

ELASTOMERS

QUEENSLAND

LEADERS IN CAST POLYURETHANES AND INDUSTRIAL PLASTICS



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MANUFACTURERS OF 20A - 80D POLYURETHANE
MOULDINGS AND LININGS

Elastomers Queensland is an Australian owned and family operated Company. Established on the Redcliffe Peninsula in 1979, we have continued to expand our business into other areas that directly relate to the production of polyurethane and engineered plastic products. Together with our dedicated staff, we aim to provide a wide range of quality polyurethane products, with production runs from 1 to 20 000 units being a speciality.

We have 3 in house polyurethane dispensing machines ensuring that production runs are turned around quickly and efficiently



With full machine shop facilities including CNC lathes and mills, we handle the job from the tooling stage all the way through to the finished cast polyurethane item, ensuring a high standard of quality control.

Elastomers Queensland has the experience to offer reliable solutions for processing of manufactured components. If what you are looking for is not listed please enquire as we have the experience to source the solutions you need.



MINING, MARINE, ENGINEERING, TRANSPORT AND AGRICULTURE

Here at Elastomers Queensland we undertake work for a wide range of industrial applications such as : Mining , marine, automotive and a diverse range of other manufacturing and milling industries. If you have an application you believe may benefit from the use of Polyurethane components, please feel free to talk to us about the possibilities



COATING OF WHEELS, ROLLERS, CHUTE LININGS ETC.

When it comes to relining or coating of forklift, rollercoaster, conveyor or other types of wheels and rollers, Elastomers Queensland is your one stop shop. We've been in the business for over 28 years and developed the expertise and experience to complete your job to the highest standards achievable.

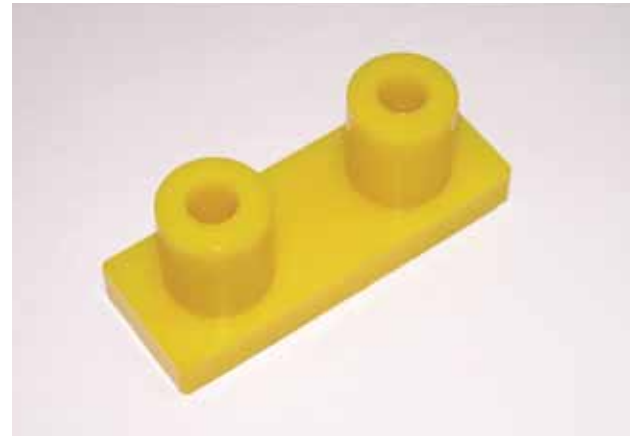
Elastomers Queensland is leading the way in the production of polyurethane products, but we also supply industrial plastics including Nylon, UHMW and Teflon.



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HAAS SL30 CNC LATHE WITH BAR FEED



CHUCK SIZE: 254mm
MAXIMUM CUTTING DIAMETER: 432mm
MAXIMUM CUTTING LENGTH: 864mm
SPEED 3400RPM
SPINDLE: 76mm
12 STATION TURRET
BAR FEED CAPACITY: 76mm DIAMETER X 1200mm LONG
TOLERANCES: +/- .01mm

RICHMOND MACHINING CENTRE



WORK TRAVEL: X AXIS 1020mm
Y AXIS 510mm
Z AXIS 560mm
AUTO TOOL CHANGER WITH 16 BT40 TOOLS
SPINDLE SPEED 8000RPM
TOLERANCE: +/- 0.01mm
FANUC CONTROLLER

BRIDGEPORT CNC LATHE



CHUCK SIZE: 254mm
MAXIMUM CUTTING DIAMETER: 300mm
MAXIMUM CUTTING LENGTH: 900mm
SPEED: 3000rpm
SPINDLE: 50mm
TOLERANCES: +/- 0.01mm

CDS6250 GAP BED LATHE



CHUCK SIZE: 254mm
MAXIMUM CUTTING DIAMETER: 500mm
DIAMETER
MAXIMUM CUTTING LENGTH: 2000mm
SPEED: 3000RPM
SPINDLE: 80mm
DIGITAL READOUT
TOLERANCES: +/- 0.01mm

WEIPERT LATHE



CHUCK SIZE: 1000mm
MAXIMUM CUTTING DIAMETER: 1000mm
MAXIMUM CUTTING LENGTH: 4000mm
SPEED: 560RPM
SPINDLE: 95mm

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POLYURETHANE DISPENSING MACHINERY

