

MIL-Q-22631B (WEP)  
5 March 1964  
Superseding  
Mil-Q-22631A (WEP)  
21 September 1961

## MILITARY SPECIFICATION

### QUALITY CONTROL OF METAL WROUGHT PRODUCTS EXCEPT FORGINGS PROCURED TO NON-GOVERNMENTAL SPECIFICATIONS

#### 1. SCOPE

1.1 This specification, when specifically referenced in connection with material specifications, drawings, or standards issued by non-governmental organizations, is intended to provide sampling and test procedures by which compliance with the specified materials requirements may be ascertained. It is intended to supplement only those specifications which describe the higher quality materials, and then only when the sampling and inspections provisions of the industry specification are not in consonance with the material's quality level represented by the respective properties requirements.

1.2 Omission from this specification of confirmatory test for certain materials properties or attributes controlled by the specification does not relieve the vendor of this obligation to furnish materials which comply in all respects with applicable requirements.

1.3 In the event of conflict between requirements specified herein and the quality control provisions of an applicable materials specification, this specification shall be considered as the minimum acceptable requirement and shall take precedence except when the conflicting requirement is more stringent.

#### 2. APPLICABLE DOCUMENTS

2.1 The following documents, of the issue in effect on the date of invitation for bids, form a part of this specification to the extent specified herein.

##### SPECIFICATIONS:

MIL-H-6875	Heat Treatment of Steels (Aircraft Practice) Process for
MIL-H-6088	Heat Treatment of Aluminum Alloys: Process for
MIL-H-6868	Inspection Process, Magnetic Particle
MIL-H-6866	Inspection, Penetrant, Method of
MIL-H-6865	Inspection, Radiographic

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## STANDARDS:

### Federal

FED TEST METHOD STD. NO. 151 Metals; Test Methods

(Copies of specifications, standards, and drawings required by contractors in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

## OTHER PUBLICATIONS

### SAE Aeronautical Materials Specifications

AMS - 2635	Radiographic Inspection
AMS - 2645	Fluorescent Penetrant Inspection
AMS - 2640	Magnetic Particle Inspection
AMS - 2646	Contrast Dye Penetrant Inspection

Copies of AMS Specifications are obtainable from the Society of Automotive Engineers, 485 Lexington Avenue, New York 17, New York.

## ASTM STANDARDS

A262	Rec. Practice for Boiling Nitric Acid Test for Corrosion-Resisting Steels.
A233	Mild Steel Arc-Welding Electrodes.
E23	Methods for Notched Bar Impact Testing of Metallic Materials.
E45	Recommended Practice for Determining the Inclusion Content of Steel.
E112	Method for Estimating the Average Grain Size of Non-Ferrous Metals, Other Than Copper and Their Alloys.

ASTM Standards are obtainable from the American Society for Testing Materials, 1916 Race Street, Philadelphia 3, Pennsylvania

## 3. REQUIREMENTS

### 3.1 Controlled Properties and Acceptable Variation -

3.2 The dimensions, properties, capabilities and characteristics of the metal products shall be as specified by the material specification or statement of requirements invoked by the contract or purchase order.

## 4. QUALITY ASSURANCE PROVISIONS

4.1 Acceptance Tests - The related sampling, inspection and test

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procedures detailed herein are individually applicable whenever the procurement specification establishes requirements for materials attributes which the detailed test method is intended to assess or confirm.

4.2 Responsibility for Tests. - The supplier shall furnish all samples and shall be responsible for accomplishing the required tests at a laboratory acceptable to the using agency. Reports of the results of tests shall be retained on file at the suppliers' facility and shall be available for examination by customers for one year from date of acceptance of the materials by the purchaser and copies of the reports of tests other than chemical analysis of aluminum and magnesium alloys shall be furnished when required by the contract or purchase order.

4.3 Sampling, Inspection and Tests of Metals and Alloys other than Aluminum and Magnesium.

4.3.1 Inspection Lot - An inspection lot shall be considered the submitted product of one heat (melt) for purpose of chemical analysis and hardenability, and will therefore include items of several dimensional groups within the same product form. An inspection lot for other characteristics shall be those items from a single heat (melt) which are of the same size in respect to thickness or diameter of bars or diameter and wall thickness in the case of pipe and tubing. For flat rolled products, an inspection lot shall be one heat (melt) and one nominal thickness, the intent being to allow a lot to contain several lengths, widths, or circle diameters, provided they are of the same heat. For wire, an inspection lot shall consist of the wire of one size and from one mill coil.

