



AEROSPACE MATERIAL SPECIFICATION

AMS2431™/4

REV. E

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Superseding AMS2431/4D

Peening Media
Conditioned Stainless Steel Cut Wire Shot (AWS)

RATIONALE

AMS2431/4E results from a Five-Year Review and update of this specification with changes to Purpose (see 1.1); Hardness (see 3.3); Tables 3, 4, and 5; Size (see 3.8.1.2); Composition (see 4.1.1); and Packaging and Identification (see 5.1.1).

1. SCOPE

1.1 Purpose

This specification, in conjunction with the general requirements for peening media covered in AMS2431, establishes the requirements for the procurement of conditioned stainless steel cut wire shot.

1.2 Application

Conditioned stainless steel cut wire shot conforming to this specification is intended for use in peening metal surfaces to impart compressive stresses to these surfaces thereby increasing resistance to fatigue and stress-corrosion cracking. Generally, conditioned stainless steel cut wire shot is used on parts where ferrous contamination is undesirable and a media of high durability is required.

2. APPLICABLE DOCUMENTS

Refer to AMS2431.

3. TECHNICAL REQUIREMENTS

3.1 Conditioned stainless steel cut wire shot shall conform to AMS2431, and the requirements specified herein.

3.2 Composition

Composition shall conform to the percentages by weight for stainless steel shown in Table 1, determined in accordance with ASTM E353 and ASTM E1019.

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Table 1 - Composition

Element	Min	Max
Carbon	--	0.15
Manganese	--	2.00
Silicon	--	1.00
Phosphorus	--	0.045
Sulfur	--	0.030
Chromium	17.00	20.00
Nickel	8.00	10.50

3.3 Hardness

Not less than 90% of the readings shall be 45 HRC minimum, or equivalent, determined in accordance with ASTM E384 using a 500 g minimum load. Hardness testing shall be performed after the shot has been conditioned for shape.

3.4 Media Condition

Conditioned cut wire shot shall be free of shear cracks and burrs.

3.5 Contamination

Shot shall be clean and free of dirt, grit, oil, or grease.

3.6 Quality Requirements

Shot shall conform to 3.6.1, determined in accordance with 3.8.2.

3.6.1 Shape shall be predominantly spherical as a result of conditioning or rounding.

3.6.1.1 Acceptable Shapes

Shapes conforming to Figure 1 shall be in accordance with Table 2.

3.6.1.2 Marginal Shapes

Shapes conforming to Figure 2 are permissible to the extent specified in Table 2.

3.6.1.3 Unacceptable Shapes

Shapes conforming to Figure 3 are permissible to the extent specified in Table 2.