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# Standard Specification for Common Requirements for Iron Castings for General Industrial Use<sup>1</sup>

This standard is issued under the fixed designation A834; 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 ( $\varepsilon$ ) indicates an editorial change since the last revision or reapproval.

#### 1. Scope

1.1 This specification covers a group of requirements that are mandatory requirements when used in conjunction with the following iron casting specifications issued by ASTM:

ASTM Specification<sup>2</sup> A47/A47M A48/A48M A197/A197M A220/A220M A278/A278M A319 A395/A395M A436 A439 A518/A518M A532/A532M A536 A571/A571M A823 A842 A874/A874M A897/A897M

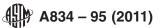
- 1.2 This specification also covers a group of supplementary requirements which may be applied to the above specifications as indicated herein. These are provided for use when additional testing or inspection is desired and apply only when specified individually by the purchaser in the order.
- 1.3 The requirements of the individual material specification, and this general specification shall prevail in the sequence named.

  1.4The values stated in inch-pound units are to be regarded as the standard. The values given in parentheses are for information only.

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- 1.4 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

<sup>&</sup>lt;sup>1</sup> This specification is under the jurisdiction of ASTM Committee A04 on Iron Castings and is the direct responsibility of Subcommittee A04.01 on Grey and White Iron Castings.

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#### 2. Referenced Documents

2.1 ASTM Standards:<sup>2</sup>

A47/A47M Specification for Ferritic Malleable Iron Castings

A48/A48M Specification for Gray Iron Castings

A197/A197M Specification for Cupola Malleable Iron

A220/A220M Specification for Pearlitic Malleable Iron

A247 Test Method for Evaluating the Microstructure of Graphite in Iron Castings

A278/A278M Specification for Gray Iron Castings for Pressure-Containing Parts for Temperatures Up to 650F (350C)

A319 Specification for Gray Iron Castings for Elevated Temperatures for Non-Pressure Containing Parts

A395/A395M Specification for Ferritic Ductile Iron Pressure-Retaining Castings for Use at Elevated Temperatures

A436 Specification for Austenitic Gray Iron Castings

A439 Specification for Austenitic Ductile Iron Castings

A518/A518M Specification for Corrosion-Resistant High-Silicon Iron Castings

A532/A532M Specification for Abrasion-Resistant Cast Irons

A536 Specification for Ductile Iron Castings

A571/A571M Specification for Austenitic Ductile Iron Castings for Pressure-Containing Parts Suitable for Low-Temperature Service

A644 Terminology Relating to Iron Castings

A802/A802M Practice for Steel Castings, Surface Acceptance Standards, Visual Examination

A823 Specification for Statically Cast Permanent Mold Gray Iron Castings

A842 Specification for Compacted Graphite Iron Castings

A874/A874M Specification for Ferritic Ductile Iron Castings Suitable for Low-Temperature Service

A897/A897M Specification for Austempered Ductile Iron Castings

A919 Terminology Relating to Heat Treatment of Metals

E8 Test Methods for Tension Testing of Metallic Materials

E10 Test Method for Brinell Hardness of Metallic Materials

E29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications

E30 Test Methods for Chemical Analysis of Steel, Cast Iron, Open-Hearth Iron, and Wrought Iron

E59 Practice for Sampling Steel and Iron for Determination of Chemical Composition

E94 Guide for Radiographic Examination

E165 Practice for Liquid Penetrant Examination for General Industry

E351 Test Methods for Chemical Analysis of Cast IronAll Types

E689 Reference Radiographs for Ductile Iron Castings

E709 Guide for Magnetic Particle Testing

E802 Reference Radiographs for Gray Iron Castings Up to 412 in. (114 mm) in Thickness 34bc80/astm-a834-952011

2.2 Military Standard:

MIL-STD-129 Marking for Shipment and Storage<sup>3</sup>

2.3 Federal Standard:

Fed. Std. No. 123 Marking for Shipment (Civil Agencies)<sup>3</sup>

### 3. Terminology

- 3.1 Definitions:
- 3.1.1 Definitions for many terms common to iron castings and their heat treatment are found in Terminology A919 and Terminology A644. A classification of graphite structure is found in Test Method A247.

## 4. Ordering Information

4.1 The purchase order for castings ordered under this specification shall stipulate the applicable material specification(s), grade of iron, and any options or additions to the basic requirements, including the supplementary requirements included in this specification.

### 5. Tensile Requirements

5.1 The individual product specifications vary as to whether tension tests are required. For this reason, and to determine specific test requirements, the individual product specification shall be reviewed. When required, tension tests shall be determined in accordance with Test Methods E8.

<sup>&</sup>lt;sup>2</sup> 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.

<sup>&</sup>lt;sup>3</sup> Available from Standardization Documents Order Desk, DODSSP, Bldg. 4, Section D, 700 Robbins Ave., Philadelphia, PA 19111-5098, http://www.dodssp.daps.mil.