For each inspection lot, and for each applicable test as specified in Paragraph 4.1, the inspector shall select sample items in sufficient number for the tests as indicated by Table 1.

4.3.2 Test Methods - The inspector or the inspecting laboratory shall select the applicable test method for each type of test from those shown in Table II. The dimensions of the specimen shall be those appropriate to the size and shape of the material being inspected. The appropriate reference specification shown under Paragraph 2 shall govern the testing.

4.3.2.1 Tensile Test Method for Wire - The tensile test specimen shall be a full section of wire not less than 15 inches long. The jaws of the testing machine, with the specimen in place, shall be not less than 10 inches apart. Specimens shall be tested in accordance with Method 211 of Federal Test Method Std. No. 151.

4.3.2.2 Bend Test Method for Wire - Specimens shall be straight and not less than 10 inches long. One end of the specimen shall be clamped in a vise, the jaws of which shall be rounded to a radius of 3/16 inch and the wire bent back and forth, at a uniform rate through

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TABLE I

Sampling of Metal Mill products other than Aluminum and Magnesium

Type of Test:	Number of Tests per Inspection Lot			
	Flat Rolled	Bars	Wire	Tubing
Visual examination for dimensions, finish, defects, marking	Table III	III	III	III
Chemical Analysis of identified materials (color code not adequate)	1	1	1	1
Materials without identification marking.	Table IV	IV	IV	IV
Hardness (Brinell or Rockwell)	5	5	-	5
Tensile. When lot is in hardened condition, test samples shall represent each thermal process or amount of reduction used.	3	3	3	3
Bend 3% of cut length, or 1 per coil		1	3	-
Impact (Charpy or Izod)	Table V	V	-	I
Torsion (Twist)	-	- One from the first, last and intermediate shipping coil from each lot		
Wrapping	-	- Table VI -		
Internal Pressure (tubing) (Hydrostatic)	-	-	- 2 units per 1,000 feet up to 5,000 ft., plus 2 units for each additional 5,000 ft.	
*Hardenability - Pieces individually marked at source.	1	1	-	1
Not individually marked at source for identification.	Table V	V	-	V
Microstructure (Nonmetallic Inclusions, segregation)	5	5	5	5
Macroetch (Steel Bars)	-	5	-	-
Grain Size and Decarburization	1	1	1	1
Intergranular Corrosion Resistance - Samples to represent each size and shape, manufactured and heat treated by the same process.	J	I	I	I
Weldability	1	1	-	1
Nondestructive Testing	10	10	-	10

\*In the event partial shipments are made from the same heat, it shall be unnecessary to test each subsequent lot once the heat has been tested.

TABLE II  
APPLICABLE TEST METHODS

Type of Test	PRODUCT FORM		
	Flat Rolled (Test References)	Pipe (Test References)	Pipe & Tubing (Test References)
Chemical Analysis	*Method 111 or 112 for all products.	Method 111 to be used in case of dispute	
Hardness (Brinell)	Method 242*		Method 242
Hardness (Rockwell)	Method 243*		Method 243
Tensile	Method 211*		Method 211
Bend (transverse unless otherwise specified).		Par. 4.3.2.1	
Impact (Charpy)	Method 231*		
(Isod)	Method 221*		
Torsion (Twist)			
Wrapping			
Flaring			
Internal Pressure (Hydrostatic)			
Hardenability (Materials inch and over in diameter or thickness)	Method 711		Method 711
(Under 1 inch in diameter or thickness)	Par. 4.3.2.7		Par. 4.3.2.7
Macroetch	Method 321*		Method 321
Microstructure	E45**	E45	E45
(Nonmetallic Inclusions)			
Grain Size	Method 311*	Method 311	Method 311
Decarburization	Par. 4.3.2.8	Par. 4.3.2.8	Par. 4.3.2.8
Intergranular Corrosion (Strauss)	Method 821*	Method 821	Method 821
(Huey)	A262**	A262	A262
Weldability	Par. 4.3.2.9	Par. 4.3.2.9	Par. 4.3.2.9
Non-destructive***			
(Magnetic Particle)	AMS 2301, MIL-1-6868		AMS 2301, MIL-1-6868
(Penetrant)	MIL-1-6866, AMS 2645, AMS 246		MIL-1-6866, AMS 2645, 2646
Radiographic	MIL-1-6865, AMS 2635		MIL-1-6865, AMS 2635

