



Low Moor Mills, Albert Road, Morley, Leeds, West Yorkshire, LS27 8LD.

Tel: 0113 252 2611 Fax: 0113 238 0274

Website: [www.acemetalsandplastics.co.uk](http://www.acemetalsandplastics.co.uk).

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## ALUMINIUM CAST & ROLLED PLATE PROFILE

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Welcome to the new Ace Aluminium Plate Product Profile. This along with our product profile for Standard Aluminium Extrusions and Stainless Steel are now available as pdf downloads on our website under Stock Profiles. You will find here all the technical details to cover our range of Cast & Rolled plates. Visit our new website to find out more about us and please do not hesitate to contact our experienced sales team with any requirements you may have.

Aluminium, Brass, Copper, Stainless Steel  
Industrial and Engineering Plastics

# ACE METALS & PLASTICS

Tel: 0113 252 2611 Fax: 0113 238 0274

## ACE CAST PLATE 5083 – ROUGH MACHINED (Plus Tolerance)

A fine grain structure and a low porosity are important factors in the manufacture of ACP 5083  
 All ACP5083 cast blocks and sawn plates have extended thermal heat treatment to ensure  
 all materials are homogenized and thermally stress relieved to provide optimal dimensional stability  
 Plates and blanks are offered in a wide range of sizes cut to your exact requirements

## ACE CAST PLATE 5083 – ROUGH MACHINED

Material Attributes		
Machinability:	Very Good	
Weldability:	Good	
Anodising Properties:	Good, not decorative	
Polishing:	Very Good	
Corrosion Resistance:	Very Good	
Eroding Properties:	Good	
Tolerances		
Surface:	Sawn on all sides	
Tolerance on Thickness:	-0/+3mm	
Tolerance on Width (Plates):	-0/+10mm	
Tolerance on Length (Plates):	-0/+15mm	
Tolerance on L/W Cut Pieces:	-0/+3mm	
Plate Thickness – Metric		
5mm	6mm	8mm
10mm	12mm	15mm
16mm	20mm	22mm
25mm	28mm	30mm
35mm	40mm	45mm
50mm	60mm	70mm
75mm	100mm	106mm
120mm	125mm	150mm
200mm	220mm	300mm
350mm	400mm	450mm

Chemical Composition	
En AW-5083 (AlMg4.5Mn0.7) Acc to Bs En 573-3	
Typical Mechanical Properties	
Tensile Strength (Rm):	240 – 290 Mpa (N/mm <sup>2</sup> )
0.2% Yield Strength Rp 0.2:	110 – 130 Mpa (N/mm <sup>2</sup> )
Elongation A 5%:	15
Brinell Hardness HB:	70
Typical Physical Properties	
Specific Weight:	2.74 g/cm <sup>3</sup>
Thermal Conductivity:	110 – 140 W
Electrical Conductivity:	16 – 19 MS/m
Plate Thickness – Imperial	
1/4" (6.35mm)	5/16" (8.00mm)
3/8" (9.53mm)	1/2" (12.7mm)
5/8" (15.88mm)	3/4" (19.10mm)
1.1/4" (31.75mm)	1.1/2" (38.10mm)
1.3/4" (45mm)	2" (50.8mm)
2.1/2" (63.5mm)	
If the size you require is not shown here please contact our sales team for more information	
All material offered ex-stock subject to remaining unsold. E&OE	

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## ACE CAST TOOLING PLATE 5083 – PRECISION MACHINED FINISH

Precision surface machined plate on both sides to industry leading close tolerance standards  
 All Precision Machined Plates are supplied plastic coated to protect the top and bottom surfaces  
 All ACP5083 cast blocks and sawn plates have extended thermal heat treatment to ensure  
 all materials are homogenized and thermally stress relieved to provide optimal dimensional stability  
 Plates and blanks are offered in a wide range of sizes cut to your exact requirements

## ACE CAST TOOLING PLATE 5083 – PRECISION MACHINED

Material Attributes		
Machinability:	Very Good	
Weldability:	Good	
Anodising Properties:	Good, not decorative	
Polishing:	Very Good	
Corrosion Resistance:	Very Good	
Eroding Properties:	Good	
Tolerances		
Surface Finish:	≤0.4 um	
Tolerance on Thickness:	+/- 0.1mm	
Flatness:	0.15 – 0.50mm ≥ 6mm thickness	
Tolerance on Width (Plates):	-0/+10mm	
Tolerance on Length (Plates):	-0/+15mm	
Tolerance on L/W Cut Pieces:	-0/+3mm	
Plate Thickness – Metric		
5mm	6mm	8mm
10mm	12mm	15mm
16mm	20mm	22mm
25mm	28mm	30mm
35mm	40mm	45mm
50mm	60mm	70mm
75mm	100mm	

