



Designation: **C752 – 13 C752 – 13 (Reapproved 2016)**

Standard Specification for Nuclear-Grade Silver-Indium-Cadmium Alloy¹

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1. Scope

- 1.1 This specification covers silver-indium-cadmium alloy for use as a control material in light-water nuclear reactors.
- 1.2 The scope of this specification excludes the use of this material in applications where material strength of this alloy is a prime requisite. Also, this material must be protected from the primary water by a corrosion and wear resistant cladding.
- 1.3 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

2. Referenced Documents

2.1 *ASTM Standards*:²

[C760 Test Methods for Chemical and Spectrochemical Analysis of Nuclear-Grade Silver-Indium-Cadmium Alloys](#)

[C859 Terminology Relating to Nuclear Materials](#)

[E105 Practice for Probability Sampling of Materials](#)

2.2 *ANSI Standard*:

[B46.1 Surface Roughness](#)³

[ANSI/ASME NQA-1 Quality Assurance Requirements for Nuclear Facility Applications](#)³

2.3 *U.S. Government Standard*:

[Title 10 Code of Federal Regulations, Energy Part 50 \(10CFR50\) Domestic Licensing of Production and Utilization Facilities](#)⁴

3. Terminology

- 3.1 Terms shall be defined in accordance with the terminology in Terminology [C859](#), except for the following:
 - 3.1.1 A lot shall be defined as all parts produced from the same melt by the same process.

4. Ordering Information

4.1 The buyer shall specify the following information on the order:

4.1.1 Quantity,

4.1.2 Lot size, and

4.1.3 Dimensions and tolerances.

5. Materials and Manufacture

- 5.1 The identity of each lot by melt number shall be maintained at all stages of manufacture.
- 5.2 Parts produced to this specification shall be made from billets by hot working and cold finishing to size.
- 5.3 The cold-finished parts shall be produced to the finish condition and dimensions as specified in the purchase order.

¹ This specification is under the jurisdiction of ASTM Committee [C26](#) on Nuclear Fuel Cycle and is the direct responsibility of Subcommittee [C26.03](#) on Neutron Absorber Materials Specifications.

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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.

³ Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036, [http://www.ansi.org](#).

⁴ Available from U.S. Government Printing Office Superintendent of Documents, 732 N. Capitol St., NW, Mail Stop: SDE, Washington, DC 20401, [http://www.access.gpo.gov](#).