\*Applicable Reference - Fed. Test Mtd. Std. 151    \*\*Applicable Reference - ASTM  
\*\*\* Applicable Reference - See par. 4.3.2.10

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TABLE III

<u>Lot Size</u>	<u>Sample Size</u>	<u>Acceptance Number</u>
1 to 15	all	0
16 to 180	15	0
181 to 300	35	0
301 to 500	50	1
over 500	75	2

TABLE IV

<u>Lot Size</u>	<u>Sample Size</u>	<u>Acceptance Number</u>
1 to 7	all	0
8 to 40	7	0
41 to 110	15	1
111 to 180	25	2
181 to 301	35	3
over 301	50	4

TABLE V

<u>Lot Size</u>	<u>Sample Size</u>	<u>Acceptance Number</u>
1 to 65	4	0
66 to 110	5	0
111 to 300	7	0
310 to 500	10	0
501 to 800	15	0
over 800	25	0

TABLE VI

<u>Lot size in feet of tubing</u>	<u>Sample</u>	<u>Sample size in pieces of tubing</u>	<u>Accumulative acceptance number</u>	<u>Accumulative rejection number</u>
20,000 or less	First	7	1	3
	Second	14	2	3
20,001 to 50,000	First	10	1	4
	Second	20	3	4

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an angle of 180°. Each movement of 90° in either direction shall be counted as one bend. The rate of bending shall be limited to avoid undue heating of the wire. Guides shall be so placed that the wire will always be in a plane normal to the jaws of the vise

#### 4.3.2.3 Torsion Test of Wire

4.3.2.3.1 Wire Over 0.032 Inch Diameter - Specimens shall be not less than 10 inches in length. One end shall be clamped in the fixed head of the testing machine, the opposite end in the movable head. The distance between the clamps shall be between 8 and 8.5 inches. The wire shall be twisted at a uniform rate, in one direction, until failure occurs. The rate of twisting shall not exceed 33 rpm for wire diameters 0.125 and less, or 20 rpm for wires of larger diameters. Sufficient longitudinal tension shall be applied to prevent kinking during the test.

4.3.2.3.2 Wire 0.032 Inch Diameter and Less - The torsion specimen shall be not more than 30 inches long. The center of the specimen shall be passed around a hook held in the movable head of the testing machine. The ends shall be clamped together in the stationary head and the test conducted as above for wire over 0.032 inch diameter.

4.3.2.4 Wrapping Test of Wire - The wire shall be wrapped 8 consecutive times around a mandrel having a diameter equal to the diameter of the wire, maintaining a pitch approximately equal to the diameter of the wire. The wire shall be examined for the occurrence of splits, fractures, or the other defects as defined by the specification.

4.3.2.5 Flaring Test of Tubing - The end to be flared shall be cut square with the surface smooth and flat (not round) and free from burrs. The specimen shall, at room temperature, be forced axially with steady pressure over a hardened and polished tapered steel pin having a 74° included angle, to produce a flare having the permanent expanded outside diameter specified in Table A.

TABLE A  
Flare, Inch, Dimension

Nominal OD	Expanded OD	Nominal OD	Expanded OD
0.188	0.200	0.750	0.937
0.250	0.359	1.000	1.187
0.312	0.421	1.250	1.500
0.375	0.484	1.500	1.721
0.500	0.656	1.750	2.106
0.625	0.781	2.000	2.356

Note: Tubing having an intermediate nominal outside diameter (OD) shall withstand the same degree of flaring, percentage wise, as the next larger nominal (OD).



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4.3.2.6 Internal Pressure Test - Tubes shall be stressed by internal hydrostatic pressure at pressure levels specified or required to produce the specified wall stresses.

4.3.2.7 Hardenability of Materials Under 1 Inch

4.3.2.7.1 Materials  $\frac{1}{4}$  Inch and Less in Thickness - Specimens 3 inches in length and  $\frac{1}{4}$  to two inches in width shall be cut from the sample austenitized at temperatures as specified by MIL-H-6875 for the respective type of steel or as specified by the applicable specification and quenched in the specified medium. Hardness tests shall be conducted in accordance with Method 243 of Federal Test Method Std. No. 151.

