

Additively Manufactured Metallic Components for Use in the Petroleum and Natural Gas Industries

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Additively Manufactured Metallic Components for Use in the Petroleum and Natural Gas Industries

1 Scope

1.1 Purpose

This standard specifies requirements for qualification of the manufacturing process, production, marking and documentation of additively manufactured metallic components used in the petroleum and natural gas industries when referenced by an applicable API equipment standard or otherwise specified as a requirement for conformance. The qualification process flowchart is shown in Figure 1.

1.2 Applicability

This standard applies to additively manufactured metallic components produced by powder bed fusion (PBF), directed energy deposition (DED), and binder jetting (BJT) processes.

1.3 Additive Manufacturing Specification Levels (AMSL)

This standard establishes requirements for three additive manufacturing specification levels (AMSL). These three AMSL designations—AMSL 1, AMSL 2, and AMSL 3—define increasing levels of additive manufacturing technical, quality, and qualification requirements.

NOTE An AMSL can be assigned to a component by a product specification or standard, the purchaser, or the manufacturer.