

International Mold Steel DH2F Pre-Hardened H13-Type Mold Steel

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

Material Notes:

Description: DH2F is one of the best machining pre-hardened H13-type steels available. Unique Characteristics: 38-42 HRC hardness. Through hardened for exceptional dimensional stability. Cuts mold making costs by reducing man hours required for machining. Classified as a "free-machining" steel. Ideal for complex, precision molds and parts susceptible to distortion and/or deformation without needing additional heat-treating. Ideal for Ion-nitriding. Applications: Molds for plastics Diecast die components Plunger tips, sprue bushings Diecasting dies for aluminum and zinc Dies for aluminum extrusions Press dies Dieplate strippers Machine parts Information provided by International Mold Steel.

Order this product through the following link:

http://www.lookpolymers.com/polymer_International-Mold-Steel-DH2F-Pre-Hardened-H13-Type-Mold-Steel.php

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell C	38 - 42	38 - 42	
Hardness, Vickers	130	130	
	@Temperature 700.0 Å°C	@Temperature 1292 Å°F	
	220	220	
	@Temperature 600.0 Å°C	@Temperature 1112 Å°F	
	320	320	
	@Temperature 300 Å°C	@Temperature 572 Å°F	
	320	320	
	@Temperature 400 Å°C	@Temperature 752 Å°F	
	320	320	
	@Temperature 500 Å°C	@Temperature 932 Å°F	
	330	330	
	@Temperature 200 Å°C	@Temperature 392 Å°F	
	380	380	
	@Temperature 100 Å°C	@Temperature 212 Å°F	
	400	400	
	@Temperature 23.0 Å°C	@Temperature 73.4 Å°F	
Tensile Strength, Ultimate	400 MPa	58000 psi	
	@Temperature 700.0	@Temperature 1292	

Mechanical Properties	°C Metric	°F English	Comments
	785 MPa	114000 psi	
	@Temperature 600.0 °C	@Temperature 1112 °F	
	1080 MPa	157000 psi	
	@Temperature 500 °C	@Temperature 932 °F	
	1100 MPa	160000 psi	
	@Temperature 400 °C	@Temperature 752 °F	
	1170 MPa	170000 psi	
	@Temperature 300 °C	@Temperature 572 °F	
	1300 MPa	189000 psi	
	@Temperature 200 °C	@Temperature 392 °F	
	1300 MPa	189000 psi	
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Tensile Strength, Yield	300 MPa	43500 psi	
	@Temperature 700.0 °C	@Temperature 1292 °F	
	730 MPa	106000 psi	
	@Temperature 600.0 °C	@Temperature 1112 °F	
	850 MPa	123000 psi	
	@Temperature 400 °C	@Temperature 752 °F	
	880 MPa	128000 psi	
	@Temperature 500 °C	@Temperature 932 °F	
	1050 MPa	152000 psi	
	@Temperature 300 °C	@Temperature 572 °F	
	1100 MPa	160000 psi	
	@Temperature 200 °C	@Temperature 392 °F	
	1100 MPa	160000 psi	
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Elongation at Break	10 %	10 %	
	@Temperature 23.0		

Mechanical Properties	°C Metric	@Temperature 73.4 °F English	Comments
	10 %	10 %	
	@Temperature 392 °C	@Temperature 738 °F	
	10 %	10 %	
	@Temperature 752 °C	@Temperature 1390 °F	
	12 %	12 %	
	@Temperature 572 °C	@Temperature 1060 °F	
	13 %	13 %	
	@Temperature 932 °C	@Temperature 1710 °F	
	20 %	20 %	
	@Temperature 1112 °C	@Temperature 2034 °F	
	37 %	37 %	
	@Temperature 1292 °C	@Temperature 2358 °F	
Reduction of Area	15 %	15 %	
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	22 %	22 %	
	@Temperature 400 °C	@Temperature 752 °F	
	25 %	25 %	
	@Temperature 200 °C	@Temperature 392 °F	
	26 %	26 %	
	@Temperature 300 °C	@Temperature 572 °F	
	30 %	30 %	
	@Temperature 500 °C	@Temperature 932 °F	
	40 %	40 %	
	@Temperature 600.0 °C	@Temperature 1112 °F	
	60 %	60 %	
	@Temperature 700.0 °C	@Temperature 1292 °F	

