

ALUMINIUM ALLOY - CAST**Precision Tooling Plate****DSM 2.1.2****Cast Aluminium – Precision Tooling Plate:**

This product is made to a variety of brand names, all being a derivative of the **5083** series aluminium. It is manufactured under tightly controlled conditions and benefits from less processing.

Initially **Cast** to near net thickness with a low porous, stress-relieved, non-directional grain structure that combine to make the mechanical properties constant in all directions. This process virtually eliminates distortion from machining & end use temperature fluctuations. Plates are supplied with both faces pre-machined, to give an excellent surface finish and flatness tolerance, and PVC foiled for protection.

Features:

Cast plate is inherently stable and capable of extensive machining routines that involve large metal removal with the minimum of distortion.

ASM (DEK) Applications:

Cast plate has excellent stability during and after machining which make it ideal for precision applications, example: Jig and fixtures; surface plates.

These values are representative and should not be considered as definitive. For critical applications, refer to material data-sheet.

TYPICAL MECHANICAL PROPERTIES @25°C

	Preferred Material	Alternative Material
MATERIAL GRADE:	GLEICH.AL® C250	AL 5083-H112
DENSITY:	2660 Kg/m³	2660 Kg/m³
YOUNGS MODULUS:	70 GPa	71 GPa
POISSONS RATIO:	0.33	0.33
YIELD STRENGTH	110-130 MPa	190 MPa
Max. TENSILE STRENGTH	230-290 MPa	300 MPa

CHEMICAL COMPOSITION

Silicon (Si)	0.4 % max	Chrome (Cr)	.05/0.25 %	Alumin.(Al)	balance
Magn. (Mg)	4.00 /4.9 %	Zinc (Zn)	.10/0.25 %		
Mang. (Mn)	0.4 / 1.0 %	Titan. (Ti)	.05/0.25 %		
Iron (Fe)	0.4 % max	Copper (Cu)	0.10 % max		

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ALUMINIUM ALLOY - CAST**Precision Tooling Plate****DSM 2.1.2****Key Features:**

METHOD	RESULT
Machining	Good
Spark eroding	V. Good
Welding - (Mig & Tig)	Good & Good
Welding - Resistance (spot)	Good
Coating anodising (Technical)	Good (black only)
Coating anodising (Decorative)	Poor
Corrosion Resistance (uncoated)	Weather: V Good Marine: V Good

Supplied Forms:

- Plate: 5 – 100mm Thick
- Temper & stress relieved

Two surfaces precision milled. Roughness: Ra 0.4 µm & foiled on both sides

TOLERANCES			
Plate	Flatness	Thickness	Width & Length
5	≤0.80 mm per 1.0m.	± 0.10	± 0.10 & ± 0.20
6 – 12.7	≤0.40 mm per 1.0m.	± 0.10	± 0.10 & ± 0.20
≥ 12	≤0.13 mm per 1.0m.	± 0.10	± 0.10 & ± 0.20

Alternatives:

Alternative materials are allowed only with the express written permission of ASMPT. Please email details of your request to engineering_enquiries@asmpt.com

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