



Designation: A560/A560M – 12 (Reapproved 2018)

Standard Specification for Castings, Chromium-Nickel Alloy¹

This standard is issued under the fixed designation A560/A560M; 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.

1. Scope*

1.1 This specification covers chromium-nickel alloy castings intended for heat-resisting and elevated-temperature corrosion applications, such as structural members, containers, supports, hangers, spacers, and the like, in corrosive environments up to 2000 °F [1090 °C].

1.2 The values stated in either SI units or inch-pound units are to be regarded separately as standard. The values stated in each system may not be exact equivalents; therefore, each system shall be used independently of the other. Combining values from the two systems may result in nonconformance with this standard.

1.3 *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

[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](#)

3. General Conditions for Delivery

3.1 Except for steel investment castings, material furnished to this specification shall conform to the requirements of Specification [A781/A781M](#), including any supplementary requirements that are indicated in the purchase order. Failure to comply with the general requirements of Specification [A781/](#)

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.

[A781M](#) constitutes nonconformance with this specification. In case of conflict between the requirements of this specification and Specification [A781/A781M](#), this specification shall prevail.

3.2 Steel investment castings furnished to this specification shall conform to the requirements of Specification [A957/A957M](#), including any supplementary requirements that are indicated in the purchase order. Failure to comply with the general requirements of Specification [A957/A957M](#) constitutes nonconformance with this specification. In case of conflict with this specification and Specification [A957/A957M](#), [A957/A957M](#) shall prevail.

4. Ordering Information

4.1 Orders for material under this specification should include the following information in proper sequence:

- 4.1.1 Quantity;
- 4.1.2 Specification and grade (50 Cr-50 Ni, R20500; 60 Cr-40 Ni, R20600; 50 Cr-50 Ni-Cb, R20501);
- 4.1.3 Description of the casting by pattern number or drawing;
- 4.1.4 Options in the specification:
 - 4.1.4.1 Process,
 - 4.1.4.2 Heat treatment,
 - 4.1.4.3 Tensile properties,
 - 4.1.4.4 Tension tests,
 - 4.1.4.5 Charpy impact tests, and
 - 4.1.4.6 Test specimens or test bars.
- 4.1.5 Supplementary requirements desired, including standards of acceptance.

5. Materials and Manufacture

5.1 *Process*—The alloy for the castings shall be made by the electric arc or induction furnace process unless otherwise agreed upon between the manufacturer and the purchaser. Castings may be poured in sand, shell, investment, or centrifugal molds.

5.2 *Heat Treatment*—Castings may be shipped in the as-cast condition. If heat treatment is required, the treatment shall be established by mutual consent between the manufacturer and purchaser and shall be so specified in the inquiry, purchase order, or contract.

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