

Constellium Formall® 545 Aluminum Alloy

Category : Metal , Nonferrous Metal , Aluminum Alloy , 5000 Series Aluminum Alloy

Material Notes:

Formall®-545 is a super plastically formable alloy. Both chemical composition and processing conditions have been developed for optimum superplastic behavior and to guarantee the advantages of an aluminum alloy for mechanical construction, i.e.: mechanical strength, good corrosion resistance, fair ability for anodizing, good thermal and electrical conductivity, stable in-use properties. Information provided by manufacturer

Order this product through the following link:

http://www.lookpolymers.com/polymer_Constellium-Formall-545-Aluminum-Alloy.php

Physical Properties	Metric	English	Comments
Density	2.70 g/cc	0.0975 lb/in³	

Mechanical Properties	Metric	English	Comments
Tensile Strength	275 MPa	39900 psi	Temper Delivery condition + 360°C/60'
Tensile Strength, Yield	125 MPa @Strain 0.200 %	18100 psi @Strain 0.200 %	Temper Delivery condition + 360°C/60'
Elongation at Break	16 %	16 %	Temper Delivery condition + 360°C/60'
Modulus of Elasticity	71.0 GPa	10300 ksi	

Thermal Properties	Metric	English	Comments
CTE, linear	23.8 µm/m-°C @Temperature 20.0 - 100 °C	13.2 µin/in-°F @Temperature 68.0 - 212 °F	
Thermal Conductivity	105 - 120 W/m-K	729 - 833 BTU-in/hr-ft²-°F	

Component Elements Properties	Metric	English	Comments
Aluminum, Al	92.55 - 95.55 %	92.55 - 95.55 %	as balance
Chromium, Cr	0.050 - 0.25 %	0.050 - 0.25 %	
Copper, Cu	<= 0.10 %	<= 0.10 %	
Iron, Fe	<= 0.40 %	<= 0.40 %	
Magnesium, Mg	4.0 - 4.9 %	4.0 - 4.9 %	

Manganese Mn Component Elements Properties	0.40 - 1.0 % Metric	0.40 - 1.0 % English	Comments
Silicon, Si	<= 0.40 %	<= 0.40 %	
Zinc, Zn	<= 0.25 %	<= 0.25 %	
Zr+Ti	<= 0.15 %	<= 0.15 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.00000590 - 0.00000660 ohm-cm	0.00000590 - 0.00000660 ohm-cm	

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