



MADE IN

CAPRAL

AUSTRALIA



### Capral Heritage

Capral is Australia's largest manufacturer of aluminium products with a history of investing in Australian industry for over 75 years. Capral understands the Australian market and its environmental conditions and this has made it Australia's leading designer, manufacturer and distributor of aluminium extrusions.

### Who are we?

Capral is an Australian, nationwide manufacturer and stockholder of aluminium and other semi-finished non-ferrous products.

A strategic regional network of sales account managers and distribution centres supply solutions and immediate stock availability of certain products to a wide range of industries and market sectors.

### Special Extruded Products

Capral has the capability to design, produce and stock our customer's own sections. Our extrusion manufacturing facilities can provide technical information along with in-house facilities to help design and produce extruded profiles specific to our customer's needs.

Our extrusion manufacturing facilities produce profiles to the highest quality for use in numerous applications, such as architectural, automotive, marine, electrical, general engineering, road and transport.

A typical route from conception to section:

- Customer product requirement in the form of a rough drawing.
- Design development utilising CAD/CAM technology.
- Die print/drawing produced and then approved by customer.
- Die produced and sample section extruded.
- Bulk material is extruded once off-tool sample approved.

### National Distribution Network

Extrusion manufacturing facilities are located in Victoria, New South Wales, Queensland, South Australia and Western Australia, all supplying world class products at short lead times. Capral's extensive metropolitan and regional distribution network services a wide range of industries including residential and commercial construction, transport, marine, and general engineering. Regional distribution centres operating throughout metropolitan and regional Australia supplying a wide range of geometric extrusions, machine rod, plate and aluminium sheet products.



• = manufacturing facilities

### Accreditation and Certification

All extrusions manufactured by Capral are produced to the chemical composition, mechanical property and dimensional tolerances in AS/NZS 1866:1997. Capral is also accredited to:

- AS/NZS ISO 9001:2008 - Quality Management Systems.
- AS/NZS ISO 14001:2004 - Environmental Management Systems.
- ISO/IEC 17025 - NATA Accredited Mechanical Testing Laboratory.
- All major international marine classification societies including DNV (Det Norske Veritas) and Lloyds Register.

### Value Add

Focused on the requirements of our customers, a significant investment has been made in processing and fabrication facilities, including nine extrusion presses and Australia's largest extrusion press; 4400MT SMS Extrusion Press (yr2003), with interchangeable 9"/12" container.

Fabrication facilities include:

- Automatic fine tolerance cut to length saw
- 4 AXIS CNC machining product centre up to h=170mm, w=400mm, l=14000mm
- 3 AXIS CNC machining product centre h=180mm, w=200mm, l=7000mm
- CNC extrusion and plate router h=200mm, w=2500mm, l=12,500mm, maximum cut depth = 30mm
- **Drawn products:** Precision ovality, work hardened tubing, outer diameter 40mm to 130mm, wall thickness 1.8mm - 10mm
- **Knurling:** Application of non-slip surface to extrusions
- Product edge de-burring.

These fabrication capabilities allow us to supply material closer to a final form, providing the option of variable sizes and finishes previously unavailable and creating a real opportunity for a one-stop-shop.

### Finishing Capabilities

A range of finishing options ensures your extrusions can be easily matched to your project.

Powder coatings, supplied by Interpon Powder Coatings, are available in an extensive range of colours, gloss levels, textures and metallic shades for complete colour freedom. Interpon's entire architectural range qualifies for several Green Star credits ensuring a sustainable finish for your project, with durability for up to 7, 10 and 15 years on colour and film integrity. For details and to view the full colour range options, visit [www.interpon.com.au](http://www.interpon.com.au)

Anodising treatment can provide excellent corrosion resistance and a wide range of colour options up to 25um. Such finishes are widely used for both interior and exterior applications including the architects choice SatinEtch™ technology which produces a matt finish with reduced die lines.



