

## Crucible Steel PDCQ Premium Quality High Toughness H13 Steel

Category : Metal , Ferrous Metal , Tool Steel

### Material Notes:

Crucible PDCQ™ is a premium version of H13, manufactured to exceed die casting industry specifications. PDCQ has at least 10 ft. lbs room temperature transverse toughness. Its enhanced toughness promotes die life and minimizes failures due to cracking. Remelted and specially refined, PDCQ is an extremely clean steel which can be polished to a critical finish for injection molds. PDCQ is tested by an independent metallurgical laboratory for certification of the microstructural quality rating and toughness measurements. Information provided by Crucible Industries

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Crucible-Steel-PDCQ-Premium-Quality-High-Toughness-H13-Steel.php](http://www.lookpolymers.com/polymer_Crucible-Steel-PDCQ-Premium-Quality-High-Toughness-H13-Steel.php)

Physical Properties	Metric	English	Comments
Density	7.75 g/cc	0.280 lb/in <sup>3</sup>	

Mechanical Properties	Metric	English	Comments
Hardness, Brinell	192 - 235	192 - 235	
Hardness, Rockwell C	33	33	air cooled from 1875°F then tempered
	@Tempering Temp. 649 °C	@Tempering Temp. 1200 °F	
	40	40	
	@Tempering Temp. 621 °C	@Tempering Temp. 1150 °F	
	47	47	
Modulus of Elasticity	207 GPa	30000 ksi	air cooled from 1875°F then tempered
	52	52	
	@Tempering Temp. 538 °C	@Tempering Temp. 1000 °F	
Charpy Impact	12.2 J	9.00 ft-lb	air cooled from 1875°F then tempered; V-notch
	@Tempering Temp. 538 °C	@Tempering Temp. 1000 °F	
	12.2 J	9.00 ft-lb	
Charpy Impact	@Tempering Temp. 566 °C	@Tempering Temp. 1050 °F	air cooled from 1875°F then tempered; V-notch
	17.6 J	13.0 ft-lb	
Charpy Impact			air cooled from 1875°F then

Mechanical Properties	Metric @Tempering Temp. 575.4 °C	English @Tempering Temp. 1068 °F	tempered; V-notch Comments
	19.0 J	14.0 ft-lb	air cooled from 1875°F then tempered; V-notch
	@Tempering Temp. 593 °C	@Tempering Temp. 1100 °F	
	19.0 J	14.0 ft-lb	air cooled from 1875°F then tempered; V-notch
	@Tempering Temp. 649 °C	@Tempering Temp. 1200 °F	

Thermal Properties	Metric	English	Comments
CTE, linear	11.0 µm/m-°C	6.10 µin/in-°F	
	@Temperature 21.1 - 93.3 °C	@Temperature 70.0 - 200 °F	
	11.5 µm/m-°C	6.40 µin/in-°F	
	@Temperature 93.3 - 204 °C	@Temperature 200 - 400 °F	
	12.2 µm/m-°C	6.80 µin/in-°F	
	@Temperature 204 - 427 °C	@Temperature 400 - 800 °F	
	12.6 µm/m-°C	7.00 µin/in-°F	
	@Temperature 427 - 538 °C	@Temperature 800 - 1000 °F	
	13.1 µm/m-°C	7.30 µin/in-°F	
	@Temperature 538 - 649 °C	@Temperature 1000 - 1200 °F	
Thermal Conductivity	2.16 W/m-K	15.0 BTU-in/hr-ft²-°F	
	@Temperature 93.3 °C	@Temperature 200 °F	
	2.31 W/m-K	16.0 BTU-in/hr-ft²-°F	
	@Temperature 316 °C	@Temperature 600 °F	

Component Elements Properties	Metric	English	Comments
Carbon, C	0.40 %	0.40 %	
Chromium, Cr	5.2 %	5.2 %	
Iron, Fe	90.8 %	90.8 %	as balance
Manganese, Mn	0.35 %	0.35 %	
Molybdenum, Mo	1.3 %	1.3 %	

Component Elements Properties	Metric	English	Comments
Sulfur, S	<= 0.0030 %	<= 0.0030 %	
Vanadium, V	0.95 %	0.95 %	

Chemical Properties	Metric	English	Comments
Critical Temperature	849 °C	1560 °F	

## Contact Songhan Plastic Technology Co.,Ltd.

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