AEROSPACE
MATERIAL SPECIFICATIONS
SOCIETY OF AUTOMOTIVE ENGINEERS, Inc. 485 Lexington Ave., New York 17, N.Y.

AMS 4951A

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TITANIUM WIRE, WELDING

1. ACKNOWLEDGMENT: A vendor shall mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.

2. APPLICATION: Primarily for inert gas arc welding.

3. COMPOSITION: The product shall conform to the following:

Iron	0.30 max
Manganese	0.20 max
Oxygen	0.18 max
Carbon	0.10 max
Nitrogen	0.07 max
Hydrogen	0.015 (150 ppm) max
Titanium	remainder

3.1 Check Analysis: Composition variations shall meet the requirements of the latest issue of AMS 2249.

4. CONDITION: Annealed and descaled.

5. TECHNICAL REQUIREMENTS:

5.1 Tensile Properties:

Tensile Strength, psi	50,000 - 80,000

5.2 Welding: Melted wire shall flow smoothly and evenly during welding and shall be capable of producing acceptable welds.

5.3 Spooled Wire: Shall be closely wound in layers but adjacent turns within a layer need not necessarily be touching; shall be wound so as to avoid producing kinks, waves, and sharp bends; and shall be free to unwind without restriction caused by overlapping or wedging. The outside end of the spooled wire shall be so treated that it may be readily located.

5.4 Heat: Wire on each spool shall be one continuous length from the same heat of material. Cut lengths in any one package shall be from the same heat of material.

6. QUALITY: Material shall be produced by multiple melting under vacuum using consumable electrode process, unless otherwise permitted. Wire shall be uniform in quality and condition, clean, sound, smooth, and free from foreign materials and from internal and external imperfections detrimental to welding operations, operation of welding equipment, or properties of the deposited weld metal.