4.3.2.7.2 Materials  $\frac{1}{4}$  (over) to 1.00 Inch in Thickness - Specimens 3 inches in length and of width equal to or greater than the thickness shall be austenitized and quenched as specified by specification MIL-H-6875 for the particular type of steel involved or by the applicable specification. Specimens shall be sectioned at the midpoint and normal to the longitudinal axis. Hardness tests in accordance with Method 243 of Federal Test Method Std. No. 151 shall be made near the center of the section.

4.3.2.7.3 Alloys Other Than Standard Grades of Steels - Materials  $\frac{1}{4}$  Inch and Under - Specimens shall be heat treated in accordance with the requirements of the applicable specification or the alloy producers recommended practice (proprietary alloys) and subjected to tensile tests in accordance with Method 211 of Federal Test Method Std. No. 151 and/or other tests as specified by the detail specification.

4.3.2.8 Decarburization of Tubing, Sheet, Strip or Wire

4.3.2.8.1 Permissible Limit Specified as Hardness Range -

4.3.2.8.1.1 Preparation - Specimens exhibiting portions of the original surface shall be austenitized from the temperatures specified and quenched in accordance with Specification MIL-H-6875 for the respective material.

4.3.2.8.1.2 Method - Hardness shall be determined by Method 243 (Rockwell A) of Federal Std. 151. The average hardness (surface and sub-surface) shall be the average of 3 determinations made adjacent to each other on the same specimen. Surface hardness determinations shall be made on a clean but unground and unpolished original surface of the sample. Sub-surface hardness tests shall be made in a depression ground to a depth of approximately 0.020 inch or  $\frac{1}{3}$  the thickness of the specimen, whichever is less.



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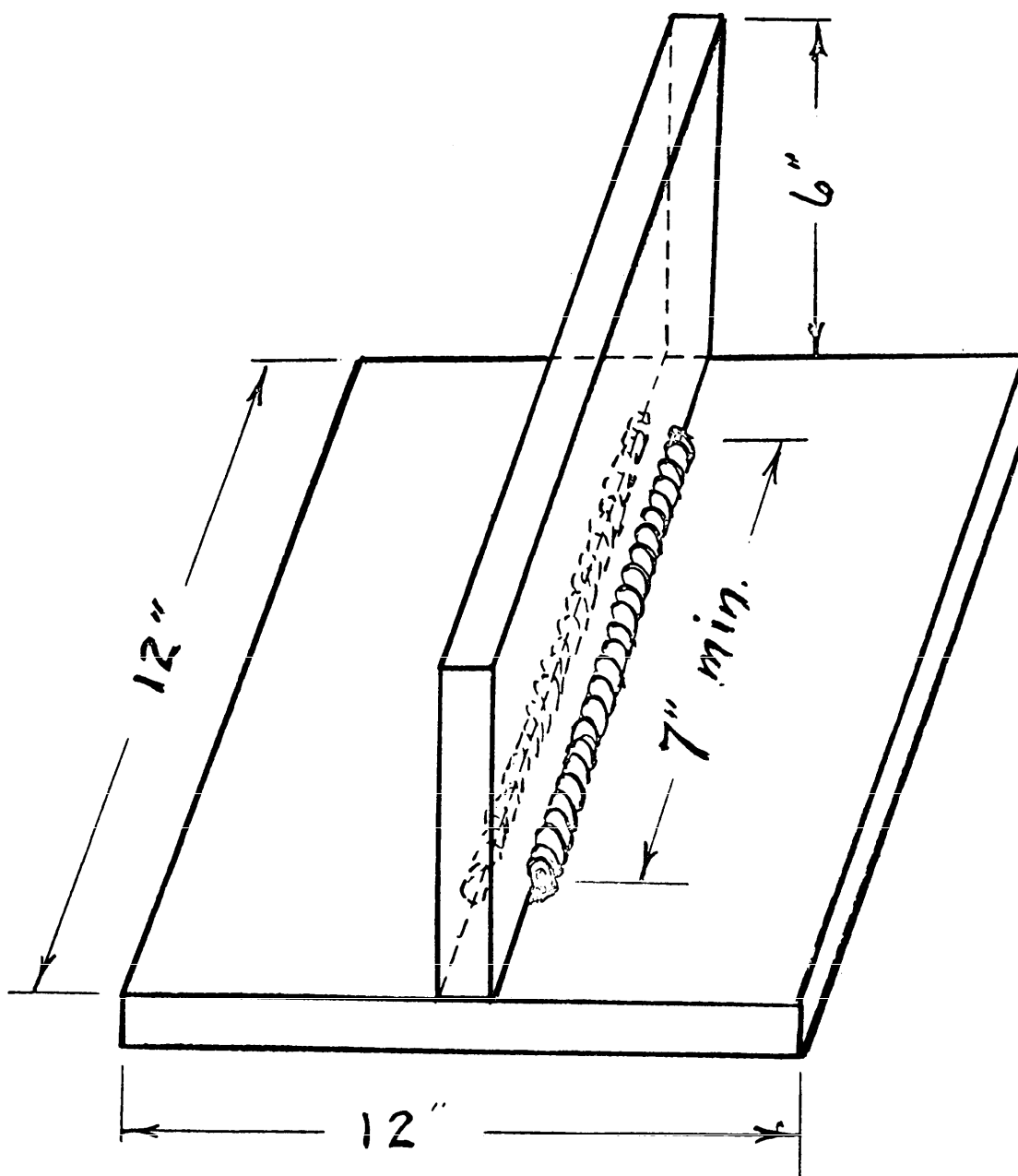


