

# **HYCAST METALS**

## **Centrifugal Casting**



# Centrifugal Casting

Centrifugal casting is a fast, efficient and low-cost method of producing superior quality hollow-bar for machining into your components. It can be supplied in a wide range of standard or client-specific sizes and alloys.

As its name implies, this method of casting uses centrifugal force to produce items of cylindrical form which have a dense fine-grained metal structure and improved physical properties.

Molten metal is poured into a rapidly rotating steel die and is forced against the sides of the mould by the tremendous pressure exerted by the centrifugal action. The force assists in forming a consistent, high-integrity, superior-strength material.

The centrifugal force also displaces any dissolved gases and suspended non-metallics ensuring that they are segregated to the inside diameter for easy removal by machining.

It is an economical alternative from which components requiring high temperature, corrosion and wear resistance with a homogeneous structure and constant machining characteristics can be machined.



Very few gravity-cast foundry products can compete with the high quality fine-grained components produced using our precision centrifugal casting techniques.

## Applications

Hycast Metal's centrifugal cast hollow bars are available in a broad range of standard and non-standard sizes and all types of air melted alloys. They provide significant material and machining cost savings when compared with solid bars.

Our standard bars are produced in lengths of up to 600mm with outside diameters ranging from 95mm to 530mm. The hollow bars can be cast with varying wall thicknesses to your specifications. They are an ideal source of machining stock.

We also produce components with hexagonal, square or tapered outer diameters, tapered bore, truncated cone sections, combinations of different diameters and shaped outer surfaces. In fact, if you provide us with a drawing, we can create a part to meet your exact specifications.

Some of the many types of components produced from our material include wear rings, seals, bushes and bearings, rollers, gear blanks, pump sleeves, general and pipe flanges, furnace parts, cylindrical or ring type engineering components and forged stock.

These are supplied to companies involved in a diverse range of industries including light and heavy engineering, manufacturing, food processing, minerals extraction, materials handling, pump and valve production and general engineering.

## Alloys

Our products are cast in all grades of heat, corrosion and wear-resistant alloys. Clients can choose from a range of steels and stainless steels (including Ferritic, Martensitic, Austenitic and Duplex grades) as well as nickel alloys, cobalt alloys, brass, bronze and other alloys to suit most purposes. Your own special alloys may be also made up for specific applications and certified in our NATA registered metals analysis laboratory. The most commonly cast materials are listed on the chart to the right.

## Finish

We can supply castings in an unmachined condition or we can proof-machine or finish-machine them according to your requirements. Products can also be heat treated to individual specifications.

### Most commonly Cast Metals

Name	Aust Cast Spec	Wrought Grade	Trade Name*	Other
316	AS 2074 H6A	316	2RK65	CF8M
316L		316L		CF3M
304	AS 2074 H5A	304		CF8
304L		304L		CF3
303	AS 2074 H5BM	303		CF16F
317	AS 2074 H6A	317		CG8M
347	AS 2074 H5C	347		CF8C
321		321		
302B		302B		
904L				HF
309	AS 2074 H8B	309		HH
310	AS 2074 H8E-2	310		HK
330	AS 2074 H8G	330		HU
410	AS 2074 H3A	410		CA15
416	AS 2074 H3BM	416		
420		420		CA40
420C		420C		CA40
431		431		CB30
440C				AMS5352C
446	AS 2074 H4A	446		HC
630 (17/1 PH)	AS 2074 H7A	630	CB7 CU1	
15/5PH	AS 2074 H7B		CB7 CU2	
329			CD4MCU	
DX-5			10RE51	
DX-7			SAF 2205	
DX-255			SAF 2507	
C276			FERRALIUM 255	
C22			HASTELLOY C276	
825	AS 2074 H9A		HASTELLOY C22	
NICKEL 600			INCOLOY 825	
NICKEL 601			INCONEL 600	
NICKEL 625			INCONEL 601	
NI/CU 400			INCONEL 625	
NI/CU 500			MONEL 400	
CY40			MONEL K-500	
COBALT 6			MONEL 410	
			STELLITE 6	
			AMS 5387	

\* Names registered by organisations not connected to Hycast Metals.



*Unmachined*



*Proof Machined*



*Finish Machine*

## Hycast Metals

Hycast Metals is a 100% Australian-owned company which specialises in providing high quality precision castings and finished components. It is the largest producer of investment castings in Australasia and has maintained its leading position by constantly testing and refining new production methods and techniques.

We have a much wider alloy range than the majority of metal merchants and our prices are lower than those charged for comparable imported hollow bar.

Our metallurgists drawing on a service history spanning 35 years, are available to consult with you regarding alloy selection and your particular needs.

We also understand that when products are required, they're needed in a hurry. You will find that we provide a fast turn around from the receipt of an order to our delivery of the finished part.

One of our particular areas of specialisation is the fabrication of plant or machinery replacement parts which would otherwise have to be imported. Clients know that if they suffer a breakdown they can rely on us to produce a replacement part far quicker and more cost effectively than any other source.

## Testing Services

We have a NATA-registered laboratory on site which means our products can be supplied complete with chemical composition test certification. We can also arrange for mechanical testing, radiographic inspections, ultrasonic tests, dye penetrant inspections and magnaflux tests as well as other quality control examinations.

In other words, if you specify the exact metallurgical condition you require, we can meet your requirements and provide certification.



*Component parts produced in a range of shapes and sizes from centricast hollow bar.*

# HYCAST

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