**Interpon.**  
powder coatings  
EVERY COLOR IS GREEN



### Aluminium The Super Metal

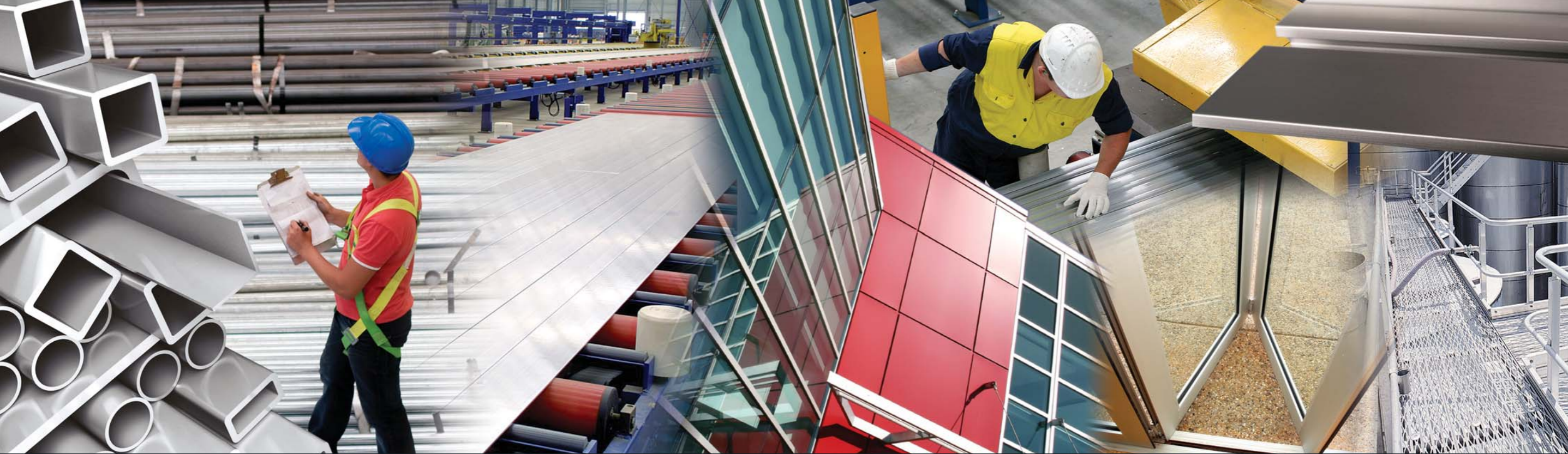
Innovation drives our world. New developments and technologies spur a constant search for new and improved materials to satisfy the limits of our imagination, yet few to date have surpassed the sheer versatility of aluminium.

Aluminium is corrosion resistant, strong, lightweight and long lasting.

It is a metal which may be cast, rolled, drawn or extruded and may be finished by polishing, anodising or coating to achieve a myriad of visual and functional effects.

Consider its abundance, affordability, corrosion resistance and adaptability and you begin to appreciate how truly remarkable aluminium is compared to other metals.

Most importantly, being readily recyclable and with one of the highest recycling rates of any metal, aluminium is an environmentally sustainable material.