FIGURE 1 - TEE JOINT SPECIMEN



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4.3.2.8.2 Limits Specified as Variation of Macrostructure - The depth of the zones of complete and partial decarburization below a surface shall be determined by the examination of a metallographic specimen, or specimens, representing the entire cross section or one inch of the original surface, whichever is less. Specimens from rectangular shapes shall include at least one corner. Specimens shall be polished to appropriate fineness, suitably etched, and examined at not less than 100 diameters magnification.

4.3.2.9 Weldability Test of Steels - Samples consisting of two flat test plates, roughly 6 by 12 inches and 12 by 12 inches, shall be cut from products 1/4 inch or more in thickness whenever practicable. When the shape or dimensions of the unit products comprising the inspection lot do not permit the selection of test plates of the preferred sizes, other sizes and shapes which will permit the welding of double-fillet T-joints may be employed.

4.3.2.9.2 Preparation of Specimens - Joints shall be arc welded as indicated by Figure 1, by experienced welding operators employing E6011 electrodes conforming to ASTM standard A233-58T.

4.3.2.9.3 The exposed surfaces of all fillets and adjacent parent metal shall be inspected by magnetic particle or penetrant methods for weld cracking. Specimens  $2\frac{1}{2}$  T in width shall be cut transverse to the direction of welding and these specimens subjected to bending as indicated by Figure 2. The presence of cracks in the base metal in or near the edge of a fillet, or failure to withstand bending to an included angle of  $120^\circ$ , shall be cause for rejection of the lot.

4.3.2.10 Tests for Discontinuities - Materials specifications suitable for use in the procurement of special quality structural stock or shapes commonly specify limits on harmful defects and discontinuities, but may not indicate appropriate methods for locating or assuring freedom from defects. When the inspection method is indicated, the mill products presented for acceptance shall be inspected in accordance with the respective process specifications of Table II. When the method is not defined, any one of a variety of methods acceptable to the procuring agency may be used. Applicable methods include magnetic particle (applicable to ferromagnetic materials only), fluorescent penetrant, visible dye penetrant, anodic treatment (of aluminum alloys), radiographic and ultrasonic methods.

4.11 Rejection - When one or more specimens fail to meet the specified requirements, the lot shall be rejected. The units found defective during inspection shall be rejected whether or not the remainder of the lot is acceptable.

Resubmitted Lots - Materials from lots found unacceptable shall not be resubmitted for acceptance unless all units are re-examined or re-tested and all defectives removed or defects corrected.

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#### 4.4 Sampling, Inspection, and Tests of Aluminum and of Magnesium Alloys.

4.4.1 Inspection Lot - An inspection lot of aluminum or of magnesium alloys shall consist of mill forms of the same shape, alloy, temper, size and nominal dimensions submitted for inspection at one time.

4.4.2 Examination of Product - Units of product shall be examined visually for defective workmanship, surface condition, identification marking and packaging.

