

AMS 6414 / 6415 - 4340

Additional Information

Popular industry specifications:

AMS 6414 - VAR	299-947-055 (Bell Helicopter)
AMS 6415 (Air Melt)	SS 9702
AMS-S-5000 (Air Melt)	

Chemical Properties

Element	Chemical Composition %
Carbon (C)	0.40
Manganese (Mn)	0.75
Silicon (Si)	0.30
Chromium (Cr)	0.80
Nickel (Ni)	1.80
Molybdenum (Mo)	0.25
Iron (Fe)	Balance

Heat Treatment

Normalise	871 - 927 °C, air cool
Austenitise	802 - 857 °C, oil quench
Temper	204 - 649 °C, depending on desired strength. Temper between 204 - 260 °C to obtain tensile strengths above 1793 MPa

Mechanical Properties

Bar Size (mm)	Temper (degc)	U.T.S	0.2% Y.S	Elong. (%)	R.A (%)
89 rd.	204	1905	1530	11.0	35.0
191 rd.	260	1830	1530	8.0	25.0
267 rd.	593	1140	1035	18.0	60.0

Physical Properties

Density	7.84 g/cm ³
Thermal Conductivity	37.48 W/m.K
Coefficient of Thermal Expansion	
Temp Range (°C)	mm / mm / °C
-18 - 93	11.3
-18 - 649	14.6
Specific Heat	0.107 cal/g/°C

Workability

Forging	Forge between 1066-1232 °C. Because of the air hardening capability of the material, preheating and furnace cooling or cooling in ash or lime after forging is recommended.
Machining	Normalise and then temper at approximately 629 °C for optimum machinability
Weldability	This steel can be welded by gas or arc fusion methods. Due to the air hardening characteristics of

the steel, the part should be annealed or normalised and tempered after welding

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