### Capral Extrusion Capability Guide

MANUFACTURING FACILITIES >	CANNING VALE 7" PRESS	ANGASTON 8" PRESS	CAMPBELLFIELD 9" PRESS	CAMPBELLFIELD 12" PRESS	PENRITH 8" PRESS	BREMER - B1 8" PRESS	BREMER - B2 7" PRESS	BREMER - B3 7" PRESS	BREMER - B4 8" PRESS
Log Diameter (mm)	178	203	228	304	203	203	178	178	203
<b>ALLOYS USED</b>									
Soft / Semi Structural	6060, 6106	6060 (6063 with special arrangement)	6060, 6106	6060, 6063, 6101, 6106	1350, 6060, 6106	6060	6060	6060, 6106, 6063	6060, 6106, 6063
Hard / Structural			6005A, 6061, 6082	6005A, 6061, 6082	6005A	—	—	—	—
Extruded Finishes	Architectural, Structural, Shopfront	Architectural, Structural, Shopfront	Architectural, Structural	Architectural, Structural	Architectural, Structural	Architectural, Structural, Shopfront	Architectural, Structural, Shopfront	Architectural, Structural, Shopfront	Architectural, Structural, Shopfront
<b>TABLE WEIGHT (kg/m)</b>									
Ideal kg/m Range	1.5 – 2.5	>1.5 based on CCD	3.0	5.3	1.2 – 2.4	1.0 – 1.40	1.0 – 1.40	1.0 – 1.40	1.0 – 1.40
Secondary kg/m Range	1.2 – 5.0	>0.84	1.65 – 16	2.8 – 20	1.0 – 2.8	1.25 – 3.70	0.8 - 1.50	0.8 - 1.50	1.25 – 5.5
Die Impressions (max)	16	32	6	4	6	6	8+	8+	4
Customer Length Range Saw (m)	1.8 – 6.8	3.7 – 6.5	2.5–16 Longer/shorter lengths - refer to mill	2.5–20 Longer/shorter lengths - refer to mill	3.0–9.0 Shorter lengths - refer to mill	3.0–7.5 Shorter lengths - refer to mill	3.0–7.5 Shorter lengths - refer to mill	3.0–7.5 Shorter lengths - refer to mill	3.0–7.5 Shorter lengths - refer to mill
Min Section Weight (kg/m)	0.008	0.084	0.275	0.7	0.2	0.200	0.100	0.100	0.350
<b>CIRCUMSCRIBING CIRCLE DIAMETER (mm)</b>									
Solid	160	290 wide x 160 high	420 wide x 60 high	420 wide x 60 high	190 wide x 40 high	190	165	165	250
Hollow	120	200	380 wide x 90 high	380 wide x 90 high	160 wide x 40 high	180	150	150	180
Min Wall Thickness Ideal (mm)	1	1	1.6	2	1.2	1.2	1	1	1.2
Tongue Ratio	As per standard AS1866:1997	Subject to customer requirement and section assessment Refer AS1866	4:1	4:1	As per standard AS1866:1997	As per standard AS1866:1997 table 1. Outside of standard refer to Mill for section assessment			

### Aluminium Uses

Aluminium is the material of choice for an array of applications from building and construction materials, consumer products, electronics and aeronautics just to name a few.

You will find aluminium in safety components of your car, from the seat belt assembly to the anti-lock braking system. You will find it in other places too, your kitchen appliances, your pots and pans, your mobile phone or even in the next aeroplane you fly in.

The applications for aluminium span almost every major industry.

Its strength to weight ratio allows products to be lighter, stronger and more efficient.

Its corrosion resistant properties lend itself to harsh environments, providing low maintenance solutions and ensuring extended product lifecycles.

The many forms aluminium alloys can take, allow it equally to being cast into forms, drawn into tube or strand applications, extruded into intricate profiles or rolled into heavy plate or ultra-thin foils.

In fact it's hard to imagine how different our lives would be without aluminium.



#### **A Sustainable Solution**

Capral is committed to developing products which are sensitive to the built environment. Many facets of our operations help us achieve this goal:

#### **Aluminium - The Sustainable Metal**

Aluminium boasts one of the highest recycling rates of any metal. At the end of their long life, Capral extrusions can be readily recycled. Recycled aluminium generally falls into two broad categories. New scrap resulting from a manufacturing process such as extrusion is often not contaminated and of known quality. This scrap is remelted and reprocessed with very little further treatment. Due to its high value, such scrap enjoys an almost 100% recycle rate.

Old scrap, such as that from beverage cans, building and transport is gathered and recycled via an efficient network of scrap metal merchants which sort and separate it from other metals such as iron and steel. This scrap is most usually remelted by secondary refiners into silicon based alloys used predominantly for aluminium castings.