3 OFF 2 COMPONENT MACHINES



CASTING OVENS:

	(L)	(W)	(H)
2 OFF	3000	1000	800
3 OFF	1900	1200	1200
1 LARGE MODULAR OVEN			

CASTING TABLES:

2 OFF 3600mm (L) X 1200mm (W) 3mm TO 100mm THICK

OTHER SERVICES PROVIDED BY ELASTOMERS

- STEEL / SHEET METAL FABRICATION
- WELDING
- SANDBLASTING
- POLYURETHANE FOAM



WHY POLYURETHANE?

Polyurethanes are a cost effective alternative to other materials such as rubber, plastic and steel.

Polyurethane Elastomers exhibit outstanding abrasion, cut, tear and impact resistance. They are also lighter and in most cases outlast metal components, especially where parts are subject to abrasive materials. Resistance to corrosion is another reason to choose polyurethanes over metal components.

• Hardness

Elastomers Queensland offer a very wide hardness range in which items can be cast. They range from 20 Shore A which is softer than a gum eraser to over 80 Shore D which is much harder than a golf ball.

• Abrasion Resistance

In applications where severe wear is a problem, Polyurethane Elastomers offer outstanding durability when compared with rubber, plastics or even metals. As abrasion resistance is a complex property, we always recommend that you conduct a field test.

• Compression Properties

Polyurethane Elastomers have greater load-bearing capability than do conventional elastomers of equal hardness. In addition to high load bearing properties both tension and compression polyurethanes have a high load bearing capacity in shear.

• Tensile Properties

Polyurethanes are characterised by high elongation, high tensile strength and high modulus. This provides a combination of toughness and durability in fabricated parts.

• Tear Strength

Especially high split tear, is a strong indication of toughness. Polyurethanes in this regards have a distinct advantage over conventional rubber.

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• Water Resistance

Depending on the type, Polyurethane Polyether Elastomers are very resistant to the effects of water immersion and have excellent long-term stability in water up to 50 C . Continuous use in hot water over 80 C is not recommended.

Water absorption is very low, in the range of 0.3% - 1 % by weight and volume swell is negligible

• Oil , Grease and Chemical Resistance

Whilst many rubbers and plastics have excellence to one or more specific solvents, oils or chemicals, the wide resistance of Polyurethanes to chemical attack means that they can be used in a multitude of environments with the exception of strong acids and alkalis and certain strong solvents.

As with all materials being examined for oil and chemical resistance, it is best to place a sample of the material in actual service. If this is not practical should be devised which simulate actual service conditions as closely as possible.

• Flame Resistance

Special Compounds containing flame retardants can be formulated to meet several self-extinguishing or non burning specifications.

• Mould, Mildew and Fungus Resistance

Suitably compounded Polyurethane Elastomers, usually polyether based, do not support fungus growth and are generally resistant to such attack. This makes them particularly suitable for tropical environments.

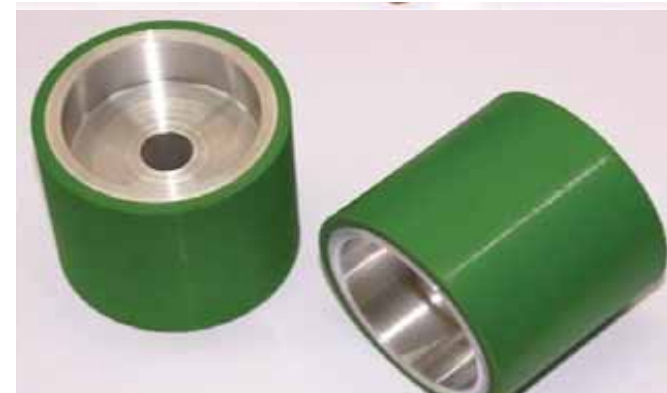
• Frictional Properties

Polyurethanes resemble most plastics and elastomers in that friction against non-lubricated surfaces generally decrease with increasing hardness. A high coefficient of friction is valuable for products such as solid industrial tyres, feed rollers, drive roller etc.

• Bonding to other materials

During the initial moulding process and under controlled conditions, polyurethane can be bonded to a wide variety of materials. High strength bonds can be obtained to most metals, wood and many plastics.