Mechanical Properties	Metric	English	Comments
Charpy Impact, Notched	25.0 J/cm ²	119 ft-lb/in ²	
	@Temperature 400 Â°C	@Temperature 752 Â°F	
	29.0 J/cm ²	138 ft-lb/in ²	
	@Temperature 500 Â°C	@Temperature 932 Â°F	
	29.0 J/cm ²	138 ft-lb/in ²	
	@Temperature 300 Â°C	@Temperature 572 Â°F	
	29.0 J/cm ²	138 ft-lb/in ²	
@Temperature 23.0 Â°C	@Temperature 73.4 Â°F		
Abrasion	39.0 J/cm ²	186 ft-lb/in ²	
	@Temperature 600.0 Â°C	@Temperature 1112 Â°F	
	40.0 J/cm ²	190 ft-lb/in ²	
	@Temperature 100 Â°C	@Temperature 212 Â°F	
	45.0 J/cm ²	214 ft-lb/in ²	
	@Temperature 200 Â°C	@Temperature 392 Â°F	
	49.0 J/cm ²	233 ft-lb/in ²	
@Temperature 700.0 Â°C	@Temperature 1292 Â°F		
	3.76	3.76	mm ² /kgf ^{x10} -7</sup>, Speed = 0.656 ft/sec, Final Load = 1.5 lbs; Ohgoshi
	4.61	4.61	mm ² /kgf ^{x10} -7</sup>, Speed = 7.8064 ft/sec, Final Load = 1.5 lbs; Ohgoshi

Thermal Properties	Metric	English	Comments
CTE, linear	8.89 Âµm/m-Â°C	4.94 Âµin/in-Â°F	
	@Temperature 20.0 - 100 Â°C	@Temperature 68.0 - 212 Â°F	
	10.8 Âµm/m-Â°C	6.00 Âµin/in-Â°F	
	@Temperature 20.0 - 200 Â°C	@Temperature 68.0 - 392 Â°F	
	11.9 Âµm/m-Â°C	6.61 Âµin/in-Â°F	
	@Temperature 20.0 - 300 Â°C	@Temperature 68.0 - 572 Â°F	

Thermal Properties	Metric	English	Comments
	12.6 Åµm/m-Å°C	7.14 Åµin/in-Å°F	
	@Temperature 20.0 - 400 Å°C	@Temperature 68.0 - 752 Å°F	
	13.1 Åµm/m-Å°C	7.28 Åµin/in-Å°F	
	@Temperature 20.0 - 500 Å°C	@Temperature 68.0 - 932 Å°F	
	13.7 Åµm/m-Å°C	7.61 Åµin/in-Å°F	
	@Temperature 20.0 - 600.0 Å°C	@Temperature 68.0 - 1112 Å°F	
	13.9 Åµm/m-Å°C	7.72 Åµin/in-Å°F	
	@Temperature 20.0 - 700.0 Å°C	@Temperature 68.0 - 1292 Å°F	

Component Elements Properties	Metric	English	Comments
Carbon, C	0.32 - 0.42 %	0.32 - 0.42 %	
Chromium, Cr	4.5 - 5.5 %	4.5 - 5.5 %	
Iron, Fe	88.38 - 90.78 %	88.38 - 90.78 %	
Manganese, Mn	1.5 %	1.5 %	
Molybdenum, Mo	1.0 - 1.5 %	1.0 - 1.5 %	
Silicon, Si	1.5 %	1.5 %	
Vanadium, V	0.40 - 1.2 %	0.40 - 1.2 %	

Descriptive Properties	Value	Comments
Erosion Resistance	15.2%	after soaking in an aluminum bath at 1292Å°F for 30 hours

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