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Standard Specification for Steel Castings Sampling¹

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1. Scope

1.1 This standard covers the inspection requirements agreed upon by the purchaser and producer of steel castings for the sample castings prior to production of the completed order. This standard includes all castings covered by Specifications [A703/A703M](#), [A781/A781M](#), [A957/A957M](#), and [A985/A985M](#). It also identifies when a new sample needs to be developed.

1.2 Several categories of sampling requirements are covered, ranging from dimensional, machining, visual, magnetic particle, liquid penetrant, radiographic, ultrasonic, or leak tests.

1.3 *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.*

1.4 *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:²

[A703/A703M](#) Specification for Steel Castings, General Requirements, for Pressure-Containing Parts

[A781/A781M](#) Specification for Castings, Steel and Alloy, Common Requirements, for General Industrial Use

[A957/A957M](#) Specification for Investment Castings, Steel

[and Alloy, Common Requirements, for General Industrial Use](#)

[A985/A985M](#) Specification for Steel Investment Castings General Requirements, for Pressure-Containing Parts

3. General Conditions for Delivery

3.1 Orders shall state the following:

3.1.1 The number of castings to be included in the sample.

3.1.2 Extent of inspection requirements.

3.1.3 Test methods for each of the inspections.

3.1.4 Acceptance criteria for each of the inspections.

4. Documentation

4.1 Order documents shall state:

4.1.1 Number of castings in the sample.

4.1.2 *Dimensions*—Casting dimensions of the samples shall be recorded.

4.1.3 *Visual Inspection*—Results of visual inspection shall be recorded.

4.1.4 *Nondestructive Examination*—Results for each of the nondestructive tests specified shall be recorded.

4.1.5 *Reporting Requirements*—Reporting requirements shall be included.

4.2 *Machined Castings*—Results of any required inspections following machining operations shall be recorded.

4.3 *Destructive Tests*—If specified, the results of any destructive tests shall be recorded.

5. New Sample Considerations

5.1 *Gating and Riser Revisions*—Changes to the risering and gating practice used to manufacture the casting shall be reviewed for reasons to require a new sample casting.

5.2 *Molding Materials*—Reviews are required for changes in molding materials used to manufacture the casting.

5.3 *Pattern Drawing Changes*—Significant dimensional revisions to the pattern drawing shall be reviewed for specifying a new sample.

6. Acceptable Sample

6.1 Sample castings shall be deemed acceptable when the results of the sample requirements have been satisfied.

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 A01.18 on Castings.

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² 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.

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