4.4.3 Sampling and Inspection for Dimensions Except Thickness and Crown of Flat Rolled Product - Materials which are known to have been produced by production methods and dimensional controls acceptable to the cognizant government inspector (at the producer's plant) need not be reinspected. Materials not produced under conditions as outlined above shall be sampled in accordance with Table III:

4.4.3.1 Inspection for Thickness and Crown of Sheets - Samples selected in accordance with Table III shall be inspected by measuring the thickness of five locations distributed along and one-half inch from a longitudinal edge with respect to the rolling direction and at additional locations near the center of the sheet prior to cutting.

#### 4.4.4 Chemical Composition, Ingot Analysis

4.4.4.1. Sampling in facility operating under a quality control procedure acceptable to the Government. - At least one sample shall be taken from each group of ingots of the same alloy poured simultaneously from the same source of molten metal by the producer, and analyzed to determine conformance with the chemical composition requirements. Ingots not conforming to the requirements of this specification shall be rejected. Ingot analysis records shall be available to the cognizant Government inspector.

4.4.4.2 Mill Product Analysis - Unless compliance with 4.4.4.1 is established, analysis shall be made as described in Federal Test Method Std. No. 151, Methods 111 or 112, on samples representing each 4000 pounds or less of material comprising the lot, except that not more than one analysis shall be required per piece.

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#### 4.4.5 Response to Heat Treatment

4.4.5.1 Sampling - Two units of product shall be selected to represent each lot as defined by 4.3.1.

4.4.5.2 Method - Specimens shall be heat treated in accordance with specification MIL-H-6088 for aluminum alloys. Heat treated specimens shall be prepared and tested in accordance with Method 211 of Federal Test Method Std. No. 151.

4.4.5.2.1 Specimens from material to be tested in the solution treated temper may be tested at any time after completion of the treatment. In the event specimens tested less than four days after solution treatment fail to develop the required properties, the test may be discarded and additional tests made on specimens that have been permitted to age at room temperature not less than four days.

#### 4.4.6 Tensile Properties

4.4.6.1 Sampling for Sheet and Plate - One sample shall be selected for each 2000 pounds or less of sheet and for each 4000 pounds or less of plate comprising the lot, except that in no case shall less than two samples represent a lot. Not more than one specimen shall be taken from the same sheet or plate when the lot consists of more than one. When a unit of products exceeds 4000 pounds in weight it is not necessary to take more than two samples.

4.4.6.2 Sampling of Wire, Rod, Bar, Tube and Shapes - From materials having a nominal weight of less than one pound per lineal foot, one sample shall be taken from each lot weighing 500 pounds or less; from lots weighing more than 500 pounds, one additional sample shall be taken from each 1000 pounds, or fraction thereof in excess of the first 500 pounds. For materials having a nominal weight of 1 pound or more per lineal foot, one sample be taken from each lot consisting of 500 feet or less; from lots consisting of more than 500 feet, one additional sample shall be taken from each 1000 feet or fraction thereof in excess of the first 500 feet.

4.4.6.3 The location from which test specimens are cut from the sample and orientation with respect to the major direction of grain flow during reduction to size (by rolling, extruding, drawing, etc.) shall be in accordance with the applicable specification.

4.4.6.4 Method - Specimens shall be prepared and tested in accordance with Method 211 of Federal Test Method Std. No. 151. When testing wire specimens the distance between the grips of the testing machine, with the specimen in place, shall be not less than 10 inches.

#### 4.4.7 Bend Test

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4.4.7.1 Sampling - Sampling for bend tests shall be selected in accordance with 4.4.6.1 and 4.4.6.2, as appropriate

4.4.7.2 Method - Preparation and tests of specimens shall be in accordance with Method 231 of Federal Test Method Std. No. 151.

4.4.8 Flareability of Tubing

4.4.8.1 Sampling - A sample consisting of 5 units of product shall be selected to represent each lot of tubing having a diameter of 3/16 inch and wall thickness 0.049 inch and over, or a diameter of 1/4 inch and over any wall thickness.

4.4.8.2 Method - The method of test shall be in accordance with 4.3.2.5.

4.4.9 Cladding Thickness (Aluminum Alloy Clad Plate Flat Sheet and Coiled Sheet).

4.4.9.1 Sampling - When a question arises concerning the uniformity of cladding, three transverse specimens approximately 3/4 inch in length shall be selected from different units to represent materials from one source, of the same section and cladding thickness.

