Open Die Shaped Forgings for Use in the Petroleum and Natural Gas Industry

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Open Die Shaped Forgings for Use in the Petroleum and Natural Gas Industry

1 Scope

1.1 Purpose

This API specification identifies requirements for the forging manufacturer qualification, production, marking, and documentation of open die shaped forgings for use in the petroleum and natural gas industries when referenced by an applicable equipment standard or otherwise specified as a requirement for compliance.

1.2 Applicability

This API specification is applicable to equipment used in the oil and natural gas industries where service conditions warrant the use of individually shaped open die forgings, including rolled rings. Examples include pressure containing or load bearing components.

Forged bar, rolled bar, and forgings from which multiple parts are removed are beyond the scope of this specification.

1.3 Forging Specification Levels (FSL)

This API specification establishes requirements for four forging specification levels (FSL). These four FSL designations define different levels of forged product technical, quality, and qualification requirements.

2 Normative References

The following documents are referred to in the text in such a way that some or all of 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, except that new editions may be used on issue and become mandatory upon the effective date specified by the publisher or six months from the date of the revision (where no effective date is specified).

API Specification 6A, *Specification for Wellhead and Tree Equipment*

API Specification Q1, *Specification for Quality Management System Requirements for Manufacturing Organizations for the Petroleum and Natural Gas Industry*

ASNT SNT-TC-1A. *Personnel Qualification and Certification in Nondestructive Testing*

ASTM A370,[1] *Standard Test Methods and Definitions for Mechanical Testing of Steel Products*

ASTM A388/A388M, *Standard Practice for Ultrasonic Examination of Steel Forgings*

ASTM A604, *Standard Practice for Macroetch Testing of Consumable Electrode Remelted Steel Bars and Billets*

ASTM E10, *Standard Test Method for Brinell Hardness Test of Metallic Materials*

ASTM E18, *Standard Test Method for Rockwell Hardness Test of Metallic Materials*

ASTM E45, *Standard Test Method for Determining the Inclusion Content of Steel*

ASTM E110, *Standard Test Method for Indentation Hardness of Metallic Materials by Portable Hardness Testers*

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