Inspection Practices for Piping System Components

API RECOMMENDED PRACTICE 574
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Suggested revisions are invited and should be submitted to the Standards Department, API, 200 Massachusetts Avenue, NW, Suite 1100, Washington, DC 20001, standards@api.org.

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1 Scope

This recommended practice supplements API 570 by providing piping inspectors with information that can improve their skills and increase their basic knowledge of inspection practices. This recommended practice 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 in implementing API 570. This publication does not cover the inspection of specialty items, including instrumentation, furnace tubulars, and control valves.

2 Normative References

The following documents are referred to in the text in such a way that some or all their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document, including any addenda, applies.

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

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

API Recommended Practice 578, *Material Verification Program for New and Existing Assets*

API 579-1/ASME FFS-1 [1], *Fitness-For-Service*

API Recommended Practice 580, *Elements of a Risk-based Inspection Program*

ASME B16.20, *Metallic Gaskets for Pipe Flanges*

ASME B16.25, *Buttwelding Ends*

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

ASME B31.3, *Process Piping*

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

ASTM G57 [2], *Standard Test Method for Measurement of Soil Resistivity Using the Wenner Four-Electrode Method*

3 Terms, Definitions, Acronyms, and Abbreviations

For the purposes of this document, the following terms and definitions apply.

NOTE Definitions for terms delineated with asterisks are maintained by API 574. If another document plans to reference, see API Bulletin 590 for reference.

3.1 Terms and Definitions

3.1.1
alloy material
Any metallic material (including welding filler materials) that contains alloying elements, such as chromium, nickel, or molybdenum, which are intentionally added to enhance mechanical or physical properties and/or corrosion resistance.

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[1] American Society of Mechanical Engineers, Two Park Avenue, New York, New York 10016, www.asme.org.

[2] ASTM International, 100 Barr Harbor Drive, West Conshohocken, Pennsylvania 19428, www.astm.org.