

## Crucible Steel CSM® 420 XL Stainless Steel

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

### Material Notes:

CSM 420 XL is the workhorse premium quality stainless mold steel designed for applications requiring a combination of corrosion resistance and wear resistance. It is double melted for the microstructural uniformity and microcleanliness levels that are required for critical applications and highly polished finishes. Molds made from CSM 420XL are resistant to the rust and pitting from water cooling or condensation, and can go in and out of extended storage with little maintenance. At HRC 48-52, CSM 420XL also has the highest hardness of the stainless mold steels, and it offers the greatest compressive strength and the best wear resistance. Information provided by Crucible Specialty Metals.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Crucible-Steel-CSM-420-XL-Stainless-Steel.php](http://www.lookpolymers.com/polymer_Crucible-Steel-CSM-420-XL-Stainless-Steel.php)

Physical Properties	Metric	English	Comments
Density	7.64 g/cc	0.276 lb/in <sup>3</sup>	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell C	51.3	51.3	Hardening Temperature- 1010°C; Tempering Temperature- 454°C
	52.5	52.5	Hardening Temperature- 1030°C; Tempering Temperature- 454°C
	53.2	53.2	Hardening Temperature- 1050°C; Tempering Temperature- 454°C
Modulus of Elasticity	200 GPa	29000 ksi	

Thermal Properties	Metric	English	Comments
CTE, linear	10.3 µm/m-°C	5.72 µin/in-°F	
	@Temperature 0.000 - 100 °C	@Temperature 32.0 - 212 °F	
	10.8 µm/m-°C	6.00 µin/in-°F	
	@Temperature 0.000 - 320 °C	@Temperature 32.0 - 608 °F	
Thermal Conductivity	24.9 W/m-K	173 BTU-in/hr-ft <sup>2</sup> -°F	
	@Temperature 93.0 °C	@Temperature 199 °F	
Shrinkage	-0.0400 %	-0.0400 %	

Component Elements Properties	Metric	English	Comments
Carbon, C	0.38 %	0.38 %	

Component Elements Properties	Metric	English	Comments
Iron, Fe	84.47 %	84.47 %	As Remainder
Manganese, Mn	0.50 %	0.50 %	
Silicon, Si	0.75 %	0.75 %	
Vanadium, V	0.30 %	0.30 %	

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