

AEROSPACE MATERIAL SPECIFICATION

Submitted for recognition as an American National Standard

Issued DEC 1998

Cancelled JAN 2000

Supersedes AMS-S-851A

Steel Grit, Shot, and Cut Wire Shot; and Iron Grit and
Shot-Blast Cleaning and Peening

CANCELLATION NOTICE

This specification has been declared "CANCELLED" by the Aerospace Materials Division, SAE, as of October 1999, and has been superseded as follows:

Type I Cast Steel (Grit) superseded by SAE J1993

■ Type I Cast Steel (Shot) superseded by SAE J827

Type II Cast Iron (Grit and Shot) Cancelled without replacement - No known USA manufacturer

Type III Steel Cut Wire (Shot only) Superseded by SAE J441

Sizes are covered by SAE J444

The requirements of the latest issue of the above mentioned documents shall be fulfilled whenever reference is made to the cancelled AMS-S-851. By this action, this document will remain listed in the Numerical Section of the Index of Aerospace Material Specifications noting that it is superseded as shown above.

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This document has been taken directly from U.S. Military Specification MIL-S-851D, Amendment 1 and contains only minor editorial and format changes required to bring it into conformance with the publishing requirements of SAE technical standards. The initial release of this document is intended to replace MIL-S-851D, Amendment 1. Any part numbers established by the original specification remain unchanged.

The original Military Specification was adopted as an SAE standard under the provisions of the SAE Technical Standards Board (TSB) Rules and Regulations (TSB 001) pertaining to accelerated adoption of government specifications and standards. TSB rules provide for (a) the publication of portions of unrevised government specifications and standards without consensus voting at the SAE Committee level, and (b) the use of the existing government specification or standard format.

Under Department of Defense policies and procedures, any qualification requirements and associated qualified products lists are mandatory for DOD contracts. Any requirement relating to qualified products lists (QPL's) has not been adopted by SAE and is not part of this SAE technical document.

1. SCOPE:

1.1 Scope:

The specification covers cast iron or hardened cast steel grit and shot for blast cleaning of castings, forgings, ship hulls and decks, or other parts prior to use for the removal of sand, slag, rust, and marine incrustations; and also cast iron or hardened cast steel shot, or cut steel wire shot for peening the surface of metals.

1.2 Classification:

1.2.1 Grit and Shot: Grit and shot shall be of the following types as specified (See 6.2):

Type I	Cast steel (grit and shot)
Type II	Cast iron (grit and shot)
Type III	Steel cut wire (shot only)

1.2.2 Sizes: Grit, shot and cut wire shall be furnished in the sizes shown in Tables II, III, and IV as specified (see 6.2).

2. APPLICABLE DOCUMENTS:

The following publications, of the issue in effect on date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein.

2.1 SAE Publications:

Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

SAE J441 Cut Wire Shot, Recommended Practice

2.2 U.S. Government Publications:

Available from DODSSP, Subscription Services Desk, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.

RR-S-366	Sieve Test
UU-S-48	Sacks, Shipping, Paper
PPP-D-723	Drums, Fiber

FED-STD-151 Metal, Test Methods

MIL-STD-105	Sampling Procedures and Tables for Inspection by Attributes
MIL-STD-129	Marking for Shipment and Storage
MIL-STD-147	Palletized Unit Loads

2.3 ASTM Publications:

Available from ASTM, 100 Barr Harbor, West Conshohocken, PA 19428-2959.

ASTM D 1214-58 Sieve Analysis of Glass Spheres

2.4 Uniform Classification Committee:

Available from Uniform Classification Committee, 202 Chicago Union Station, Chicago, IL 60606.

Uniform Freight Classification Rules

3. REQUIREMENTS:

3.1 Material:

- 3.1.1 Type I and II: Type I cast steel grit and shot, and Type II cast iron grit and shot, shall be made from materials complying in chemical composition as specified in Table I.

TABLE I. Grit and Shot, Chemical Composition (except cut wire shot)

Type	Carbon %	Silicon %	Manganese %		Phosphorus %	Sulfur %	Other Elements %
I	0.85-1.20	0.40-1.50	Shot size	%	0.05 max.	0.05 max.	—
			330-930	0.7-1.2			
			230-280	0.6-1.2			
			170-190	0.5-1.2			
			70-130	0.35-1.2			
II	2.75-3.60	2.20 max.	0.50 max.		0.30 max.	0.20 max.	0.25 max.

- 3.1.2 Type III: Type III cut wire steel shot shall be made from wire conforming to SAE J441.

3.2 Breakdown resistance:

The grit and shot shall withstand the necessary impact in use without excessive breaking or deformation of the particles.

3.3 Shape and surface condition:

- 3.3.1 Grit: Type I and Type II grit shall consist entirely of angular particles produced by crushing cast iron or heat treated cast steel, and shall be free as far as practicable from rounded particles.

- 3.3.2.1 Cast steel or cast iron shot shall be spherical in shape and free as far as practical from elongated and angular particles.