Zinc AC43A (Zinc Alloy 2; Zn-4Al-2.5Cu-0.04Mg; Number 2 Die Casting Alloy; Zamak 2), Die Cast

Categories: Metal; Nonferrous Metal; Zinc Alloy

Material Notes: Recommended Casting Temperature 395-425°C

Key Words: UNS Z35540 (ingot); UNS Z35541 (Casting); SAE 921; ASTM AC43A; Zamac2

Vendors: No vendors are listed for this material. Please click here if you are a supplier and would like information on how to add your listing to this material.

Physical Properties	Metric	English	Comments
Density	6.60 g/cc	0.238 lb/in³	

Mechanical Properties	Metric	English	Comments
Hardness, Brinell	100	100	500 kg load; 10 mm hardened steel ball
Hardness, Knoop	125	125	Estimated from Brinell Value
Hardness, Rockwell A	41.5	41.5	Estimated from Brinell Value
Hardness, Rockwell B	63	63	Estimated from Brinell Value
Hardness, Vickers	112	112	Estimated from Brinell Value
Tensile Strength, Ultimate	358 MPa	51900 psi	
Elongation at Break	7.0 %	7.0 %	in 5 cm
Compressive Strength	641 MPa	93000 psi	
Fatigue Strength	59.0 MPa @# of Cycles 5.00e+8	8560 psi @# of Cycles 5.00e+8	Reverse Bend
Shear Strength	317 MPa	46000 psi	
Charpy Impact, Unnotched	47.0 J @Thickness 6.35 mm	34.7 ft-lb @Thickness 0.250 in	square bar

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.00000690 ohm-cm	0.00000690 ohm-cm	

Thermal Properties	Metric	English	Comments
CTE, linear	27.8 µm/m-°C @Temperature 20.0 °C	15.4 µin/in-°F @Temperature 68.0 °F	
Specific Heat Capacity	0.419 J/g-°C	0.100 BTU/lb-°F	
Thermal Conductivity	105 W/m-K	729 BTU-in/hr-ft²-°F	
Melting Point	379 - 390 °C	714 - 734 °F	
Solidus	379 °C	714 °F	
Liquidus	390 °C	734 °F	

Processing Properties	Metric	English	Comments
Casting Temperature	395 - 425 °C	743 - 797 °F	

Component Elements Properties	Metric	English	Comments
Aluminum, Al	3.5 - 4.3 %	3.5 - 4.3 %	Casting
	3.9 - 4.3 %	3.9 - 4.3 %	Ingot form
Cadmium, Cd	<= 0.0030 %	<= 0.0030 %	Ingot form
	<= 0.0040 %	<= 0.0040 %	Casting
Copper, Cu	2.5 - 3.0 %	2.5 - 3.0 %	Casting
	2.6 - 2.9 %	2.6 - 2.9 %	Ingot form
Iron, Fe	<= 0.075 %	<= 0.075 %	Ingot form
	<= 0.10 %	<= 0.10 %	Casting
Lead, Pb	<= 0.0040 %	<= 0.0040 %	Ingot form
	<= 0.0050 %	<= 0.0050 %	Casting
Magnesium, Mg	0.020 - 0.050 %	0.020 - 0.050 %	Casting
	0.025 - 0.050 %	0.025 - 0.050 %	Ingot form
Tin, Sn	<= 0.0020 %	<= 0.0020 %	Ingot form
	<= 0.0030 %	<= 0.0030 %	Casting
Zinc, Zn	92.666 - 93.475 %	92.666 - 93.475 %	As balance; Ingot per ASTM B 240
	92.538 - 93.98 %	92.538 - 93.98 %	As balance; Castings per ASTM B 86

References for this datasheet.