In Europe, recycling rates of aluminium cans can reach up to 63% whilst rates from buildings and transport are higher again and 85% & 95% respectively.

As recycling of aluminium requires only 5% of the initial energy consumed to create it, recycling one tonne of aluminium saves 5 tonnes of bauxite and 15,000 kilowatt hours of electricity, making excellent environmental and financial sense.

#### **National Manufacturing Footprint**

Capral's national manufacturing footprint means that our extrusions, where practicable are produced close to where they are required. This helps minimise the impact of sea and road freight, reducing carbon dioxide emissions.

#### **Australian Supply Chain**

As a local manufacturer, Capral is required to meet Australian environmental regulations and standards in its manufacturing and finishing operations. Understanding the full life cycle impact of products requires manufacturing processes and materials to be traced back to their source.

#### **Extensive Distribution Network**

Capral's products are transported in bulk loads to regional distribution centres that are within close proximity of our fabricators. The consolidation of fabricator deliveries where practicable also helps minimise the impact of road freight, further reducing carbon dioxide emissions.

#### **Coatings and Finishes**

Capral uses and recommends Interpon powder coatings which contain no organic solvents or heavy metal pigments such as lead. With 7, 10, or 15 year global warranty options for colour and film integrity, Interpon finishes offer high performance and reduced maintenance.

In addition to traditional anodised finishes Capral also offers a new Satin Etch™ technology that provides an aesthetically pleasing finish whilst using less energy and significantly reducing waste by-products.

## Production Process

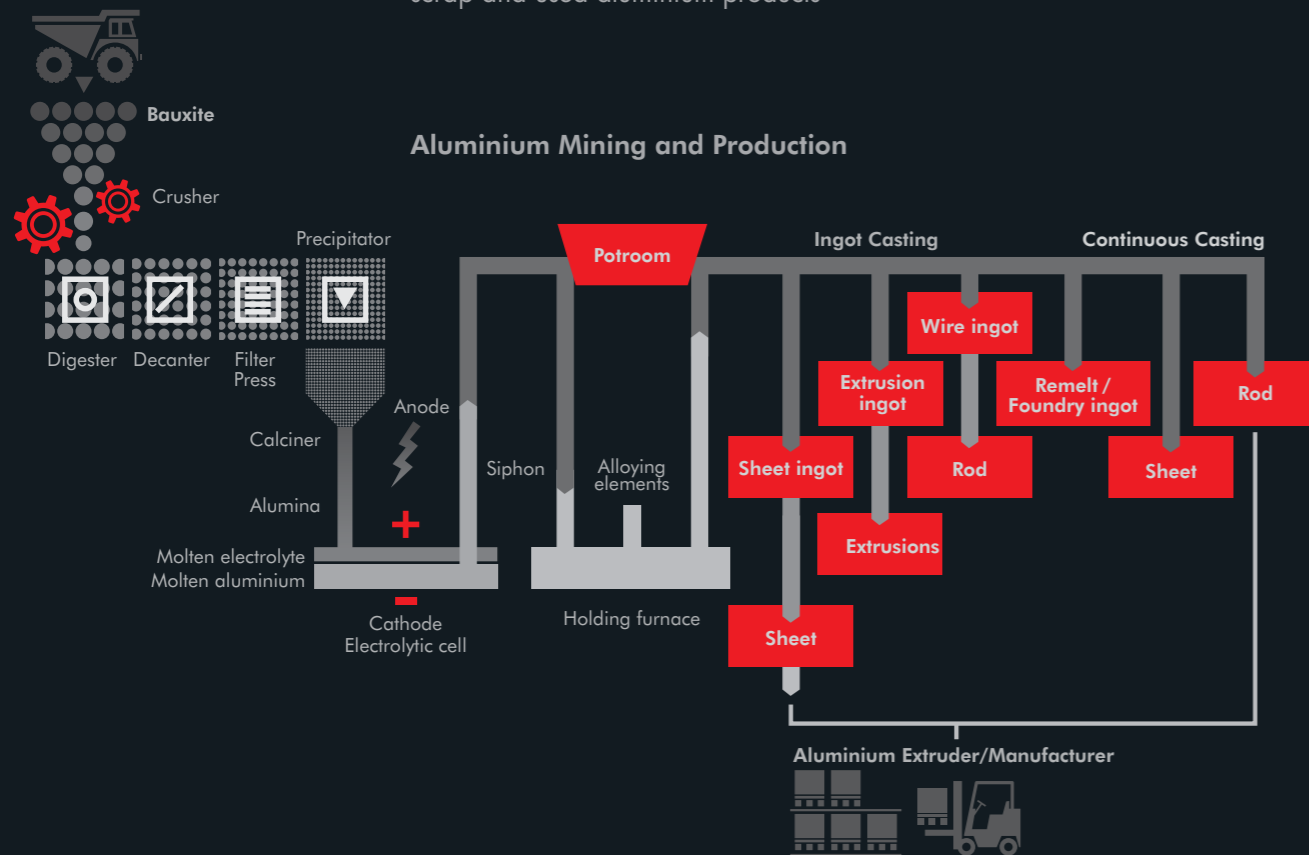
Aluminium is a silver-white metal obtained from bauxite, a rock composed of more than 50% aluminium hydroxides formed by weathering in tropical regions.

