



AEROSPACE MATERIAL SPECIFICATION

AMS7875™**REV. F**

Issued 1970-11
Revised 2017-06
Reaffirmed 2026-06

Superseding AMS7875E

Powder, Chromium Carbide Plus Nickel-Chromium Alloy
75Cr₃C₂ + 25 (80Ni - 20Cr Alloy)

RATIONALE

AMS7875F revises Reports (4.5) and Identification (5.1.2), and is a Five-Year Review and update of this specification.

AMS7875F has been reaffirmed to comply with the SAE Five-Year Review policy.

A reaffirmed status is given to technical reports that have been reviewed by the technical committee and deemed to be current with no need for immediate revision. No changes have been made to this document as a result of this review.

1. SCOPE

1.1 Form

This specification covers a blend of chromium carbide and a nickel-chromium alloy in the form of powder.

1.2 Application

This product has been used typically for producing plasma spray coatings to provide wear and fretting resistant surfaces, but usage is not limited to such applications.

2. APPLICABLE DOCUMENTS

The issue of the following documents in effect on the date of the purchase order forms a part of this specification to the extent specified herein. The supplier may work to a subsequent revision of a document unless a specific document issue is specified. When the referenced document has been cancelled and no superseding document has been specified, the last published issue of that document shall apply.

2.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or +1 724-776-4970 (outside USA), www.sae.org.

ARP1917 Clarification of Terms Used in Aerospace Metals Specifications

2.2 ASTM Publications

Available from ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959, Tel: 610-832-9585, www.astm.org.

ASTM B214 Sieve Analysis of Metal Powders

ASTM B215 Sampling Metal Powders

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Full document details: SAE AMS7875F

For more information on this standard, visit
<https://www.sae.org/standards/content/AMS7875F/>

Documents

Standard Sharing Hub

ASTM C1070 Determining Particle Size Distribution of Alumina or Quartz by Laser Light Scattering

ASTM E354 Chemical Analysis of High-Temperature, Electrical, Magnetic, and Other Similar Iron, Nickel, and Cobalt Alloys

ASTM E363 Chemical Analysis of Chromium and Ferrochromium

3. TECHNICAL REQUIREMENTS

3.1 Material

Shall be a blend of 74.00 to 76.00% by weight chromium carbide and 24.00 to 26.00% by weight nickel-chromium alloy powders. The component powders, prior to blending, shall conform to the compositions of 3.2.1 and 3.2.2, respectively, and shall have particle size distribution as shown in 3.4.1 for each component powder.

3.2 Composition

Shall conform to the percentages by weight shown in Tables 1 and 2, determined by wet chemical methods in accordance with ASTM E363 for the chromium carbide and ASTM E354 for the nickel-chromium alloy, or by spectrographic or other analytical methods approved by purchaser:

3.2.1 Chromium Carbide

Table 1 - Composition

Element	Min	Max
Total Carbon	12.50	--
Silicon	--	0.10
Chromium	85.50	--
Iron	--	0.70

3.2.2 Nickel-Chromium Alloy

Table 2 - Composition

Element	Min	Max
Carbon	--	0.25
Manganese	--	2.50
Silicon	--	1.50
Chromium	18.00	22.50
Nickel	76.00	80.00
Iron	--	1.00

3.2.3 When specified, producer shall supply purchaser with an adequate quantity of component materials (see 3.2.1 and 3.2.2) for quality control checks.

3.3 Condition

As blended.