## It's more than just aluminium...





There is only one way... The Calm Way!

#### Calm Aluminium... It's more than just aluminium.

We also supply brass, copper, stainless steel, titanium, engineering and medical grade plastics, and other products on request. And, of course, all grades of aluminium sheet, plate and extrusion.

At Calm Aluminium our key staff have over 30 years experience in the industry, so you can rest assured that we can supply the right material for the job. With current infrastructure improvements already completed and future enhancements planned, we are well equipped to supply material and fabrication services for projects small to large.

With a strong customer base in the Aerospace and Defence Industries, Calm Aluminium is a name you can trust.

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#### **About Us**

Calm Aluminium was established in 2002 to market products and services to the Aerospace, Defence and Toolmaking industries in Australia and New Zealand and also to act as a technical adviser of correct materials and alloys for the related markets. From its inception, Calm Aluminium has achieved competitive prices and lead times for Aluminium and other products for the local industry.

Calm Aluminium has full aircraft approved vendor status for BAE Systems Australia and is only one of a few certified material supply companies in Australia to have achieved this status for supply of raw materials, both ferrous and non ferrous metals.

Our core customer base is in the Aerospace and Defence industries... and we have products to suit many more applications.

From orders small to large we have the right material for you. We can even cut to size while you wait.

#### **Services**

Through our network of highly qualified sub contractors we offer fabrication services, such as cutting, folding, water or router cutting, welding and machining... part or full product fabrication. Of course our contractors have aerospace and defence quality standards in place.

With our precision Combination Plate & Extrusion and Band Saws, we can cut material to exact sizes.

Calm Aluminium can supply locally produced extrusions from the leading extrusion mills in Australia and New Zealand, as well as aerospace and military certified metal from suppliers in USA and Europe. All metal is supplied with full mill certification as standard with all shipments from overseas.

From raw material to the end product, Calm Aluminium has the resources to provide the complete service.

#### **Products**

Calm Aluminium offers aluminium in sheet, plate, extrusions and custom designed extrusions for all industries. The alloy range is from 1000 to 8000 series, as well as other products such as stainless steel, special steels, titanium, copper, brass and engineering and medical grade plastics.

Calm Aluminium can supply cast aluminium plate up to 965 mm thick which is used for large die moulds and other applications, such as, for the Tooling and Automotive Industry on extremely short lead times from our supplier in USA. Material can be supplied in exact quantities and size, reducing weight and machining times as opposed to the high weight ratio and machine times of tool steel.

#### Staff

Although Calm Aluminium is a relatively young company, our staff have valuable and extensive knowledge in the industry. Below is some information on our key staff:

**Laurie Sutton**, the Founder and Director of the company, has over 30 years experience in this line of work. He is recognised by his peers as having expert knowledge in the industry. Prior to starting the company, he has had roles in Internal/External Sales, Procurement and Inventory Management, as well as General Manager and National Sales Manager positions in other well known companies in the industry. Due to this experience, Laurie has developed a vast network of contacts within the industry ranging from small companies in engineering to large corporations in aerospace and defence. This has led to a great rapport with both customers and suppliers alike.

**Michael Sutton**, with a background in Information Technology, has designed and implemented various systems in industry sectors including local government, national supply chains and telecommunications. He has been and will continue to improve upon Calm Aluminium's IT Infrastructure, as well as taking an active role in many other areas of the business. A custom designed Inventory Management & Control System is soon to be implemented, with future projects including website enhancements to enable our customers to place orders online and view real-time inventory reports.

All staff play a 'hands-on' role within the business. Each member is already, or is becoming, skilled in all areas of the business. Whether it is working in sales or cutting metal on the factory floor, this multi-skilling ensures a smooth operation of the business... no one person is relied upon to get the job done.

#### Infrastructure

With a recent relocation to a new office and factory at Minto, NSW (a suburb of Sydney), our inhouse fabrication capabilities have expanded. Our in-house cutting facilities include a 'Combination Plate and Cut-off Saw' from MetlSaw (USA) for cutting plate and extrusion up to 165 mm thick and a Parkanson automatic precision Band Saw for cutting material up to 365 mm wide.

