CRP Technology 8601 Aerospace Grade Power Metallurgy Aluminum Alloy

Category : Metal , Nonferrous Metal , Aluminum Alloy

Material Notes:

For Motorsport and Aerospace marketplaces: manufactured by a special powder metallurgy process using a high-energy mixing process which ensures excellent mechanical properties.Super Aluminium materials, and therefore the new CRP 8601 alloy, are particularly suited for motorsport racing (other than F1) and for the aerospace sector. The key benefits of CRP 8601 for structural applications include:Weight savingIncreased component stiffnessHigh fatigue resistanceGood hardness & wear resistanceHigh flexibility of the billets shapes/dimensions for machiningCRP has achieved higher productivity and quality over traditional carbide tooling thanks to the high-speed machining, customized PCD tooling, excellent knowledge of the machining process and 100% quality control developed internally.The same skills allow now CRP to offer to his customers parts made by this new material and with high quality, high reliability and shape complexity. One of the main goals in Motorsport and Aerospace is to reach a very high stiffness of all mechanical components. The second main goal is to look for a lower weight for all structural parts. CRP 8601 is the best compromise between the highest stiffness and lower weight.Heat Treatment Designation and Process: T4 (CWQ). Solution Heat Treated at 505(±5)°C. Quenched in cold water. Aged at Room Temperature; stable condition is achieved after 100 hours.Information provided by CRP Technology.

Order this product through the following link:
http://www.lookpolymers.com/polymer_CRP-Technology-8601-Aerospace-Grade-Power-Metallurgy-Aluminum-Alloy.php

Physical Properties	Metric	English	Comments
Density	2.86 g/cc	0.103 lb/in³	

Mechanical Properties	Metric	English	Comments
Hardness, Vickers	190	190	HV10
Tensile Strength at Break	525 MPa	76100 psi	
Tensile Strength, Yield	415 MPa @Strain 0.200 %	60200 psi @Strain 0.200 %	
Elongation at Break	2.3 %	2.3 %	
Modulus of Elasticity	98.0 GPa	14200 ksi	
Poissons Ratio	0.30	0.30	
Fatigue Strength	270 MPa @# of Cycles 9.00e+6	39200 psi @# of Cycles 9.00e+6	R=-1; Kt=1; 50 Hz
	307 MPa @# of Cycles 1.00e+6	44500 psi @# of Cycles 1.00e+6	R=-1; Kt=1; 50 Hz
	330 MPa @# of Cycles 200000	47900 psi @# of Cycles 200000	R=-1; Kt=1; 50 Hz

Mechanical Properties	Metric	English	Comments
Shear Modulus	37.7 GPa	5470 ksi	Calculated

Thermal Properties	Metric	English	Comments
CTE, linear	16.0 µm/m-°C @Temperature 20.0 °C	8.89 µin/in-°F @Temperature 68.0 °F	
Thermal Conductivity	150 W/m-K	1040 BTU-in/hr-ft²-°F	

Electrical Properties	Metric	English	Comments
Volume Resistivity	0.0000055 ohm-cm	0.0000055 ohm-cm	

Processing Properties	Metric	English	Comments
Processing Temperature	505 °C	941 °F	Solution Heat Treatment

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