

AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
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Revised

ALLOY WIRE, CORROSION AND HEAT RESISTANT
Cobalt Base - 20Cr - 10Ni - 15W

1. ACKNOWLEDGMENT: A vendor shall mention this specification number in all quotations and when acknowledging purchase orders.
2. APPLICATION: Primarily for use as bare wire filler metal for welding corrosion and heat resistant alloys of similar composition. For use also as stapling pins requiring high strength up to approximately 1500 F, and oxidation resistance up to 2000 F.
3. COMPOSITION:

Check Analysis			
Under Min or Over Max			
Carbon	0.05 - 0.15	0.01	0.01
Manganese	1.00 - 2.00	0.04	0.04
Silicon	1.00 max	--	0.05
Phosphorus	0.040 max	--	0.005
Sulfur	0.030 max	--	0.005
Chromium	19.00 - 21.00	0.25	0.25
Nickel	9.00 - 11.00	0.15	0.15
Tungsten	14.00 - 16.00	0.10	0.10
Iron	3.00 max	--	0.01
Cobalt	remainder		

4. CONDITION: Drawn, and bright annealed.
5. TECHNICAL REQUIREMENTS: Melted wire shall flow smoothly and evenly during welding and shall be capable of producing acceptable welds.
6. QUALITY: Wire shall be uniform in quality and condition, clean, sound, smooth, and free from foreign materials and from internal and external defects detrimental to fabrication or to performance of parts, or to its use for welding purposes.
7. TOLERANCES:
 - 7.1 Unless otherwise specified, straight lengths shall not vary in length more than plus and minus 1/4 in. from the length ordered.
 - 7.2 Unless otherwise specified, diameter of the wire shall not vary more than plus and minus 0.002 in. from the size ordered.
8. REPORTS:
 - 8.1 Unless otherwise specified, the vendor of the product shall furnish with each shipment three copies of a report of the results of tests for chemical composition of each heat in the shipment. This report shall include the purchase order number, heat number, material specification number, size, and quantity from each heat.

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