#### **Combination Plate and Cut-off Saw**

This saw will cover 80% of the requirements for non-ferrous cutting. Not only is it a strip plate saw, but can also be used as a cut-off machine for plate, flats, rounds, squares and angles.

This saw alone will allow us to stock more material on site, improving upon our already short lead times for customer orders.

This is a high production sawing machine capable of attaining close tolerance cuts. Our standard tolerance is +/-0.5 mm in positioning and +/-0.05 mm per 25 mm of thickness in vertical squareness. However, we can provider closer tolerance cuts of up to +/-0.2 mm upon request.





Some of the features of this saw are as follows:

- First 915 mm is Cut-off saw
- Allen Bradley PLC controls
- Panel View Touch Control Screen
- Precision cutting up to +/-0.5 mm (or +/-0.2 mm upon request)
- Eliminate Secondary Operations
- Integral Chip Collection
- Solid Clamping of Material
- Easy Saw Blade Change
- Automatic Load Button
- Protective Barrier
- Backgauge Squaring Fence
- Operator Protective Shields
- Spring Loaded Clamps
- Variable Pressure Clamping

#### Quality

With our current Quality Management System already approved by the likes of BAE Systems Australia, we have taken this a step further with our recent certification to ISO 9001:2008 in the beginning of 2009. This, as well as our compliance to the Aerospace Standard AS 9120, ensures we have a 'best practice' Quality Management System in place.

#### **Technology**

We have recently upgraded our IT infrastructure and ongoing improvements are planned.

Some of these upgrades and future improvements include:

- Custom Designed Inventory Management & Control Systems
- Enhanced Quality Management Systems
- Information Security
- Website enhancements (including an on-line ordering system and real-time inventory reports for our customers)

#### **Affiliation**

Calm Aluminium has links to various companies across the globe. Whether it be with suppliers like Vista Metals and Rockwell Industries International... or local industry bodies like AIDN (Australian Industry and Defence Network), we have established strategic alliances with companies who not only have quality product, but provide exceptional service and reliability.

Below is an example of some of the companies we represent:

- Vista Metals, USA
- Rockwell Industries International, USA
- Modern Plastics, USA

#### **Project History**

Some of our past projects have included supply of material and/or fabrication of components for the following:

- Material requirements for sub contractors in Australia to Lockheed Martin for the JSF (Joint Strike Fighter) program.
- Stainless Steel components for the ESSM (Evolved Sea Sparrow Missile) project.

• Supply of Aluminium Armour plate for Tenix Defence's Land Division (based at Wingfield, South Australia) for the upgrade of the M113 APC vehicles for the Royal Australia Army. The supply of plate will run for approximately two years with the first initial requirements already underway. Calm Aluminium will distribute the plates when and as required to selected sub contractors of Tenix Defence. Distribution of the plates will occur from Calm Aluminium's storage facility in Sydney, NSW.





- Material for the NULKA Decoy Program, an active missile decoy designed and built by and American and Australian collaboration. Deployed on some USN and RAN warships. The Nulka is a rocket propelled, disposable, off-board, active decoy designed to seduce anti-ship missiles away from their targets.
- Material requirements for the WEDGETAIL Project (Australian Defence Force Project AIR 5077), established to acquire an Airborne Early Warning and Control (AEW&C) capability. The AEW&C capability provides the Australian Defence Force with an enhanced surveillance capability in the broad expanse of the Australian north.
- Material supply to BAE Systems Australia for production/upgrades of STA's (secondgeneration tri-band Satellite communications Terminal Assemblages) for the Australian Defence Force. The STA is part of BAE Systems tactical trunk communications system called PARAKEET.
- Material supply for the Reflector Project for the CSIRO (Commonwealth Scientific and Industrial Research Organisation), machined by Marand Precision Engineering. Aluminium cast plate has long been the material choice for medium to large moulds in the USA for product up to 965 mm thick and is now available through Calm Aluminium in exact, pre-specified dimensions.





Photos courtesy of Marand Precision Engineering

#### **Product Highlights**

Duramold-2, Duramold-5 and ATP-5 Cast Plate

We are the sole Australian agent for Vista Metals, representing the Australian and New Zealand markets.

