

## Schmolz + Bickenbach P-20 Modified Plastic Mold Steel

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

### Material Notes:

Description: P-20 Modified is an improved pre-hardened mold steel that has been specially designed for large plastic molds; The material is forged on a 5000 ton press assuring maximum deformation during the forging process; Hardness loss in large cross sections is minimal  
 Characteristics: Good polishability; Good compressive strength; Minimum hardness loss in large cross section  
 Applications: Injection molds, Compression molds, Mold frame, Forming tools and Die holder  
 Stress Relieving (Heat Treatment): 850°F-900°F hold 1 hr/in; Cooling: Air cool; Note: Large cross sections require accurate control of temperatures and times  
 Information provided by Schmolz + Bickenbach

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Schmolz-Bickenbach-P-20-Modified-Plastic-Mold-Steel.php](http://www.lookpolymers.com/polymer_Schmolz-Bickenbach-P-20-Modified-Plastic-Mold-Steel.php)

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

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell C	33	33	
	@Treatment Temp. 621 °C, Time 7200 sec	@Treatment Temp. 1150 °F, Time 2.00 hour	
	35	35	
	@Treatment Temp. 593 °C, Time 7200 sec	@Treatment Temp. 1100 °F, Time 2.00 hour	
	40	40	
	@Treatment Temp. 566 °C, Time 7200 sec	@Treatment Temp. 1050 °F, Time 2.00 hour	
	43	43	
@Treatment Temp. 538 °C, Time 7200 sec	@Treatment Temp. 1000 °F, Time 2.00 hour		
47	47		
@Treatment Temp. 482 °C, Time 7200 sec	@Treatment Temp. 900 °F, Time 2.00 hour		
50	50		
@Treatment Temp. 427 °C, Time 7200 sec	@Treatment Temp. 800 °F, Time 2.00 hour		

Mechanical Properties	Metric	English	Comments
	@Treatment Temp. 371 Â°C, Time 7200 sec	@Treatment Temp. 700 Â°F, Time 2.00 hour	
Tensile Strength	1030 MPa  @Temperature -5.56 Â°C	150000 psi  @Temperature 22.0 Â°F	Hardened and tempered to 34 HRC
Tensile Strength, Yield	896 MPa  @Temperature 22.0 Â°C	130000 psi  @Temperature 71.6 Â°F	Hardened and tempered to 34 HRC
Elongation at Yield	15 %  @Temperature 22.0 Â°C	15 %  @Temperature 71.6 Â°F	Hardened and tempered to 34 HRC
Reduction of Area	35 %  @Temperature 22.0 Â°C	35 %  @Temperature 71.6 Â°F	Hardened and tempered to 34 HRC

Thermal Properties	Metric	English	Comments
CTE, linear	12.2 Âµm/m-Â°C  @Temperature 21.1 - 93.3 Â°C	6.80 Âµin/in-Â°F  @Temperature 70.0 - 200 Â°F	
	12.6 Âµm/m-Â°C  @Temperature 21.1 - 204 Â°C	7.00 Âµin/in-Â°F  @Temperature 70.0 - 400 Â°F	
	12.8 Âµm/m-Â°C  @Temperature 21.1 - 302 Â°C	7.10 Âµin/in-Â°F  @Temperature 70.0 - 575 Â°F	
Thermal Conductivity	29.1 W/m-K  @Temperature 21.1 Â°C	202 BTU-in/hr-ftÂ²-Â°F  @Temperature 70.0 Â°F	
	30.1 W/m-K  @Temperature 204 Â°C	209 BTU-in/hr-ftÂ²-Â°F  @Temperature 400 Â°F	
	31.1 W/m-K  @Temperature 427 Â°C	216 BTU-in/hr-ftÂ²-Â°F  @Temperature 800 Â°F	

Component Elements Properties	Metric	English	Comments
Carbon, C	0.34 %	0.34 %	

Chromium, Cr Component Elements Properties	1.75 % Metric	1.75 % English	Comments
Iron, Fe	96.31 %	96.31 %	
Manganese, Mn	0.80 %	0.80 %	
Molybdenum, Mo	0.40 %	0.40 %	
Silicon, Si	0.40 %	0.40 %	

## Contact Songhan Plastic Technology Co.,Ltd.

Website : [www.lookpolymers.com](http://www.lookpolymers.com)

Email : [sales@lookpolymers.com](mailto:sales@lookpolymers.com)

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

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