Designation: A788/A788M – 23

Standard Specification for Steel Forgings, General Requirements[1]

This standard is issued under the fixed designation A788/A788M; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

This standard has been approved for use by agencies of the U.S. Department of Defense.

1. Scope*

1.1 This specification[2] covers a group of common requirements that, unless otherwise specified in the individual product specification, shall apply to steel forgings under any of the following specifications issued by ASTM:

ASTM Designation	Title
A266/A266M	Carbon Steel Forgings for Pressure Vessel Components
A288	Carbon and Alloy Steel Forgings for Magnetic Retaining Rings for Turbine Generators
A289/A289M	Alloy Steel Forgings for Nonmagnetic Retaining Rings for Generators
A290/A290M	Carbon and Alloy Steel Forgings for Rings for Reduction Gears
A291/A291M	Steel Forgings, Carbon and Alloy, for Pinions, Gears, and Shafts for Reduction Gears
A336/A336M	Alloy Steel Forgings for Pressure and High-Temperature Parts
A372/A372M	Carbon and Alloy Steel Forgings for Thin-Walled Pressure Vessels
A469/A469M	Vacuum-Treated Steel Forgings for Generator Rotors
A470/A470M	Vacuum-Treated Carbon and Alloy Steel Forgings for Turbine Rotors and Shafts
A471/A471M	Vacuum-Treated Alloy Steel Forgings for Turbine Rotor Disks and Wheels
A473	Stainless Steel Forgings
A504/A504M	Wrought Carbon Steel Wheels
A508/A508M	Quenched and Tempered Vacuum-Treated Carbon and Alloy Steel Forgings for Pressure Vessels
A541/A541M	Quenched and Tempered Carbon and Alloy Steel Forgings for Pressure Vessel Components
A579/A579M	Superstrength Alloy Steel Forgings
A592/A592M	High-Strength Quenched and Tempered Low-Alloy Steel Forged Parts for Pressure Vessels
A646/A646M	Premium Quality Alloy Steel Blooms and Billets for Aircraft and Aerospace Forgings
A649/A649M	Forged Steel Rolls Used for Corrugating Paper Machinery
A668/A668M	Steel Forgings, Carbon and Alloy, for General Industrial Use
A705/A705M	Age-Hardening Stainless Steel Forgings
A711/A711M	Steel Forging Stock
A723/A723M	Alloy Steel Forgings for High-Strength Pressure Component Application
A729/A729M	Carbon and Alloy Steel Axles, Heat Treated, for Mass Transit and Electric Railway Service
A765/A765M	Carbon Steel and Low-Alloy Steel Pressure-Vessel-Component Forgings with Mandatory Toughness Requirements
A837/A837M	Steel Forgings, Alloy, for Carburizing Applications
A859/A859M	Age-Hardening Alloy Steel Forgings for Pressure Vessel Components
A891/A891M	Precipitation Hardening Iron Base Superalloy Forgings for Turbine Rotor Disks and Wheels
A909/A909M	Steel Forgings, Microalloy, for General Industrial Use
A965/A965M	Steel Forgings, Austenitic, for Pressure and High Temperature Parts
A982/A982M	Steel Forgings, Stainless, for Compressor and Turbine Airfoils
A983/A983M	Continuous Grain Flow Forged Carbon and Alloy Steel Crankshafts for Medium Speed Diesel Engines
A986/A986M	Magnetic Particle Examination of Continuous Grain Flow Crankshaft Forgings
A1021/A1021M	Martensitic Stainless Steel Forgings and Forging Stock for High-Temperature Service
A1049/A1049M	Stainless Steel Forgings, Ferritic/Austenitic (Duplex), for Pressure Vessels and Related Components
A1090/A1090M	Forged Rings and Hollows for Use as Base Plates in Power Transmission Structures

1.2 In case of conflict in requirements, the requirements of the individual product specifications shall prevail over those of this specification.

1.3 The purchaser may specify additional requirements (see 4.2.3) that do not negate any of the provisions of either this specification or of the individual product specifications. The acceptance of any such additional requirements shall be dependent on negotiations with the supplier and must be included in the order.

1.4 If, by agreement, forgings are to be supplied in a partially completed condition, that is, all of the provisions of the product specification have not been filled, then the material marking (see Section 17) and certification (see Section 16)

[1] This specification is under the jurisdiction of ASTM Committee A01 on Steel, Stainless Steel and Related Alloys and is the direct responsibility of Subcommittee A01.06 on Steel Forgings and Billets.

