



Standard Specification for Refined Rhodium¹

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1. Scope

1.1 This specification covers refined rhodium as sponge and powder in three grades as follows:

1.1.1 *Grade 99.80*— Rhodium having a purity of 99.80 %,

1.1.2 *Grade 99.90*— Rhodium having a purity of 99.90 %, and

1.1.3 *Grade 99.95*— Rhodium having a purity of 99.95 %.

1.1.4 For the purposes of determining conformance with this specification, an observed value obtained from analysis shall be rounded to the nearest unit in the last right-hand place of figures used in expressing the limiting value, in accordance with the rounding method of Practice E 29.

2. Referenced Documents

2.1 *ASTM Standards*:

E 29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications^{2, 3}

3. Manufacture

3.1 The material may be produced by any refining process that yields a product capable of meeting the chemical requirements of this specification. The purchaser, upon request, shall be informed of the refining process used.

4. Chemical Requirements

4.1 The material should conform to the requirements for chemical composition as prescribed in Table 1.

4.2 Analysis shall be made using the manufacturer's standard methods. In the event of disagreement as to the chemical composition of the metal, methods of chemical analysis for reference purposes shall be determined by a mutually acceptable laboratory.

5. Sampling

5.1 The value of this material is such that special attention must be paid to sampling procedures. The purchaser and manufacturer shall agree upon sampling procedures used.

¹ This specification is under the jurisdiction of ASTM Committee B02 on Nonferrous Metals and Alloys and is the direct responsibility of Subcommittee B02.05 on Precious Metals.

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² *Annual Book of ASTM Standards*, Vol 14.02.

³ *Compilation of Methods for Analytical Atomic Spectroscopy*, 8th ed., 1987, available from ASTM.

TABLE 1 Chemical Requirements

Element ^A	Composition, %		
	Grade 99.80	Grade 99.90	Grade 99.95
Rhodium, min (by difference)	99.80	99.90	99.95
Platinum, max	0.10	0.05	0.02
Iridium, max	0.10	0.05	0.02
Palladium, max	0.05	0.05	0.005
Ruthenium, max	0.05	0.05	0.01
Lead, max	0.01	0.01	0.005
Tin, max	0.01	0.01	0.003
Zinc, max	0.01	0.01	0.003
Arsenic, max	0.01	0.005	0.003
Bismuth, max	0.01	0.005	0.005
Cadmium, max	0.01	0.005	0.005
Iron, max	0.01	0.01	0.003
Silicon, max	—	0.01	0.005
Silver, max	—	0.02	0.005
Gold, max	—	0.01	0.003
Copper, max	—	0.01	0.005
Nickel, max	—	0.01	0.003
Tellurium, max	—	0.01	0.005
Magnesium, max	—	0.01	0.005
Calcium, max	—	0.01	0.005
Aluminum, max	—	0.01	0.005
Chromium, max	—	0.01	0.005
Manganese, max	—	0.005	0.005
Antimony, max	—	0.005	0.003
Cobalt, max	—	0.005	0.001
Boron, max	—	0.005	0.001

^A By agreement between manufacturer and purchaser, analyses may be required and limits established for elements or compounds not specified in this table.

5.2 *Lot Size*—Sampling lots shall consist of the following:

5.2.1 *Sponge*—A single refining lot and

5.2.2 *Powder*—A single refining lot.

6. Rejection and Rehearing

6.1 Material that fails to conform to the requirements of this specification may be rejected. Rejection should be reported to the producer or supplier promptly and in writing. In case of dissatisfaction with the results of the test, the producer or supplier may make claim for a rehearing.

6.2 *Investigation of Claims*—In a question of chemical composition, a new sample shall be drawn by representatives of both parties in accordance with Section 5. The properly mixed and quartered sample shall be separated into three parts, each of which shall be placed in a sealed package, one for the manufacturer, one for the purchaser, and one for an umpire, if necessary.