless steels, duplex stainless steels, austenitic stainless steels, or nickel-based alloys. They do not cover threads, couplings, equipment, or accessories.

Manufacturers of products in accordance with API 5CRA are eligible to obtain a license from API to apply the API monogram to their pipe as an identifier that the manufactured material meets the strict requirements of the specification. In order to obtain this license, the manufacturer must demonstrate the capability to meet the product specification requirements as well as have a quality management system compliant with the API Q1 standard. Corrosion Resistant Alloys holds API license 5CRA-0012.

¹“About API,” API, retrieved 2 December 2018 from <https://www.api.org/about>