Alcoa QC-10® Aluminum Mold Alloy

Category : Metal , Nonferrous Metal , Aluminum Alloy , Aluminum Casting Alloy

Material Notes:

Specifically designed for high production injection and blow mold applications, QC-10 offers outstanding strength, stability, and durability. Its improved alloy composition provides outstanding, 1"- 24" thick section strength and hardness equal to that of rolled plate. Its quench insensitive microstructure allows minimal strength drop-off and excellent machinability.Information provided by Alcoa.

Order this product through the following link:
http://www.lookpolymers.com/polymer_Alcoa-QC-10-Aluminum-Mold-Alloy.php

Physical Properties	Metric	English	Comments
Density	2.85 g/cc	0.103 lb/in³	

Mechanical Properties	Metric	English	Comments
Hardness, Brinell	150 - 170	150 - 170	center
Tensile Strength, Ultimate	500 MPa @Thickness >=508 mm	72500 psi @Thickness >=20.0 in	at center (L/T direction)
	510 MPa @Thickness 356 - 457 mm	74000 psi @Thickness 14.0 - 18.0 in	at center (L/T direction)
	530 MPa @Thickness 203 - 305 mm	76900 psi @Thickness 8.00 - 12.0 in	at center (L/T direction)
	565 MPa @Thickness 50.8 - 152 mm	81900 psi @Thickness 2.00 - 6.00 in	at center (L/T direction)
Tensile Strength, Yield	455 MPa @Thickness >=508 mm	66000 psi @Thickness >=20.0 in	at center (L/T direction)
	470 MPa @Thickness 356 - 457 mm	68200 psi @Thickness 14.0 - 18.0 in	at center (L/T direction)
	500 MPa @Thickness 203 - 305 mm	72500 psi @Thickness 8.00 - 12.0 in	at center (L/T direction)
	525 MPa @Thickness 50.8 - 152 mm	76100 psi @Thickness 2.00 - 6.00 in	at center (L/T direction)

Mechanical Properties	Metric	English	Comments
Elongation at Break	3.0 %	3.0 %	at center (L/T direction)
	@Thickness >=508 mm	@Thickness >=20.0 in	
	6.0 % @Thickness 356 - 457 mm	6.0 % @Thickness 14.0 - 18.0 in	at center (L/T direction)
	8.0 % @Thickness 203 - 305 mm	8.0 % @Thickness 8.00 - 12.0 in	at center (L/T direction)
	10 % @Thickness 50.8 - 152 mm	10 % @Thickness 2.00 - 6.00 in	at center (L/T direction)
Modulus of Elasticity	70.0 GPa	10200 ksi	

Thermal Properties	Metric	English	Comments
CTE, linear	24.7 µm/m-°C	13.7 µin/in-°F	
Specific Heat Capacity	0.879 J/g-°C	0.210 BTU/lb-°F	
Thermal Conductivity	160 W/m-K	1110 BTU-in/hr-ft²-°F	

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