

Aluminium Alloy

5083 Machined Cast Tooling Plate

SPECIFICATIONS

Commercial	5083
------------	------

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 foiled 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

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

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

Thickness (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

CONTACT

Address:	Aldridge Warehouse No. 1 Wharf Approach Anchor Brook Industrial Park Aldridge Walsall WS9 8BX
Tel:	+44 (0)19 2245 3982
Email:	sales@durbinmetals.co.uk
Web:	www.durbinmetals.co.uk

REVISION HISTORY

Datasheet Updated	08 September 2023
-------------------	-------------------

DISCLAIMER

This Data is indicative only and as such is not to be relied upon in place of the full specification. In particular, mechanical property requirements vary widely with temper, product and product dimensions. All information is based on our present knowledge and is given in good faith. No liability will be accepted by the Company in respect of any action taken by any third party in reliance thereon.

Please note that the 'Datasheet Update' date shown above is no guarantee of accuracy or whether the datasheet is up to date.

The information provided in this datasheet has been drawn from various recognised sources, including EN Standards, recognised industry references (printed & online) and manufacturers' data. No guarantee is given that the information is from the latest issue of those sources or about the accuracy of those sources.

Material supplied by the Company may vary significantly from this data, but will conform to all relevant and applicable standards.

As the products detailed may be used for a wide variety of purposes and as the Company has no control over their use; the Company specifically excludes all conditions or warranties expressed or implied by statute or otherwise as to dimensions, properties and/or fitness for any particular purpose, whether expressed or implied.

Advice given by the Company to any third party is given for that party's assistance only and without liability on the part of the Company. All transactions are subject to the Company's current Conditions of Sale. The extent of the Company's liabilities to any customer is clearly set out in those Conditions; a copy of which is available on request.