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[2] For ASME Boiler and Pressure Vessel Code applications, see related Specification SA–788 in Section II of that code.

***A Summary of Changes section appears at the end of this standard**

shall reflect the extent to which the product specification requirements have been met.

1.5 As noted in the Certification Section (16), the number and year date of this specification, as well as that of the product specification, are required to be included in the product certification.

1.6 When the SI version of a product specification is required by the purchase order, Specification A788/A788M shall be used in conjunction with Test Methods A1058 instead of Test Methods and Definitions A370.

1.7 The values stated in either SI units or inch-pound units are to be regarded separately as standard. The values stated in each system are not necessarily exact equivalents; therefore, to ensure conformance with the standard, each system shall be used independently of the other and values from the two systems shall not be combined.

1.8 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.9 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 *ASTM Standards:*[3]

A266/A266M Specification for Carbon Steel Forgings for Pressure Vessel Components

A275/A275M Practice for Magnetic Particle Examination of Steel Forgings

A288 Specification for Carbon and Alloy Steel Forgings for Magnetic Retaining Rings for Turbine Generators

A289/A289M Specification for Alloy Steel Forgings for Nonmagnetic Retaining Rings for Generators (Withdrawn 2023)[4]

A290/A290M Specification for Carbon and Alloy Steel Forgings for Rings for Reduction Gears

A291/A291M Specification for Steel Forgings, Carbon and Alloy, for Pinions, Gears and Shafts for Reduction Gears

A336/A336M Specification for Alloy Steel Forgings for Pressure and High-Temperature Parts

A370 Test Methods and Definitions for Mechanical Testing of Steel Products

A372/A372M Specification for Carbon and Alloy Steel Forgings for Thin-Walled Pressure Vessels

A388/A388M Practice for Ultrasonic Examination of Steel Forgings

A469/A469M Specification for Vacuum-Treated Steel Forgings for Generator Rotors

A470/A470M Specification for Vacuum-Treated Carbon and Alloy Steel Forgings for Turbine Rotors and Shafts

A471/A471M Specification for Vacuum-Treated Alloy Steel Forgings for Turbine Rotor Disks and Wheels

A473 Specification for Stainless Steel Forgings

A504/A504M Specification for Wrought Carbon Steel Wheels

A508/A508M Specification for Quenched and Tempered Vacuum-Treated Carbon and Alloy Steel Forgings for Pressure Vessels

A541/A541M Specification for Quenched and Tempered Carbon and Alloy Steel Forgings for Pressure Vessel Components

A551/A551M Specification for Carbon Steel Tires for Railway and Rapid Transit Applications

A579/A579M Specification for Superstrength Alloy Steel Forgings

A592/A592M Specification for High-Strength Quenched and Tempered Low-Alloy Steel Forged Parts for Pressure Vessels

A646/A646M Specification for Premium Quality Alloy Steel Blooms and Billets for Aircraft and Aerospace Forgings

A649/A649M Specification for Forged Steel Rolls Used for Corrugating Paper Machinery

A668/A668M Specification for Steel Forgings, Carbon and Alloy, for General Industrial Use

A705/A705M Specification for Age-Hardening Stainless Steel Forgings

A711/A711M Specification for Steel Forging Stock

A723/A723M Specification for Alloy Steel Forgings for High-Strength Pressure Component Application

A729/A729M Specification for Carbon and Alloy Steel Axles, Heat-Treated, for Mass Transit and Electric Railway Service

A751 Test Methods and Practices for Chemical Analysis of Steel Products

A765/A765M Specification for Carbon Steel and Low-Alloy Steel Pressure-Vessel-Component Forgings with Mandatory Toughness Requirements

A833 Test Method for Indentation Hardness of Metallic Materials by Comparison Hardness Testers

A837/A837M Specification for Steel Forgings, Alloy, for Carburizing Applications

A859/A859M Specification for Age-Hardening Alloy Steel Forgings for Pressure Vessel Components

A891/A891M Specification for Precipitation Hardening Iron Base Superalloy Forgings for Turbine Rotor Disks and Wheels

A909/A909M Specification for Steel Forgings, Microalloy, for General Industrial Use

A939/A939M Practice for Ultrasonic Examination from Bored Surfaces of Cylindrical Forgings (Withdrawn 2021)[4]

A941 Terminology Relating to Steel, Stainless Steel, Related Alloys, and Ferroalloys

[3] For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

[4] The last approved version of this historical standard is referenced on www.astm.org.