

International Mold Steel Daido DRM1 Matrix High-Speed Steel

Category : Metal , Ferrous Metal , Tool Steel

Material Notes:

This tough matrix type high speed tool steel features high hardness and high tough Matrix type high speed tool steel vastly surpasses hot work die steels. DRM1 improves hot and warm die life by its higher toughness than conventional grade. Information provided by International Mold Steel

Order this product through the following link:

http://www.lookpolymers.com/polymer_International-Mold-Steel-Daido-DRM1-Matrix-High-Speed-Steel.php

Mechanical Properties	Metric	English	Comments
Hardness, Brinell	<= 235	<= 235	
Hardness, Rockwell C	56 - 58	56 - 58	
	40	40	
	@Treatment Temp. 700 Â°C	@Treatment Temp. 1290 Â°F	
	56	56	
	@Treatment Temp. 600 Â°C	@Treatment Temp. 1110 Â°F	
	59	59	
	@Treatment Temp. 520 Â°C	@Treatment Temp. 968 Â°F	
Tensile Modulus	210 GPa	30500 ksi	
Fatigue Strength	900 MPa	131000 psi	
	@# of Cycles 1.00e+7	@# of Cycles 1.00e+7	
	950 MPa	138000 psi	
	@# of Cycles 1.00e+6	@# of Cycles 1.00e+6	
	1000 MPa	145000 psi	
	@# of Cycles 100000	@# of Cycles 100000	
Charpy Impact Unnotched	200 J/cmÂ²	952 ft-lb/inÂ²	59 HRC
	260 J/cmÂ²	1240 ft-lb/inÂ²	57 HRC

Thermal Properties	Metric	English	Comments
CTE, linear	11.2 Âµm/m-Â°C	6.22 Âµin/in-Â°F	
	@Temperature 20.0 - 100 Â°C	@Temperature 68.0 - 212 Â°F	

Thermal Properties	Metric	English	Comments
	11.7 $\mu\text{m/m}\cdot\text{Å}^\circ\text{C}$	6.78 $\mu\text{in/in}\cdot\text{Å}^\circ\text{F}$	
	@Temperature 20.0 - 300 $\text{Å}^\circ\text{C}$	@Temperature 68.0 - 572 $\text{Å}^\circ\text{F}$	
	12.2 $\mu\text{m/m}\cdot\text{Å}^\circ\text{C}$	6.78 $\mu\text{in/in}\cdot\text{Å}^\circ\text{F}$	
	@Temperature 20.0 - 500 $\text{Å}^\circ\text{C}$	@Temperature 68.0 - 932 $\text{Å}^\circ\text{F}$	
	12.7 $\mu\text{m/m}\cdot\text{Å}^\circ\text{C}$	7.06 $\mu\text{in/in}\cdot\text{Å}^\circ\text{F}$	
	@Temperature 20.0 - 700 $\text{Å}^\circ\text{C}$	@Temperature 68.0 - 1290 $\text{Å}^\circ\text{F}$	
Specific Heat Capacity	0.413 J/g- $\text{Å}^\circ\text{C}$	0.0987 BTU/lb- $\text{Å}^\circ\text{F}$	
	@Temperature 25.0 $\text{Å}^\circ\text{C}$	@Temperature 77.0 $\text{Å}^\circ\text{F}$	
	0.519 J/g- $\text{Å}^\circ\text{C}$	0.124 BTU/lb- $\text{Å}^\circ\text{F}$	
	@Temperature 300 $\text{Å}^\circ\text{C}$	@Temperature 572 $\text{Å}^\circ\text{F}$	
	0.616 J/g- $\text{Å}^\circ\text{C}$	0.147 BTU/lb- $\text{Å}^\circ\text{F}$	
	@Temperature 500 $\text{Å}^\circ\text{C}$	@Temperature 932 $\text{Å}^\circ\text{F}$	
	0.840 J/g- $\text{Å}^\circ\text{C}$	0.201 BTU/lb- $\text{Å}^\circ\text{F}$	
	@Temperature 700 $\text{Å}^\circ\text{C}$	@Temperature 1290 $\text{Å}^\circ\text{F}$	
Thermal Conductivity	22.4 W/m-K	155 BTU-in/hr-ft $\text{Å}^2\cdot\text{Å}^\circ\text{F}$	
	@Temperature 25.0 $\text{Å}^\circ\text{C}$	@Temperature 77.0 $\text{Å}^\circ\text{F}$	
	27.3 W/m-K	189 BTU-in/hr-ft $\text{Å}^2\cdot\text{Å}^\circ\text{F}$	
	@Temperature 300 $\text{Å}^\circ\text{C}$	@Temperature 572 $\text{Å}^\circ\text{F}$	
	28.4 W/m-K	197 BTU-in/hr-ft $\text{Å}^2\cdot\text{Å}^\circ\text{F}$	
	@Temperature 500 $\text{Å}^\circ\text{C}$	@Temperature 932 $\text{Å}^\circ\text{F}$	
	28.8 W/m-K	200 BTU-in/hr-ft $\text{Å}^2\cdot\text{Å}^\circ\text{F}$	
	@Temperature 700 $\text{Å}^\circ\text{C}$	@Temperature 1290 $\text{Å}^\circ\text{F}$	

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