

Carpenter R.D.S.® Alloy Tool Steel (Oil-Hard) (AISI L6)

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

Material Notes:

R.D.S. tool steel is an oil hardening die steel which combines extreme toughness with very little size change when heat treated. It is available as a DeCarb-Free product. DCF bars have been cold finished in the mill, eliminating the need for bar bark removal. Applications: Hobs, Collets, Punches, Forming Rolls, Blanking or forming dies, Thread roller dies, Embossing dies, Shear blades, Stamps, Swaging dies, Slitting shears, Slitting cutters, Clutch parts, Pawls, Dogs, Stops, Knuckle Pins, Spindles, Fingers, Indexing pins, Clutch pins. Information provided by Carpenter Technology Corporation. R.D.S.® is a registered trademark of Carpenter Technology Corporation.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Carpenter-RDS-Alloy-Tool-Steel-Oil-Hard-AISI-L6.php

Physical Properties	Metric	English	Comments
Specific Gravity	7.86 g/cc	7.86 g/cc	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell C	45 - 46	45 - 46	Tempered at 800°F
	61 - 62	61 - 62	As hardened
Tensile Strength, Ultimate	1950 MPa	283000 psi	when tempered at 400°F
Tensile Strength, Yield	1910 MPa	277000 psi	when tempered at 400°F
Elongation at Break	2.0 %	2.0 %	when tempered at 400°F
Reduction of Area	4.0 %	4.0 %	when tempered at 400°F
Modulus of Elasticity	207 GPa	30000 ksi	
Izod Impact Unnotched	298 J	220 ft-lb	when tempered at 400°F
Charpy Impact	5.00 J	3.69 ft-lb	V Notch, when tempered at 400°F
	284.7 J	210.0 ft-lb	tempered at 350°F
Charpy Impact, Unnotched	@Treatment Temp. 204 °C	@Treatment Temp. 400 °F	
Abrasion	74.8	74.8	loss in mm ³ , As-Hardened; ASTM G65
	139.1	139.1	loss in mm ³ , Tempered at 650°F; ASTM G65

Thermal Properties	Metric	English	Comments
CTE, linear	11.3 µm/m-°C	6.28 µin/in-°F	

Thermal Properties	@Temperature 20.0 - Metric 100 °C	@Temperature 68.0 - English 212 °F	Comments
	13.6 μm/m-°C	7.56 μin/in-°F	
	@Temperature 20.0 - 400 °C	@Temperature 68.0 - 752 °F	
	14.6 μm/m-°C	8.11 μin/in-°F	
	@Temperature 20.0 - 700 °C	@Temperature 68.0 - 1290 °F	
Transformation Temperature	730 °C	1350 °F	Ac₁

Component Elements Properties	Metric	English	Comments
Carbon, C	0.70 %	0.70 %	
Chromium, Cr	1.0 %	1.0 %	
Iron, Fe	95.95 %	95.95 %	As Balance
Manganese, Mn	0.35 %	0.35 %	
Nickel, Ni	1.75 %	1.75 %	
Silicon, Si	0.25 %	0.25 %	

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com

Email : sales@lookpolymers.com

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China