Aluminium is the earth's third most abundant element (after oxygen and silicon) and the most abundant metal in the earth's crust (8% by mass).

Aluminium bearing compounds have been used by man from the earliest times. Pottery was made from clays rich in hydrated silicate of aluminium and at one point in history aluminium was so valuable that rulers and the wealthy preferred cutlery made by aluminium instead of gold.

Today more aluminium is produced each year than all other nonferrous metals combined.

The production of aluminium goes via two different routes: primary aluminium production from ore and recycling aluminium from process scrap and used aluminium products



## Economic Impact

Capral is dedicated to Australia. It is an Australian operated company providing approximately 900 local jobs, across a range of disciplines. Supporting a multi-billion dollar building industry.

## Advantages of Aluminium

A unique combination of properties makes aluminium and its alloys one of the most versatile engineering and construction materials available today.

### Lightweight

Aluminium is one of the lightest available commercial metals with a density approximately one third that of steel or copper.

Its high strength to weight ratio makes it particularly important to transportation industries allowing increased payloads and fuel savings. Catamaran ferries, petroleum tankers and aircraft are good examples of aluminium's use in transport.

In other fabrications, aluminium's lightweight can reduce the need for special handling or lifting equipment.

### Excellent corrosion resistance

Aluminium has excellent resistance to corrosion due to the thin layer of aluminium oxide that forms on the surface of aluminium when it is exposed to air.

In many applications, aluminium can be left in the mill finished condition. Should additional protection or decorative finishes be required, then aluminium can be either anodised or painted.

### Strong

Although tensile strength of pure aluminium is not high, mechanical properties can be markedly increased by the addition of alloying elements and tempering. You can choose the alloy with the most suitable characteristics for your application.

Typical alloying elements are silicon, manganese, copper and magnesium.

### Strong at low temperatures

Where as steel becomes brittle at low temperatures, aluminium increases in tensile strength and retains excellent toughness.

### Easy to work

Aluminium can be easily fabricated into various forms such as foil, sheets, geometric shapes, rod, tube and wire.

It also displays excellent machinability and plasticity ideal for bending, cutting, spinning, roll forming, hammering, forging and drawing. Aluminium can be turned, milled or bored readily, using the correct toolage.

In fact, most aluminium alloys can be machined speedily and easily. An important factor contributing to the low cost of finished aluminium parts.

