

AERONAUTICAL MATERIAL SPECIFICATIONS

AMS 5616C

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

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STEEL, CORROSION AND MODERATE HEAT RESISTANT 13Cr - 2Ni - 3W

1. ACKNOWLEDGMENT: A vendor shall mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.
- ∅ 2. FORM: Bars, forgings, forging stock, and mechanical tubing.
3. APPLICATION: Primarily for parts and assemblies, such as compressor wheels and blades, requiring oxidation resistance up to 1000 F. Strength at the higher temperatures is superior to that of the standard 12Cr type.
4. COMPOSITION:

		Check Analysis	
		Under	Min or Over Max

	Carbon	0.15 - 0.20	0.01	0.01
	Manganese	0.50 max	--	0.03
	Silicon	0.50 max	--	0.05
∅	Phosphorus	0.040 max	--	0.005
	Sulfur	0.030 max	--	0.005
	Chromium	12.00 - 14.00	0.15	0.15
	Nickel	1.80 - 2.20	0.07	0.07
	Molybdenum	0.50 max	--	0.03
	Tungsten	2.50 - 3.50	0.10	0.10
	Aluminum	0.15 max	--	--
	Copper	0.50 max	--	0.03
	Tin	0.05 max	--	--

5. CONDITION:

- 5.1 Bars: All hexagons, and other bars 2.75 in. and under in diameter or distance between parallel sides shall be cold finished. All bars shall be annealed, in a machinable condition, having hardness not higher than Brinell 311 or equivalent.
- ∅ 5.2 Tubing: Cold finished, having hardness not higher than Brinell 311 or equivalent.
- 5.3 Forgings: As ordered.
- 5.4 Forging Stock: As ordered by the forging manufacturer.

6. TECHNICAL REQUIREMENTS:

- 6.1 Hardenability: Material 0.375 in. and less in thickness and 0.375 in. thick specimens cut from larger bars, tubes, and forgings shall be capable of meeting the following test:

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