

Crucible Steel S7 (AISI S7) Tool Steel

Category : Metal , Ferrous Metal , Tool Steel , Mold Steel

Material Notes:

Crucible S7 is a shock resisting tool steel with excellent toughness and high strength, along with low to medium wear resistance. It has been widely used for many years to make chisels and punches which undergo shock loading, and has found increasing use for small plastic molds. S7 is easy to machine in the annealed condition and can be readily heat treated. It is deep hardening and in many cases (except for large sections) it can be air quenched, exhibiting minimal distortion on hardening. Due to its relatively high attainable hardness (HRC 58/60) it offers high compressive strength (resistance to deformation) while retaining good toughness. Crucible S7 is a versatile tool steel for both cold and warm shock applications. Information provided by Crucible Specialty Metals.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Crucible-Steel-S7-AISI-S7-Tool-Steel.php

Physical Properties	Metric	English	Comments
Density	7.83 g/cc	0.283 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Brinell	187 - 220	187 - 220	Annealed
Hardness, Rockwell C	58 - 60	58 - 60	
Modulus of Elasticity	207 GPa	30000 ksi	
Charpy Impact	125 J	92.2 ft-lb	Austenitizing Temperature- 955°C

Thermal Properties	Metric	English	Comments
CTE, linear	12.6 µm/m-°C	7.00 µin/in-°F	
	@Temperature 20.0 - 205 °C	@Temperature 68.0 - 401 °F	
	13.7 µm/m-°C	7.61 µin/in-°F	
	@Temperature 20.0 - 540 °C	@Temperature 68.0 - 1000 °F	
Thermal Conductivity	28.5 W/m-K	198 BTU-in/hr-ft ² -°F	
	@Temperature 95.0 °C	@Temperature 203 °F	
Shrinkage	-0.100 %	-0.100 %	Tempered at 400°F
	@Temperature 204 °C	@Temperature 400 °F	

Component Elements Properties	Metric	English	Comments
Carbon, C	0.55 %	0.55 %	

Chromium Co Component Elements Properties	93.5 % Metric	93.5 % English	Comments
Iron, Fe	93.5 %	93.5 %	As Remainder
Manganese, Mn	0.70 %	0.70 %	
Molybdenum, Mo	1.4 %	1.4 %	
Silicon, Si	0.35 %	0.35 %	
Vanadium, V	0.25 %	0.25 %	

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