Heat Treatment Services—Batch Type for Equipment Used in the Petroleum and Natural Gas Industry

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1 Scope

1.1 Purpose

This standard specifies requirements for the qualification of suppliers of heat treatment services used in the manufacture of equipment for the petroleum and natural gas industries.

1.2 Applicability

This standard is applicable to suppliers providing heat treatment services where API product standards require such services or otherwise specified as a requirement for conformance. The requirements of this standard apply to batch heat treatment operations that establish or affect the final mechanical properties and include stress relief operations. This standard applies to carbon steel, low-alloy steel, stainless steel, and nickel-base alloys. Case hardening, induction hardening, and flame hardening are not covered by this standard.

1.3 Heat Treatment Specification Levels (HSLs)

This standard establishes the requirements for three heat treatment specification levels (HSLs). These HSL designations define different levels of heat treatment technical, quality, and qualification requirements.

2 Normative References

The following referenced document is indispensable for the application of this standard. For undated references, the latest edition of the referenced document, including any amendments, apply.

SAE AMS2750 [1], *Pyrometry*

3 Terms, Definitions, Acronyms, and Abbreviations

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

3.1 Terms and Definitions

3.1.1
acceptance criteria
Defined limits placed on characteristics of materials, processes, products, or services.

3.1.2
case hardening
A generic term covering several processes applicable to steel that change the chemical composition of the surface layer by absorption of carbon, nitrogen, or a mixture of the two and, by diffusion, create a concentration gradient. The result is a thin layer on the surface that is harder than the metal beneath it. The processes commonly used are carburizing and quench hardening, cyaniding, nitriding, and carbon nitriding.

3.1.3
final inspection
The final visual examination and documentation release of the heat-treated material.

[1] SAE International, 400 Commonwealth Drive, Warrendale, Pennsylvania 15096-0001, www.sae.org.