

## Crucible Steel KAPSTAR® Mold Steel

Category : Metal , Ferrous Metal , Tool Steel

### Material Notes:

Kapstar is a high hard, precipitation hardening mold steel suitable for production of machined or EDM'd plastic mold, rubber mold, and zinc die casting die components. Kapstar is supplied at about 40 HRC and further heat treating is generally not required. It is a through-hardened steel that exhibits uniform hardness through thick and thin sections. It is easily machined, polished, textured, and welded. Information provided by Crucible Industries

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Crucible-Steel-KAPSTAR-Mold-Steel.php](http://www.lookpolymers.com/polymer_Crucible-Steel-KAPSTAR-Mold-Steel.php)

Physical Properties	Metric	English	Comments
Density	7.81 g/cc	0.282 lb/in <sup>3</sup>	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell C	32 - 42	32 - 42	
Modulus of Elasticity	206 GPa	29900 ksi	

Thermal Properties	Metric	English	Comments
CTE, linear	9.18 $\mu\text{m}/\text{m}\cdot\text{C}$	5.10 $\mu\text{in}/\text{in}\cdot\text{F}$	
	@Temperature 21.1 - 100 °C	@Temperature 70.0 - 212 °F	
	11.2 $\mu\text{m}/\text{m}\cdot\text{C}$	6.20 $\mu\text{in}/\text{in}\cdot\text{F}$	
	@Temperature 21.1 - 200 °C	@Temperature 70.0 - 392 °F	
	12.6 $\mu\text{m}/\text{m}\cdot\text{C}$	7.00 $\mu\text{in}/\text{in}\cdot\text{F}$	
	@Temperature 21.1 - 300 °C	@Temperature 70.0 - 572 °F	
	13.5 $\mu\text{m}/\text{m}\cdot\text{C}$	7.50 $\mu\text{in}/\text{in}\cdot\text{F}$	
	@Temperature 21.1 - 400 °C	@Temperature 70.0 - 752 °F	
Thermal Conductivity	2.19 W/m-K	15.2 BTU-in/hr-ft <sup>2</sup> -°F	
	@Temperature 21.1 °C	@Temperature 70.0 °F	
	2.33 W/m-K	16.2 BTU-in/hr-ft <sup>2</sup> -°F	
	@Temperature 100 °C	@Temperature 212 °F	
	2.44 W/m-K	16.9 BTU-in/hr-ft <sup>2</sup> -°F	
	@Temperature 200 °C	@Temperature 392 °F	

Thermal Properties	Metric	English	Comments
	2.61 W/m-K	16.7 BTU-in/hr-ft <sup>2</sup> -°F	
	@Temperature 300 °C	@Temperature 572 °F	

Component Elements Properties	Metric	English	Comments
Aluminum, Al	1.0 %	1.0 %	
Carbon, C	0.12 %	0.12 %	
Chromium, Cr	0.50 %	0.50 %	
Copper, Cu	0.20 %	0.20 %	
Iron, Fe	91.8 %	91.8 %	as balance
Manganese, Mn	1.5 %	1.5 %	
Molybdenum, Mo	0.25 %	0.25 %	
Nickel, Ni	4.0 %	4.0 %	
Silicon, Si	0.40 %	0.40 %	
Sulfur, S	0.10 %	0.10 %	
Vanadium, V	0.10 %	0.10 %	

## Contact Songhan Plastic Technology Co.,Ltd.

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