

Product Data Sheet - Beralcast® 310

This alloy, a metal matrix composite, consisting of between 60 and 70% Be (by weight) is a wrought product offered by IBC Engineered Materials to be used in the process of manufacturing extrusions for a broad spectrum of industries. BeAl-310 is used primarily for select directional, higher strength applications.

Physical and Chemical Properties:

Property Description	Units	Beralcast® 310
Density	g/cm ³ @ 25°C	2.16
	lb/in ³ @ 77°F	0.078
Melting Point (Liquidus)	°C	585
	°F	1085
Coefficient of Thermal Expansion	µm/m (ppm) @ 25°C	13.2
	µin/in (ppm) @ 77°F	7.6
Specific Heat	J/kg-°K @ 20°C	1423.5
	Btu/lb-°F @ 68°F	0.34
Thermal Conductivity	W/m-°K @ 25°C	180.0
	Btu/h-ft-°F @ 77°F	104.0
Modulus of Elasticity in Tension	Gpa @ 25°C	202.0
	Mpsi @ 77°F	29.3
Specific Stiffness (Modulus/Density)	Gpa-cm ³ /g @ 25°C	93.5
	Mpsi-in ³ /lb @ 77°F	375.6
Poissons Ratio		-
Yield Strength	Mpa @ 25°C	325.4
	Ksi @ 77°F	47.2
Ultimate Tensile Strength	Mpa @ 25°C	426.1
	Ksi @ 77°F	61.8
Specific Strength (UTS/Density)	Mpa-cm ³ /g @ 25°C	197.3
	Ksi-in ³ /lb @ 77°F	792.3
Elongation 2.54 cm (1 in) Gage	% @ 25°C	13.2
	% @ 77°F	13.2
Axial Fatigue (R=-1.0) 10⁷ Cycles	Mpa @ 25°C	220.6
	Ksi @ 77°F	32.0

Composition by Weight Percent:

Element	Min.	Max.
Beryllium	60.0	70.0
Aluminum	Remainder	Remainder
Silicon	0.00	0.25
Silver	1.50	2.50
Cobalt	0.00	0.20
Germanium	0.00	0.20
Iron	0.00	0.20

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