4.4.9.2 Method - An edge of each sample, perpendicular to the plane of the sample and to the direction of rolling shall be suitably polished, etched with Kollers or other suitable etch to differentiate between core and cladding material, and examined at 100 magnifications. The maximum and the minimum cladding thickness shall be measured in each of 5 fields approximately 1/10 inch apart along both sides of the edge of each specimen. The average of the 10 measurements on each side of the exposed edge of each specimen is the average cladding thickness of the specimen. When one or more defectives are found, the lot shall be rejected.

4.4.10 Rejection - The requirements of 4.3.11 are applicable

5. Packaging - Not applicable

6. Notes

6.1 Intended Use - This document is intended to supply quality control requirements commensurate with the properties requirements of certain industry-generated specifications covering premium-quality high integrity metal mill products suitable for use in highly stressed or critical components of military equipment. It is intended to supplement only those specifications indicated above which, for reasons such as flexibility of application, so not include means for verifying compliance with stated properties requirements or the standards for acceptance or material.

## 6.2 Definitions

6.2.1 Inspection - The processes of measuring, examining, testing, or otherwise comparing the properties, behavior, or performance of sample or unit of product with the specified requirements.

6.2.2 Sample - The aggregate units of product selected at random or as otherwise specified to represent a lot of material for purposes of inspection.

6.2.3 Unit of Product - An entity (or unit) of product selected from a lot and comprising a portion of a sample.

6.2.4 Specimen - The portion of a sample prepared specifically for the intended test.

6.2.5 Capability Requirement - A requirement for which no assurance of compliance is required at the time of delivery of materials for reasons of cost, complexity, or lack of appropriate inspection test method. The reason for defining capability requirements is to define the vendor's responsibility for materials properties.

6.2.6 Acceptance Number - The acceptance number is the limiting number of defective units which may exist among the sample units representing a lot acceptable to the purchaser.

6.2.7 Certified - Certified as used herein refers to an inspection lot or lots of metal mill products identified with a production quantity (melt, quality) of alloy which has been sampled and satisfactorily tested in strict compliance with production control procedures approved by the government inspector at the production facility, accompanied by test reports showing compliance with specified properties requirements or by specific references to test reports maintained at the production facility and available to the procuring activity at any time within one year from date of delivery.

Notice. When Government drawings, specification, or other data are used for any other purpose other than in connection with a definitely related Government procurement operation, the United States Government thereby incurs no responsibility nor any obligation whatsoever; and the fact that the Government may have formulated, furnished, or in any other way supplied the said drawings, specifications or other data is not to be regarded by implication or otherwise as in any manner licensing the holder or any other person or corporation or conveying any rights or permission to manufacture, use, or sell any patented invention that may in any way be related thereto.



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<p style="text-align: center;"><u>INSTRUCTIONS</u></p> <p>This sheet is to be filled out by personnel either Government or contractor, involved in the use of the specification in procurement of products for ultimate use by the Department of Defense. This sheet is provided for obtaining information on the use of this specification which will insure that suitable products can be procured with a minimum amount of delay and at the least cost. Comments and the return of this form will be appreciated. Fold on lines on reverse side, staple in corner, and send to preparing activity (as indicated on reverse hereof).</p>		
SPECIFICATION		
ORGANIZATION (Of submitter)		CITY AND STATE
CONTRACT NO.	QUANTITY OF ITEMS PROCURED	DOLLAR AMOUNT \$
MATERIAL PROCURED UNDER A		
<input type="checkbox"/> DIRECT GOVERNMENT CONTRACT <input type="checkbox"/> SUBCONTRACT		
1. HAS ANY PART OF THE SPECIFICATION CREATED PROBLEMS OR REQUIRED INTERPRETATION IN PROCUREMENT USE? A. GIVE PARAGRAPH NUMBER AND WORDING.		
B. RECOMMENDATIONS FOR CORRECTING THE DEFICIENCIES.		
2. COMMENTS ON ANY SPECIFICATION REQUIREMENT CONSIDERED TOO RIGID		
3. IS THE SPECIFICATION RESTRICTIVE? <input type="checkbox"/> YES <input type="checkbox"/> NO IF "YES", IN WHAT WAY?		
4. REMARKS (Attach any pertinent data which may be of use in improving this specification. If there are additional papers, attach to form and place both in an envelope addressed to preparing activity)		
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