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Introduction

The International System of Units (SI) is used in this specification. However, nominal sizes are shown as fractions in the inch system.

The fractions and their decimal equivalents are equal and interchangeable. Metric conversions and inch dimensions in this specification are based on the original fractional inch designs. Functional dimensions have been converted into the metric system to ensure interchangeability of products manufactured in metric or inch systems; see also Annex C.

An “—” symbol when used in tables means that the applicable size, value, or dimension does not apply.

It is necessary that users of this specification be aware that further or differing requirements can be needed for individual applications. This specification is not intended to inhibit a vendor from offering, or the purchaser from accepting, alternative equipment or engineering solutions for the individual application. This can be particularly applicable where there is innovative or developing technology. Where an alternative is offered, it is the responsibility of the vendor to identify any variations from this specification and provide details.

Specification for Wellhead and Tree Equipment

1 Scope

This specification identifies requirements and gives recommendations for the performance, dimensional and functional interchangeability, design, materials, testing, inspection, welding, marking, handling, storing, shipment, and purchasing of wellhead and tree equipment for use in the petroleum and natural gas industries.

This specification does not apply to field use or field testing. This specification also does not apply to repair of wellhead and tree equipment except for weld repair in conjunction with manufacturing. Tools used for installation and service (e.g. running tools, test tools, wash tools, wear bushings, and lubricators) are outside the scope of this standard.

This specification is applicable to the equipment identified in 4.1 and Section 14.

This specification establishes requirements for four product specification levels (PSLs): PSL 1, PSL 2, PSL 3, and PSL 4. A supplemental designation of PSL 3G applies to PSL 3 products that have satisfied the additional requirements of gas testing. The PSL designations define different levels of technical quality requirements.

Subject matter of Annexes B, C, D, E, F, G, H, I, J, K, L, and M has been arranged in a way that minimizes the impact of changes on users of this document.

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, except that new editions may be used on issue and shall become mandatory upon the effective date specified by the publisher or 12 months from the date of the revision (where no effective date is specified).

API Recommended Practice 5A3, *Recommended Practice on Thread Compounds for Casing, Tubing, Line Pipe, and Drill Stem Elements*

API Specification 5B, *Threading, Gauging, and Inspection of Casing, Tubing, and Line Pipe Threads*

API Specification 5CT, *Casing and Tubing*

API Standard 6ACRA, *Age-hardened Nickel-based Alloys for Oil and Gas Drilling and Production Equipment*

API Standard 6AV1, *Validation of Safety and Shutdown Valves for Sandy Service*

API Standard 6X, *Design Calculations for Pressure-containing Equipment*

API Recommended Practice 14F, *Design, Installation, and Maintenance of Electrical Systems for Fixed and Floating Offshore Petroleum Facilities for Unclassified and Class 1, Division 1 and Division 2 Locations*

API Specification 16A, *Specification for Drill-through Equipment*

API Specification 17D, *Design and Operation of Subsea Production Systems—Subsea Wellhead and Tree Equipment*

API Specification 20A, *Carbon Steel, Alloy Steel, Stainless Steel, and Nickel Base Alloy Castings for Use in the Petroleum and Natural Gas Industry*