Chemical Composition	
En AW-5083 (AlMg4.5Mn0.7) Acc to Bs En 573-3	
Typical Mechanical Properties	
Tensile Strength (Rm):	240 – 290 Mpa (N/mm <sup>2</sup> )
0.2% Yield Strength Rp 0.2:	110 – 130 Mpa (N/mm <sup>2</sup> )
Elongation A 5%:	15
Brinell Hardness HB:	70
Typical Physical Properties	
Specific Weight:	2.74 g/cm <sup>3</sup>
Thermal Conductivity:	110 – 140 W
Electrical Conductivity:	16 – 19 MS/m
Plate Thickness – Imperial	
1/4" (6.35mm)	5/16" (8.00mm)
3/8" (9.53mm)	1/2" (12.7mm)
5/8" (15.88mm)	3/4" (19.10mm)
1.1/4" (31.75mm)	1.1/2" (38.10mm)
1.3/4" (45mm)	2" (50.8mm)
2.1/2" (63.5mm)	
If the size you require is not shown here please contact our sales team for more information	
All material offered ex-stock subject to remaining unsold. E&OE	

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# ACE METALS & PLASTICS

Tel: 0113 252 2611 Fax: 0113 238 0274

## ACE ROLLED TOOLING PLATE – PRECISION MACHINED FINISH ACE ROLLED TOOLING PLATE – 5083 & 6082

Precision surface machined plate on both sides to industry leading close tolerance standards  
All Precision Machined Plates are supplied plastic coated to protect the top and bottom surfaces  
All Ace Precision Plate are rolled plates have extended thermal heat treatment to ensure  
all materials are homogenized and thermally stress relieved to provide optimal dimensional stability  
Plates and blanks are offered in a wide range of sizes cut to your exact requirements

### ACE ROLLED TOOLING PLATE 5083 – PRECISION MACHINED

Material Attributes		Chemical Composition	
Machinability:	Good	En AW-5083H111 (AlMg4.5Mn0.7) Acc to Bs En 573-3	
Weldability:	Good		
Anodising Properties:	Good, not decorative	Typical Mechanical Properties	
Tolerances		Tensile Strength (Rm): Min. 255 Mpa (N/mm <sup>2</sup> )	
Surface Finish:	≤0.4 um	0.2% Yield Strength Rp 0.2: Min. 105 Mpa (N/mm <sup>2</sup> )	
Tolerance on Thickness:	+/- 0.1mm	Elongation A 5%: 15	
Flatness: 0.15 – 0.50mm	≥ 6mm thickness	Brinell Hardness HB: 70	
Tolerance on Width (Plates):	Bs En 485-3	Typical Physical Properties	
Tolerance on Length (Plates):	Bs En 485-3	Specific Weight: 2.74 g/cm <sup>3</sup>	
Tolerance on L/W Cut Pieces:	-0/+3mm	Thermal Conductivity: 110 – 140 W	
Plate Thickness – Metric		Electrical Conductivity: 16 – 19 MS/m	
6mm to 60mm			

### ACE ROLLED TOOLING PLATE 6082 – PRECISION MACHINED

Material Attributes		Chemical Composition	
Machinability:	Good	En AW-6082T651 (AlSi1MgMn) Acc to Bs En 573-3	
Weldability:	Good		
Anodising Properties:	Very Good, not decorative	Typical Mechanical Properties	
Tolerances		Tensile Strength (Rm): Min. 275 Mpa (N/mm <sup>2</sup> )	
Surface Finish:	≤0.4 um	0.2% Yield Strength Rp 0.2: Min. 230 Mpa (N/mm <sup>2</sup> )	
Tolerance on Thickness:	+/- 0.1mm	Elongation A 5%: 8	
Flatness: On Request		Brinell Hardness HB: 83	
Tolerance on Width (Plates):	Bs En 485-3	Typical Physical Properties	
Tolerance on Length (Plates):	Bs En 485-3	Specific Weight: 2.74 g/cm <sup>3</sup>	
Tolerance on L/W Cut Pieces:	-0/+3mm	Thermal Conductivity: 170 – 220 W	
Plate Thickness – Metric		Electrical Conductivity: 24 – 32 MS/m	
15mm to 100 mm		All material offered ex-stock subject to remaining unsold. E&OE	

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## ALUMINIUM ROLLED PLATE – COMMERIAL STOCK

