钜研特殊钢

S-7

产品资料

苏州钜研精密模具钢材有限公司
Suzhou PROMAX Precision mould steel co., LTD
http://www.promaxs.com

AISI S7

AISI S7 is a general purpose air-hardening tool steel with high impact and shock resistance. It has good resistance to softening at moderately high temperatures. This combination of properties makes it suitable for many hot work and cold work applications. Excellent combination of high strength and toughness. Useful in moderate hot work as well as cold work work tooling. Added size stability when air hardened.

TYPICAL APPLICATIONS

Bull Riveters, Concrete Breakers (Moll Points), Riveting Dies, Powder Metal Dies, Notching Dies, Dowels, Drills, Drill Plates, Hubs, Plastic Mold Dies, Cold Forming Dies, Blanking Dies, Bending Dies, and Master Hobs.

TYPICAL ANALYSIS	TYPE S7 (UNS T41907)
Carbon (C)	.45/.55
Manganese (Mn)	.20/.80
Silicon (Si)	.20/1.00
Tungsten (W)	
Molybdenum (Mo)	1.30/1.80
Chromium (Cr)	3.00/3.50
Vanadium (V)	.30 max
Cobalt (Co)	
FORGING (a)	
Start forging at	1950-2050°F (1066-1121°C)
Do not forge below	1700°F (927°C)
NORMALIZING (b)	Do not normalize
ANNEALING (C)	
Temperature	1500-1550°F (816-843°C)
Rate of cooling, max. per hour	25°F (14°C)
Typical annealed hardness, Brinell	187-223
HARDENING	
Rate of heating	Slowly
Preheat Temperature	1200-1300°F (649-704°C)
Hardening temperature	1700-1750°F (927-954°C)
Time at temperature, minutes	15-45 (j)
Quenching medium	A or O (l)
TEMPERING	
Tempering temperature (Do not temper below 400°F)	400-1150°F (204-621°C)
Approx. tempered hardness, Rockwell C	45-57
WEAR RESISTANCE	Low to Medium
TOUGHNESS	Very High
RESISTANCE TO SOFTENING EFFECT OF ELEVATED TEMPERATURE	High
DEPTH OF HARDENING	Medium to Deep
MACHINABILITY	Medium to High
GRINDABILITY	Medium to High
DISTORTION IN HEAT TREATING	A: Lowest /O: Low
SAFETY IN HARDENING	A: Highest /O: High
RESISTANCE TO DECARBURIZATION	Medium

• Refer to pp. 14-24 thru 14-25 for notes (a) to (o) incl., explanation of letter 0, A, S, B and W.

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