

Schmolz + Bickenbach Formadur® PH X Superclean Plastic Mold Steel

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

Material Notes:

Description: Formadur® PH X Superclean is a corrosion-resistant, martensitic precipitation hardened stainless steel

Characteristics: Excellent resistance to corrosion; Excellent polishability; Excellent dimensional stability; Good strength; and Good toughness

Applications: Formadur® PH X Superclean is recommended for tools/molds for the processing of corrosive plastics.
Information provided by Schmolz + Bickenbach

Order this product through the following link:

http://www.lookpolymers.com/polymer_Schmolz-Bickenbach-Formadur-PH-X-Superclean-Plastic-Mold-Steel.php

Physical Properties	Metric	English	Comments
Density	7.89 g/cc	0.285 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell C	34	34	
	@Treatment Temp. 593 °C, Time 14400 sec	@Treatment Temp. 1100 °F, Time 4.00 hour	
	38	38	
	@Treatment Temp. 551.7 °C, Time 14400 sec	@Treatment Temp. 1025 °F, Time 4.00 hour	
	41	41	
	@Treatment Temp. 496 °C, Time 14400 sec	@Treatment Temp. 925 °F, Time 4.00 hour	
	42	42	
	@Treatment Temp. 399 °C, Time 14400 sec	@Treatment Temp. 750 °F, Time 4.00 hour	
43	43		
@Treatment Temp. 454 °C, Time 14400 sec	@Treatment Temp. 850 °F, Time 4.00 hour		
44	44		
@Treatment Temp. 482 °C, Time 14400 sec	@Treatment Temp. 900 °F, Time 4.00 hour		
Tensile Strength	1120 MPa	162000 psi	38 HRC
	1190 MPa	172000 psi	40 HRC

Mechanical Properties	Metric 1241 MPa	English 18000 psi	Comments 42 HRC
Tensile Strength, Yield	1100 MPa	160000 psi	38 HRC
	@Strain 0.200 %	@Strain 0.200 %	
	1170 MPa	170000 psi	40 HRC
	@Strain 0.200 %	@Strain 0.200 %	
	1210 MPa	175000 psi	42 HRC
	@Strain 0.200 %	@Strain 0.200 %	
Elongation at Yield	12.2 %	12.2 %	40 HRC
	12.2 %	12.2 %	42 HRC
	12.8 %	12.8 %	38 HRC
Charpy Impact	33.9 J	25.0 ft-lb	Notched; at 38 HRC

Thermal Properties	Metric	English	Comments
CTE, linear	10.6 $\mu\text{m}/\text{m}\cdot\text{C}$	5.90 $\mu\text{in}/\text{in}\cdot\text{F}$	
	@Temperature 21.1 - 93.3 $^{\circ}\text{C}$	@Temperature 70.0 - 200 $^{\circ}\text{F}$	
	10.8 $\mu\text{m}/\text{m}\cdot\text{C}$	6.00 $\mu\text{in}/\text{in}\cdot\text{F}$	
	@Temperature 21.1 - 204 $^{\circ}\text{C}$	@Temperature 70.0 - 400 $^{\circ}\text{F}$	
	16.6 $\mu\text{m}/\text{m}\cdot\text{C}$	9.20 $\mu\text{in}/\text{in}\cdot\text{F}$	
	@Temperature 21.1 - 399 $^{\circ}\text{C}$	@Temperature 70.0 - 750 $^{\circ}\text{F}$	
Thermal Conductivity	16.6 W/m-K	115 BTU-in/hr-ft ² - $^{\circ}\text{F}$	
	@Temperature 21.1 $^{\circ}\text{C}$	@Temperature 70.0 $^{\circ}\text{F}$	
	18.0 W/m-K	125 BTU-in/hr-ft ² - $^{\circ}\text{F}$	
	@Temperature 149 $^{\circ}\text{C}$	@Temperature 300 $^{\circ}\text{F}$	
	22.3 W/m-K	155 BTU-in/hr-ft ² - $^{\circ}\text{F}$	
	@Temperature 504 $^{\circ}\text{C}$	@Temperature 940 $^{\circ}\text{F}$	

Component Elements Properties	Metric	English	Comments
Carbon, C	0.050 %	0.050 %	
Chromium, Cr	15 %	15 %	

Component Elements Properties	Metric	English	Comments
Iron, Fe	76.95 %	76.95 %	
Nickel, Ni	4.5 %	4.5 %	

Descriptive Properties	Value	Comments
Corrosion Properties/Weight loss rate	0.2% Hydrochloric Acid	0.0017 g/hm ²
	5% Acetic Acid	0.018 g/hm ²
	5% Nitric Acid	0.0015 g/hm ²
	5% Sulphuric Acid	5 g/hm ²

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com

Email : sales@lookpolymers.com

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China