

## Crucible Steel CSM® 2 Mold Steel, AISI P20

Category : Metal , Ferrous Metal , Tool Steel

### Material Notes:

CSM 2 is a prehardened, general purpose mold steel suitable for production of machined or EDM'd plastic mold and zinc die casting die components. CSM 2 is supplied prehardened at two hardnesses: regular at about 300 BHN and high hard at about 340 BHN. Information provided by Crucible Industries

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Crucible-Steel-CSM-2-Mold-Steel-AISI-P20.php](http://www.lookpolymers.com/polymer_Crucible-Steel-CSM-2-Mold-Steel-AISI-P20.php)

Physical Properties	Metric	English	Comments
Density	7.86 g/cc	0.284 lb/in <sup>3</sup>	

Mechanical Properties	Metric	English	Comments
Hardness, Brinell	187 - 223	187 - 223	annealed
	293 - 321	293 - 321	stress relieved
	@Treatment Temp. 538 °C	@Treatment Temp. 1000 °F	
Hardness, Rockwell C	321 - 353	321 - 353	stress relieved
	@Treatment Temp. 510 °C	@Treatment Temp. 950 °F	
	26.5	26.5	
Hardness, Rockwell C	@Tempering Temp. 649 °C	@Tempering Temp. 1200 °F	
	39.5	39.5	
	@Tempering Temp. 538 °C	@Tempering Temp. 1000 °F	
	43.5	43.5	
	@Tempering Temp. 427 °C	@Tempering Temp. 800 °F	
	46.5	46.5	
	@Tempering Temp. 316 °C	@Tempering Temp. 600 °F	
48.5	48.5		
@Tempering Temp. 204 °C	@Tempering Temp. 400 °F		
Modulus of Elasticity	207 GPa	30000 ksi	

Thermal Properties	Metric	English	Comments
CTE, linear	12.3 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	6.84 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	
	@Temperature 21.1 - 260 $^{\circ}\text{C}$	@Temperature 70.0 - 500 $^{\circ}\text{F}$	
	12.8 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	7.10 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	
	@Temperature 21.1 - 427 $^{\circ}\text{C}$	@Temperature 70.0 - 800 $^{\circ}\text{F}$	
	13.7 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	7.60 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	
	@Temperature 21.1 - 538 $^{\circ}\text{C}$	@Temperature 70.0 - 1000 $^{\circ}\text{F}$	
Thermal Conductivity	3.46 W/m-K	24.0 BTU-in/hr-ft <sup>2</sup> - $^{\circ}\text{F}$	
	@Temperature 93.3 $^{\circ}\text{C}$	@Temperature 200 $^{\circ}\text{F}$	

Component Elements Properties	Metric	English	Comments
Carbon, C	0.30 %	0.30 %	
Chromium, Cr	1.7 %	1.7 %	
Iron, Fe	96.35 %	96.35 %	as balance
Manganese, Mn	0.75 %	0.75 %	
Molybdenum, Mo	0.40 %	0.40 %	
Silicon, Si	0.50 %	0.50 %	

## Contact Songhan Plastic Technology Co.,Ltd.

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