

Carpenter No. 484® (Carpenter Air-Hard; AISI A2)

Category : Metal , Ferrous Metal , Tool Steel , Air-Hardening Steel

Material Notes:

No. 484 tool steel is an air hardening steel capable of hardening throughout in heavy sections. It has been used for those applications in which the sections are very large and those involving extreme accuracy of size extreme hazards in hardening. It has a good balance between hardness and toughness. It is available as a DeCarb-Free product. DCF bars have been cold-finished in the mill therefore eliminating the need for bar bark removal. Applications: Large blanking dies, Thread roller dies, Long punches, Rolls, Master hubs, Trimming dies, Forming dies, Precision tools, Gauges, Coining dies Information provided by Carpenter Technology Corporation. No. 484® is a registered trademark of Carpenter Technology Corporation.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Carpenter-No-484-Carpenter-Air-Hard-AISI-A2.php

Physical Properties	Metric	English	Comments
Specific Gravity	7.87 g/cc	7.87 g/cc	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell C	44 - 45	44 - 45	Tempered at 1200°F
	63 - 64	63 - 64	As hardened
Tensile Strength, Ultimate	2050 MPa	297000 psi	when tempered at 400°F
Tensile Strength, Yield	1580 MPa	229000 psi	when tempered at 400°F
Elongation at Break	1.0 %	1.0 %	when tempered at 400°F
Reduction of Area	2.0 %	2.0 %	when tempered at 400°F
Modulus of Elasticity	203.4 GPa	29500 ksi	
Izod Impact Unnotched	100 J	73.8 ft-lb	when tempered at 400°F
Abrasion	57.7	57.7	loss in mm ³ , As-Hardened; ASTM G65
	107.7	107.7	loss in mm ³ , Tempered at 1200°F; ASTM G65

Thermal Properties	Metric	English	Comments
CTE, linear	10.7 µm/m-°C	5.94 µin/in-°F	
	@Temperature 20.0 - 100 °C	@Temperature 68.0 - 212 °F	
	13.2 µm/m-°C	7.33 µin/in-°F	
	@Temperature 20.0 -	@Temperature 68.0 -	

Thermal Properties	400 °C Metric	752 °F English	Comments
	14.4 µm/m-°C	8.00 µin/in-°F	
	@Temperature 20.0 - 750 °C	@Temperature 68.0 - 1380 °F	

Component Elements Properties	Metric	English	Comments
Carbon, C	1.0 %	1.0 %	
Chromium, Cr	5.25 %	5.25 %	
Iron, Fe	91.35 %	91.35 %	
Manganese, Mn	0.80 %	0.80 %	
Molybdenum, Mo	1.1 %	1.1 %	
Silicon, Si	0.30 %	0.30 %	
Vanadium, V	0.20 %	0.20 %	

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