Bond strengths often exceed the tear strength of the polyurethane itself.



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USAGE APPLICATIONS

Superior cost advantage and performance has led to many instances of replacing metal, rubber, wood and plastic with polyurethane elastomers. Some applications are shown in the following table.

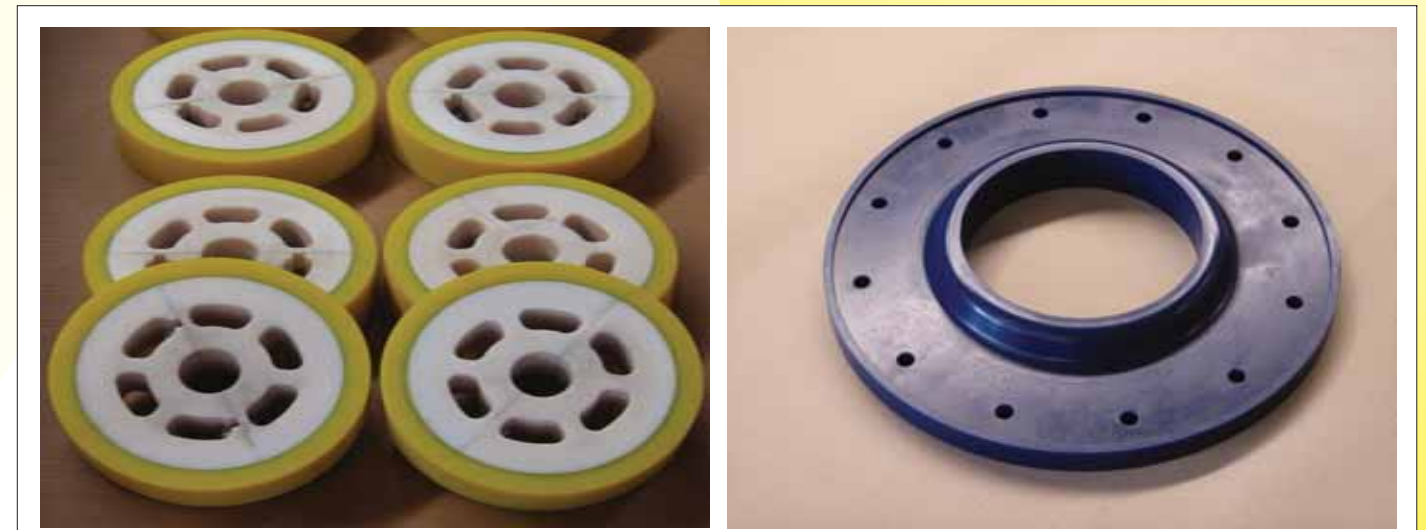
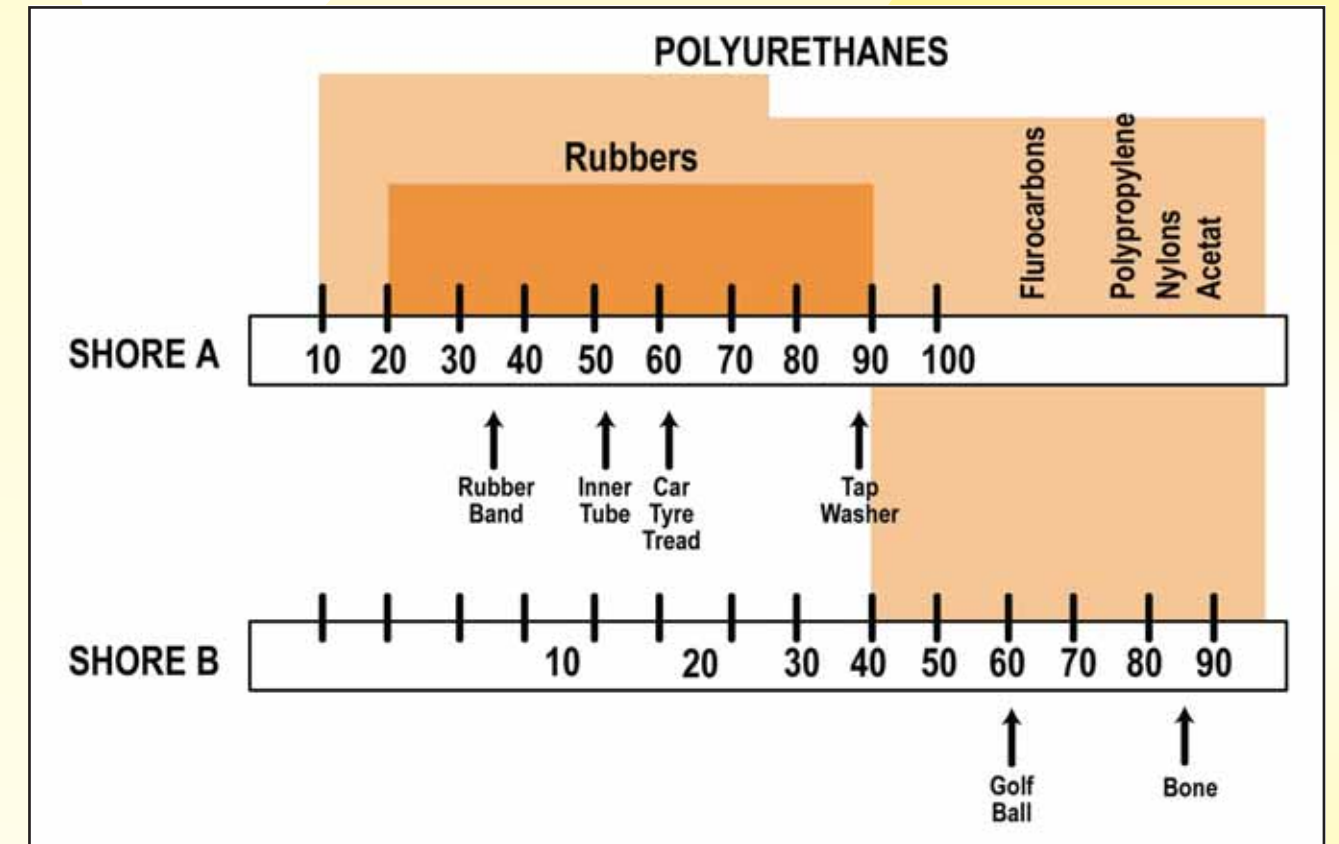
INDUSTRY	APPLICATION
Automotive	<ul style="list-style-type: none"> Engine mounts, bearings, bushes, flexible couplings.
Building & Constructions	<ul style="list-style-type: none"> Moulds for concrete, gate seals, concrete pump ports.
Electrical	<ul style="list-style-type: none"> Encapsulation, insulation, potting, cable joining.
Engineered components	<ul style="list-style-type: none"> Gears, sprockets, wire guides, rail draft gear, stripper plates, press brake pads, textile yarn guides, cutting boards, business machine belts, couplings, sound deadening, anti-vibration.
Food Mining	<ul style="list-style-type: none"> Chute lining, grain buckets. Bucket liners, conveyor rollers, scraper blades, floatation cell impellers, pump linings, grading screens, lined pipes, cross-over pads.
