

Aluminium Alloy

5083 Machined Cast Tooling Plate



SPECIFICATIONS

Commercial	5083
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5083 Machined Cast Tooling Plate, Alloy 5083 is supplied homogenised and stress relieved in thicknesses from 5mm to 100mm. It is precision milled to a roughness Ra of 0.4 microns and supplied folied on both sides.

CHEMICAL COMPOSITION

5083 Machined Cast Tooling Plate	
Element	% Present
Magnesium (Mg)	4 - 4.9
Manganese (Mn)	0.4 - 1
Iron (Fe)	0.4 typical
Silicon (Si)	0.4 max
Chromium (Cr)	0.05 - 0.25
Titanium (Ti)	0.05 - 0.25
Others (Total)	0.15 max
Copper (Cu)	0.1 typical
Zinc (Zn)	0.1 max
Other (Each)	0.05 max
Aluminium (Al)	Balance

MECHANICAL PROPERTIES

5083 Machined Cast Tooling Plate 5083 Machined Cast Tooling Plate	
Property	Value
Hardness Brinell	68-73 HB
Elongation A	10-15 %
Proof Stress	110-130 MPa
Tensile Strength	230-260 MPa

TOLERANCES

Thickess (mm)	Flatness Tol (mm)	Thickness Tol (mm)	Width & Length Tol (mm)
5	0.80	+/- 0.1	-0 / +20
6-12.7	0.40	+/- 0.1	-0 / +20
Over 12.7	0.13	+/- 0.1	-0 / +20

SUPPLIED FORMS

- Plate

GENERIC PHYSICAL PROPERTIES

Property	Value
Density	2.66 g/cm ³
Melting Point	570 °C
Thermal Expansion	23.3 x10 ⁻⁶ /K
Modulus of Elasticity	70 GPa
Thermal Conductivity	110-130 W/m.K
Electrical Resistivity	29-32 % IACS
Heat Capacity	900 J/kgK

CONTACT

Address:	Please make contact directly with your local service centre, which can be found via the Locations page of our web site
Web:	www.aalco.co.uk

REVISION HISTORY

Datasheet Updated	08 September 2023
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