# AEROSPACE MATERIAL SPECIFICATION

| AMS2431™/3 | REV. F |
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Superseding AMS2431/3E

Peening Media
Conditioned Carbon Steel Cut Wire Shot, Regular Hardness (45 to 52 HRC) (AWCR)

RATIONALE

AMS2431/3F results from a Five-Year Review and update of this specification with changes to Purpose (see 1.1); 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 carbon steel cut wire shot with a hardness of 45 to 52 HRC.

### 1.2 Application

Conditioned carbon steel cut wire shot, regular hardness, 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, regular hardness conditioned carbon steel cut wire shot is used on parts of hardness less than 50 HRC.

## 2. APPLICABLE DOCUMENTS

Shall be in accordance with AMS2431.

## 3. TECHNICAL REQUIREMENTS

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

### 3.2 Composition

Composition shall conform to the percentages by weight for carbon steel shown in Table 1, determined in accordance with ASTM E415 and ASTM E1019.

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***Table 1 - Composition***

| Element | Min | Max |
|---|---|---|
| Carbon | 0.45 | 0.85 |
| Manganese | 0.30 | 1.30 |
| Silicon | 0.15 | 0.35 |
| Phosphorus | -- | 0.040 |
| Sulfur | -- | 0.050 |

3.3 Hardness

Not less than 90% of the readings shall fall within the range of 45 to 52 HRC, 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.

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