

# Inspection Practices for Piping System Components

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# Inspection Practices for Piping System Components

## 1 Scope

This recommended practice (RP) supplements API 570 by providing piping inspectors with information that can improve skill and increase basic knowledge of inspection practices. This RP describes inspection practices for piping, tubing, valves (other than control valves), and fittings used in petroleum refineries and chemical plants. Common piping components, valve types, pipe joining methods, inspection planning processes, inspection intervals and techniques, and types of records are described to aid the inspectors in fulfilling their role implementing API 570. This publication does not cover inspection of specialty items, including instrumentation, furnace tubulars, and control valves.

## 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.

API 570, *Piping Inspection Code: Inspection, Repair, Alteration, and Rerating of In-service Piping Systems*

API Recommended Practice 571, *Damage Mechanisms Affecting Fixed Equipment in the Refining Industry*

API Recommended Practice 577, *Welding Inspection and Metallurgy*

API Recommended Practice 578, *Material Verification Program for New and Existing Alloy Piping Systems*

API 579-1/ASME FFS-1<sup>1</sup>, *Fitness-For-Service*

API Recommended Practice 580, *Risk-Based Inspection*

API Recommended Practice 583, *Corrosion Under Insulation and Fireproofing*

API Recommended Practice 584, *Integrity Operating Windows*

API Standard 598, *Valve Inspection and Testing*

API Recommended Practice 932-B, *Design, Materials, Fabrication, Operation, and Inspection Guidelines for Corrosion Control in Hydroprocessing Reactor Effluent Air Cooler (REAC) Systems*

API Recommended Practice 941, *Steels for Hydrogen Service at Elevated Temperatures and Pressures in Petroleum Refineries and Petrochemical Plants*

ASME B16.5, *Pipe Flanges and Flanged Fittings: NPS 1/2 Through NPS 24 Metric/Inch Standard*

ASME B16.20, *Metallic Gaskets for Pipe Flanges: Ring-Joint, Spiral-Wound, and Jacketed*

ASME B16.25, *Buttwelding Ends*

ASME B16.34, *Valves: Flanged, Threaded, and Welding End*

ASME B16.47, *Large Diameter Steel Flanges: NPS 26 Through NPS 60 Metric/Inch Standard*

ASME B31.3, *Process Piping*

ASME Boiler and Pressure Vessel Code (BPVC), Section V: *Nondestructive Examination*

ASME Boiler and Pressure Vessel Code (BPVC), Section V: *Nondestructive Examination; Article 11: Acoustic Emission Examination of Fiber Reinforced Plastic Vessels*

ASME PCC-1, *Guidelines for Pressure Boundary Bolted Flange Joint Assembly*

ASME PCC-2, *Repair of Pressure Equipment and Piping*

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<sup>1</sup> ASME International, 2 Park Avenue, New York, New York 10016-5990, [www.asme.org](http://www.asme.org).