Oil, Chemical and Marine	<ul style="list-style-type: none"> Bushings, bearings, hydrocyclones, engine mounts and couplings, pipeline pigs and scrapers, fenders, valve seats.
Rollers	<ul style="list-style-type: none"> Board rollers, nip rollers, metal forming, woodworking, printing, conveyor, can coating, paper mill.
Seals and Gaskets Wheel and Tyres	<ul style="list-style-type: none"> Pneumatic and oil seals, diaphragms. Fork-lift tyres, heavy duty castor wheels, escalator wheels, roller skate wheels, roller blade wheels.

WHAT WE DO

All Mining Applications including:
Lining of Chutes, Coupling Rubbers, Scrapers & Wear Strips, Engine Mounts and Couplings for Marine, Automotive and Industrial Applications,
Conveyor Rolls, Elevator Wheels, Nylon Bushes, Wheels and Rollers, Wheels and Castors, Re-moulded Gaskets and Seals, Sheet, Tube, Rod and Strips, Boat Rollers, Suspension Bushes, Truck Parts.

PROPERTIES OF POLYURETHANE ELASTOMERS

Polyurethanes compete against many other materials including rubber, plastic and metals. The most common method of classifying Polyurethanes is according to their hardness. The table below shows how Polyurethanes rate in hardness to other materials.



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