Product	Thickness	Spec
Plate	3 MM	5083-O
Plate	4 MM	5083-O
Plate	5 MM	5083-O
Plate	6 MM	5083-O
Plate	1/4" (6.35 MM)	5083-O
Plate	3/8" (9.53 MM)	5083-O
Plate	10 MM	5083-O
Plate	1/2" (12.7 MM)	5083-O
Plate	5/8" (16 MM)	5083-O
Plate	3/4" (19.1 MM)	5083-O
Plate	20 MM	5083-O
Plate	1" (25.4 MM)	5083-O
Plate	1.1/4" (31.75 MM)	5083-O
Plate	1.1/2" (38.10 MM)	5083-O
Plate	1.3/4" (44.5 MM)	5083-O
Plate	2" (50.8 MM)	5083-O
Plate	2.1/2" (63.5 MM)	5083-O
Plate	3" (76.1 MM)	5083-O
Plate	3.1/2" (88.9 MM)	5083-O
Plate	4" (101.6 MM)	5083-O
Plate	4.1/2" (114.3 MM)	5083-O
Plate	5" (127 MM)	5083-O
Plate	6" (152.4 MM)	5083-O

Plate	3 MM	6082T6/651
Plate	4 MM	6082T6/651
Plate	5 MM	6082T6/651
Plate	6 MM	6082T6/651
Plate	1/4" (6.35 MM)	6082T6/651
Plate	3/8" (9.53 MM)	6082T6/651
Plate	10 MM	6082T6/651
Plate	1/2" (12.7 MM)	6082T6/651
Plate	5/8" (16 MM)	6082T6/651
Plate	3/4" (19.1 MM)	6082T6/651
Plate	20 MM	6082T6/651
Plate	1" (25.4 MM)	6082T6/651
Plate	1.1/4" (31.75 MM)	6082T6/651
Plate	1.1/2" (38.10 MM)	6082T6/651
Plate	1.3/4" (44.5 MM)	6082T6/651
Plate	2" (50.8 MM)	6082T6/651
Plate	2.1/2" (63.5 MM)	6082T6/651
Plate	3" (76.1 MM)	6082T6/651
Plate	3.1/2" (88.9 MM)	6082T6/651
Plate	4" (101.6 MM)	6082T6/651
Plate	4.1/2" (114.3 MM)	6082T6/651
Plate	5" (127 MM)	6082T6/651
Plate	6" (152.4 MM)	6082T6/651
Plate	7" (177.8 MM)	6082T6/651

*We can supply cut discs, rings, squares, rectangles and profiled shapes up to 4000mm long*

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Product	Size	Spec
Plate	3/8" (9.53 MM)	7075T6/651
Plate	10 MM	7075T6/651
Plate	1/2" (12.7 MM)	7075T6/651
Plate	5/8" (16 MM)	7075T6/651
Plate	3/4" (19.1 MM)	7075T6/651
Plate	20 MM	7075T6/651
Plate	1" (25.4 MM)	7075T6/651
Plate	1.1/4" (31.75 MM)	7075T6/651
Plate	1.1/2" (38.10 MM)	7075T6/651
Plate	1.3/4" (44.5 MM)	7075T6/651
Plate	2" (50.8 MM)	7075T6/651
Plate	2.1/2" (63.5 MM)	7075T6/651
Plate	3" (76.1 MM)	7075T6/651
Plate	3.1/2" (88.9 MM)	7075T6/651
Plate	4" (101.6 MM)	7075T6/651

Plate	3/8" (9.53 MM)	2014-T6/651
Plate	10 MM	2014-T6/651
Plate	1/2" (12.7 MM)	2014-T6/651
Plate	5/8" (16 MM)	2014-T6/651
Plate	3/4" (19.1 MM)	2014-T6/651
Plate	20 MM	2014-T6/651
Plate	1" (25.4 MM)	2014-T6/651
Plate	1.1/4" (31.75 MM)	2014-T6/651
Plate	1.1/2" (38.10 MM)	2014-T6/651
Plate	1.3/4" (44.5 MM)	2014-T6/651
Plate	2" (50.8 MM)	2014-T6/651
Plate	2.1/2" (63.5 MM)	2014-T6/651
Plate	3" (76.1 MM)	2014-T6/651
Plate	3.1/2" (88.9 MM)	2014-T6/651
Plate	4" (101.6 MM)	2014-T6/651
Plate	4.1/2" (114.3 MM)	2014-T6/651
Plate	5" (127 MM)	2014-T6/651
Plate	6" (152.4 MM)	2014-T6/651

*Precision Tooling Plate with a machined finish and plastic coated is available from stock*

*Alloy Tooling Plate suitable for moulds and special tooling applications are also available on request*

### Five Bar Patterned Plate

Plate	Tread Plate x 2.00 MM	5754
Plate	Tread Plate x 3.00 MM	5754
Plate	Tread Plate x 4.50 MM	5754
Plate	Tread Plate x 6.00 MM	5754
Plate	Tread Plate x 8.00 MM	5754
Plate	Tread Plate x 9.53 MM	5754

*available as standard or cut to size plates*

*If we do not show the thickness you require please contact the sales team to check if it is available*

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