Aluminium is a popular choice of material for complex-sectioned hollow extrusions.

Almost any method of joining is applicable - riveting, welding, brazing or soldering. A wide variety of mechanical aluminium fasteners simplifies the assembly of many products. Adhesive bonding of aluminium parts is successfully employed in many applications including aircraft components, car bodies and some building applications.

### Good heat conductor

Aluminium is about three times as thermally-conductive as steel. This characteristic is important in heat-exchange applications (whether heating or cooling). Aluminium is used extensively in cooking utensils, air conditioning, industrial heat exchangers and automotive parts.



### High reflectivity

Aluminium is an excellent reflector of radiant energy through the entire range of wave lengths. From ultra-violet through the visible spectrum to infra-red and heat waves, as well as electromagnetic waves such as radio and radar.

Aluminium has a light reflectivity of over 80% which has led to its wide use in lighting fixtures. These reflectivity characteristics also lead to its use as an insulating material. For example, aluminium roofing reflects a high percentage of the sun's heat, promoting a cool interior atmosphere in summer, yet insulating against heat loss in winter.



### Good electrical conductor

Aluminium is one of the two common metals having electrical conductivity high enough for use as an electrical conductor. The conductivity of electrical-conductor grade (alloy 1350) is about 62% that of the International Annealed Copper Standard.

However, aluminium is only a third the weight of copper, which means it conducts about twice as much electricity as copper of the same weight.

Aluminium is widely utilised in power-transmission cables, transformers, busbars and bases of electrical bulbs.



### Easy surface treatment

For many applications, aluminium requires no protective or decorative coating; the surface supplied is entirely adequate without further finishing. Mechanical finishes such as polishing, embossing, sand blasting, or wire brushing meet a variety of needs. Where the plain aluminium surface does not suffice, a wide variety of surface finishes are available to suit. Chemical, electrochemical and paint finishes are all used.

Above all, anodising treatment can provide excellent corrosion resistance and a wide range of colour variations.

Such finishes are widely used for both interior and exterior applications.



### Non-magnetic

Aluminium has non-magnetic properties which make it useful for electrical shielding such as busbar or magnetic compass housings. Other applications include computer disks and parabolic antennas.



### Non-toxic

The fact that aluminium is essentially non-toxic was discovered in the early days of the industry. It is this characteristic which enables the metal to be used in cooking utensils without any harmful effect on the body. Aluminium with its smooth surface is easily cleaned, promoting a hygienic environment for food processing. Aluminium foil wrapping and containers are used extensively and safely in direct contact with food products.



### Others

#### Easy to recycle

Due to a low melting temperature, it is economically recyclable, requiring only about 5% the energy required for smelting. It is an ideal material in this age of energy and resource saving.

#### Sound absorbing

#### Used for ceilings

#### Shock absorbing

Due to its low modulus of elasticity, aluminium is used for automobile bumpers and the like.

#### Non-Sparking

Aluminium is void of sparking properties against itself and other non-ferrous metals.

## Capral Manufacturing Facilities & Mill Sales

### QLD

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Ph: Sales 07 3816 7340  
Fax: Plant 07 3816 7111  
Fax: Sales 07 3816 7105

### NSW

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Penrith NSW 2750  
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Ph: Sales 02 4720 5410  
Fax: Plant 02 4720 5490  
Fax: Sales 02 4720 5490

### SA/NT

Stockwell & Crennis Mines  
Rds, Angaston SA 5353  
Ph: Plant 08 8564 2230  
Ph: Sales 03 9590 2301  
Fax: Plant 08 8564 3210  
Fax: Sales 03 9590 2320  
(Sales via VIC office)

### WA

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Canning Vale WA 6155  
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Ph: Sales 08 9456 6616  
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### VIC & TAS

151 Barry Road,  
Campbellfield VIC 3061  
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799 Springvale Road,  
Mulgrave VIC 3170  
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**CAPRAL**

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