



Standard Specification for Nickel Oxide Sinter¹

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1. Scope

1.1 This specification covers one grade of nickel oxide sinter, designated as 75 used for alloying in iron and steel melting.

1.2 The values stated in inch-pound units are to be regarded as the standard. The SI equivalents of inch-pound units may be approximate.

2. Referenced Documents

2.1 ASTM Standards:

E 29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications²

E 39 Test Methods for Chemical Analysis of Nickel³

3. Ordering Information

3.1 Orders for materials under this specification shall include the following information:

- 3.1.1 Name of material—nickel oxide sinter,
- 3.1.2 ASTM designation and year of issue, and
- 3.1.3 Grade.

3.2 Although nickel oxide sinter may be ordered either by total net weight or contained weight, the customary basis for payment is per pound of contained nickel.

4. Chemical Composition

4.1 Nickel oxide sinter shall conform to the requirements as to chemical composition specified in Table 1.

4.2 The manufacturer shall furnish an analysis of each shipment showing the nickel content.

4.3 The values shown for cobalt, copper, iron and sulfur are expected maximums. Upon request of purchaser, the manufacturer shall furnish an analysis for any of these elements over a

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² Annual Book of ASTM Standards, Vol 14.02.

³ Annual Book of ASTM Standards, Vol 03.05.

TABLE 1 Chemical Requirements

Element	Composition, %
	Grade 75
Nickel, min	75.00
Cobalt, max	1.30
Copper, max	0.90
Iron, max	0.50
Sulfur, max	0.02

period of production mutually agreed upon by manufacturer and the purchaser.

5. Size

5.1 Nickel oxide sinter is available in containers packed to either 50 lb or 22.5 kg of nickel contained, larger uniform weight containers packed to either pound or kilogram weights or in bulk shipment using suitable rail, truck or shipboard means of conveyance.

6. Sampling for Chemical Analysis

6.1 The material shall be sampled in accordance with procedures outlined below:

6.1.1 The sample shall be taken by cutting across the entire stream at regular intervals during the time of movement of the mass being sampled. The quantity to be taken at each interval, and the number of such intervals shall be so proportioned that the total quantity taken shall amount to not less than 0.40 % of the total material being sampled.

6.2 Treatment of Sample:

6.2.1 In the case of nickel oxide sinter 75, the sample representing each shipment or lot shall be reduced in amount using a riffle splitter or other suitable mechanical splitter to 1000 g. This 1000-g sample shall be placed in an oven at 250°F (121°C) for ½ h to remove any traces of moisture, and then pulverized to pass an 80-mesh screen using appropriate equipment to avoid sample contamination. Approximately 250 g of this pulverized material shall be split out for copper and sulfur assays, using a riffle splitter or other suitable mechanical splitter. The unused portion of individual shipment (or lot) samples whose copper and sulphur assays are within specification shall be combined by weight into two, three, or four lot



composites. Approximately 250 g of the composited material shall be split out, using a riffle splitter or other suitable mechanical splitter and analyzed for nickel. This nickel analysis shall apply to each shipment (or lot) comprising the composite.

7. Chemical Analysis

7.1 Chemical analysis when required shall be made in accordance with the procedures for nickel described in Methods E 39, or alternative method agreed upon by the manufacturer and the purchaser.

7.1.1 When no method is given in Methods E 39 for analysis for a particular element or the method given is not adequate, the analysis shall be made in accordance with a procedure agreed upon between manufacturer and purchaser and such procedure shall apply for referee purposes.

7.2 For purposes of compliance with the specified chemical composition limits, the reported analysis shall be rounded off to the nearest unit in the right-hand place of figures used in expressing the limiting value, in accordance with rounding-off method of Recommended Practice E 29.

8. Rejection

8.1 Any claims or rejections shall be made to the manufacturer within 45 days from receipt of material by the purchaser.

9. Packaging

9.1 The material shall be packaged in sound containers so that the product is not lost or contaminated in shipment.

10. Keywords

10.1 nickel; nickel oxide; sinter

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