Vista Metal's cast plate is relatively new to the Australian tool makers, but its advantages are realised in projects such as the above component, a reflector part for a large component for the CSIRO. The cast plate was the preferred choice because of weight savings and higher machine speeds.

We stock ATP-5 Precision Cast Plate in thicknesses from 6.35 mm to 38.1 mm. Larger thicknesses up 101.6 mm for ATP-5, up to 965 mm for Duramold-2 or up to 762 mm for Durmold-5 can be supplied to your exact dimensions in ten days ex USA from large stock holdings from our supplier and shipping times are 6 weeks into Australia or New Zealand from placement of order.

Data pages for Duramold-2, Duramold-5 and ATP-5 Cast Plate are included at the back of this brochure.

#### The Future

We plan to build upon our already established presence in the market. Our new facility in Minto, our current and future enhancements in IT, our increases in fabrication services and our staff multiskilling will hold us in good stead for the future.

#### **Contact Details**

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# ATP-5TM



#### Precision Cast Aluminium Plate

By utilising state-of-the-art technology, equipment and processing systems,

Vista Metals offers a unique cast aluminium tooling plate that is specified for a wide and diverse range of manufacturing applications. Due to its versatility, and consistent mechanical and dimensional characteristics, ATP-5™ is the product of choice for those applications where flatness and dimensional control are critical. This product has outstanding machinability, excellent high speed cutting rates, and exceptional feed rates, all of which contribute to reducing machining time and improving efficiencies. ATP-5™ offers improved performance characteristics when compared to standard cast tooling plate, including stringent flatness tolerances that are unsurpassed in the industry.

#### ATP-5™

- Superior Anodizing and Hardening Response
- Higher Strength & Elongation
- Excellent Weldability
- Improved Corrosion Resistance
- High Strength to Weight Ratio
- Dimensional Stability

#### ATP-5™

- Providing design engineers a precision product for demanding and critical applications.
- Material supplied PVC two sides.
- 100% inspection of each plate for flatness and thickness accuracy.



	A T P - 5	
	5xxx Series	
Surface Condition:	Precision Machined 2 sides	
Surface Roughness:	20 RMS max.	
Guaranteed Flatness:	>12.7 mm = 0.127 mm or better	
(Before & after sawing)	=12.7 mm = 0.381 mm or better</td	
Gauges:	6.35 mm to 101.6 mm	
Tolerance:	+/- 0.127 mm	
Widths:	1232 mm, 1537 mm, 1842 mm	
Tolerance:	+6.35/-0 mm	
Lengths:	Up to 3670 mm	
Tolerance:	+6.35/-0 mm	
Edges:	Saw Cut	
	Custom sizes available on inquiry	
PROPER	TIES (TYPICAL)	
FILL		
Tensile Strength:	283 MPa	
Tensile Strength: Yield Strength:	283 MPa 124 MPa	
Tensile Strength: Yield Strength: Elongation in 50.8 mm:	283 MPa	
Tensile Strength: Yield Strength: Elongation in 50.8 mm: Hardness:	283 MPa 124 MPa 15%	
Tensile Strength: Yield Strength: Elongation in 50.8 mm: Hardness: Density:	283 MPa 124 MPa 15% 70 HB	
Tensile Strength: Yield Strength: Elongation in 50.8 mm: Hardness: Density: Thermal Conductivity:	283 MPa 124 MPa 15% 70 HB 2660 kg/m³ 140 W/mK	
Tensile Strength: Yield Strength: Elongation in 50.8 mm: Hardness: Density: Thermal Conductivity:	283 MPa 124 MPa 15% 70 HB 2660 kg/m <sup>3</sup>	
Tensile Strength: Yield Strength: Elongation in 50.8 mm: Hardness: Density: Thermal Conductivity: Electrical Conductivity: Modulus of Elasticity: Coefficient of	283 MPa 124 MPa 15% 70 HB 2660 kg/m³ 140 W/mK	
Tensile Strength: Yield Strength: Elongation in 50.8 mm: Hardness: Density: Thermal Conductivity: Electrical Conductivity: Modulus of Elasticity:	283 MPa 124 MPa 15% 70 HB 2660 kg/m³ 140 W/mK	

#### APPLICATIONS

Computer & electronics, pharmaceuticals, machining fixtures, drill jigs, index tables, mold cooling & heating plates, templates, vacuum chucks, food machinery moulding plate, automotive, packaging machinery, printing machinery, base plates and thermoforming.

