

# Inspection of Fired Boilers and Heaters

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# Inspection of Fired Boilers and Heaters

## 1 Scope

This recommended practice (RP) covers the inspection practices for fired boilers, process heaters, and furnaces used in petroleum refineries and petrochemical plants. The practices described in this document are focused to improve equipment reliability and plant safety. The intent is to provide inspection practices that accurately capture appropriate data, both onstream and off-stream, to assess current and future performance of the equipment.

## 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 Standard 530, *Calculation of Heater-tube Thickness in Petroleum Refineries*

API Recommended Practice 538, *Industrial Fired Boilers for General Refining and Petrochemical Service*

API Standard 560, *Fired Heaters for General Refinery Services*

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

API Recommended Practice 572, *Inspection Practices for Pressure Vessels*

API Recommended Practice 578, *Guidelines for a Material Verification Program (MVP) for New and Existing Assets*

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

API Recommended Practice 580, *Risk-Based Inspection*

API Recommended Practice 584, *Integrity Operating Windows*

API Recommended Practice 587, *Pressure Equipment Integrity Incident Investigation*

API Recommended Practice 636, *Refractory Installation Quality Control—Inspection and Testing Monolithic Refractory Linings and Materials*

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

API Recommended Practice 970, *Corrosion Control Documents*

API Recommended Practice 939-C, *Guidelines for Avoiding Sulfidation (Sulfidic) Corrosion Failures in Oil Refineries*

AISC M015L<sup>2</sup>, *Manual of Steel Construction, Load and Resistance Factor Design*

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<sup>1</sup> American Society of Mechanical Engineers International, Two Park Avenue, New York, New York 10016-5990, [www.asme.org](http://www.asme.org).

<sup>2</sup> American Institute of Steel Construction, 130 East Randolph, Suite 2000, Chicago, Illinois, 60601, [www.aisc.org](http://www.aisc.org).