#### For more information, contact:

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### DURAMOLD-2™ & DURAMOLD-5™



#### Cast Aluminium Mould Plate

Vista Metals is committed to meeting the diverse needs of its customers by providing DURAMOLD-2<sup>™</sup> and DURAMOLD-5<sup>™</sup> aluminium mould plate products. Designed and tailored to meet a wide range of mould making applications, these products offer outstanding machinability, excellent weldability, superior and consistent performance at elevated temperatures, and unsurpassed dimensional stability.

Utilising state-of-the-art equipment and processing systems, Vista Metals provides a unique range of products, dimensions, surface conditions, along with the highest quality products available and the best service possible.

#### DURAMOLD-2™

- Excellent Machinability
- Dimensional Stability
- High Brinell Hardness
- Excellent Weldability
- High Strength
- Ultrasonically Inspected
- Gauge 51 mm 965 mm

#### DURAMOLD-5™

- Excellent Machinability
- Dimensional Stability
- Excellent Weldability
- High Strength to Weight Ratio
- Enhanced Corrosion Resistance
- Ultrasonically Inspected
- Gauge 51 mm 762 mm

#### DURAMOLD-2™ AND DURAMOLD-5™

- Supplying the mould maker the most complete product line for an expanding range of applications
- · Welding guidelines available on request



SPECIFI	C A T I O N S	
D U R A M O L D-2 2xxx Series	D U R A M O L D-5 5xxx Series	
Surface Condition & Roughness: Machined 2 Sides (25 RMS) Sawed Surface (+3.175/-0 mm)	Surface Condition & Roughness: Machined 2 Sides (25 RMS) Sawed Surface (+3.175/-0 mm)	
Gauges: 51 mm - 965 mm Tolerance: (+3.175/-0 mm)	Gauges: 51 mm - 762 mm Tolerance: (+3.175/-0 mm)	
Widths: Up to 2388 mm (51 mm - 965 mm)  Tolerance: +6.35/-0 mm)	Widths: Up to 1626 mm (534 mm - 762 mm) Up to 1880 mm (51 mm - 534 mm) Tolerance: (+6.35/-0 mm)	
Lengths:* Up to 3823 mm long (gauges 51 - 762 mm) Up to 2540 mm long (gauges 787 - 965 mm) *Longer lengths available on inquiry Tolerance: (+6.35/-0 mm)	Lengths:* Up to 3823 mm long (gauges 51 - 762 mm)  *Longer lengths available on inquiry  Tolerance: (+6.35/-0 mm)	
Edges: Saw Cut	Edges: Saw Cut	
PROPERTIES (TYPICAL)		
Tensile Strength: 262 MPa Yield Strength: 138 MPa Elongation in 51 mm: 7% Hardness: 81 HB Density: 2800 kg/m³ Thermal Conductivity: 164 W/mK	Tensile Strength: 283 MPa Yield Strength: 124 MPa Elongation in 51 mm: 15% Hardness: 70 HB Density: 2660 kg/m³ Thermal Conductivity: 140 W/mK	
Electrical Conductivity: 39% IACS Modulus of Elasticity: 74,000 MPa	Electrical Conductivity: 29% IACS Modulus of Elasticity: 70,000 MPa	
Coefficient of Thermal expansion: 20-100°C 31.5 x 10 <sup>-5</sup> 101-200°C 32.8 x 10 <sup>-5</sup>	Coefficient of Thermal expansion: 20-100°C 33.3 x 10 <sup>-5</sup> 101-200°C 34.0 x 10 <sup>-5</sup>	

#### APPLICATIONS

Moulds for the automotive industry, blow moulds, structural foam moulds, rubber moulds, low pressure injection moulds, Thermoforming moulds, R.I.M. and R.T.M. molding.

#### For more information, contact:

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