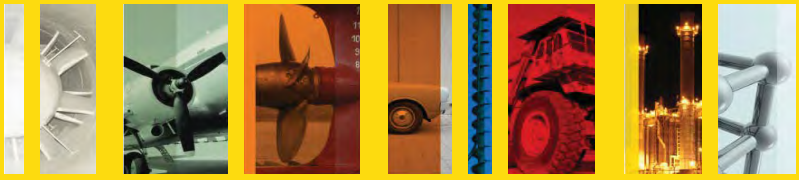
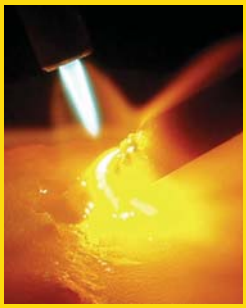


More than 100 years' experience in finding solutions for your business.

Australian Castolin Eutectic

Consumables and Equipment range



Castolin Eutectic®
Eutectic Castolin

Edition September 2014

YOUR RESOURCE FOR PROTECTION, REPAIR AND JOINING SOLUTIONS

Liquid Fuelled HVOF Technology

CastoJet® CJK5

COATING

- **Easy to use and intuitive to operate**
- **Kerosene fuelled high pressure HVOF for high quality coatings**
- **Unlimited recipes and parameter recording for repeatable coatings**
- **Safe and rapid start up which saves fuel and time**
- **Simplified maintenance**
- **Thick, low stressed coatings that are in compression**

CastoJet® CJK5 HVOF Technology

CastoJet® CJK5

Castolin Eutectic
Eutectic Castolin

Intuitive to operate

The CastoJet® Kerosene 5 - CJK5 - is the latest Castolin Eutectic development of kerosene fuelled high pressure HVOF (High-Velocity Oxy-Fuel) systems. Using mass flow control for repeatable coating quality. The system produces the densest metallic and carbide coatings of all. The coatings can be compressively stressed, allowing thick layers to be applied without fear of spalling.

The latest developments are to the gun, powder feeder and operator interface. The operator interface is simple to follow using a touch screen interface. The powder feeder has mass flow controlled carrier gas and closed loop motor control for reliability and repeatability of powder feed rates.

The value is in the technology to make it intuitive to operate, to reduce operator errors, to simplify the maintenance and to obtain repeatable high quality coatings.

Advantages

- High-pressure of the combustion chamber is typically at least double that of gas fuelled HVOF, what improves the gas speed of 20% over gas fuelled HVOF.
- Mass flow control of oxygen and carrier gas = repeatability.
- PC control with touch screen operator interface.
- Optional keyboard control or operator interface unit.
- Unlimited recipes and parameter recording.
- Low running costs compared with hydrogen fuel HVOF systems.
- High Bond strength and low porosity coatings.
- Manual or fully sequenced start-up, operation and shut-down.
- Hydrogen, Propylene, Propane or Kerosene start-up.
- Liquid fuel = thick, low stressed coatings.
- High hardness, low oxide level coatings

Technical data:

Typical Material	GPM (grams)	Deposit Efficiency (%)
Stellite 6	70	44
Cr3C2 /25 NiCr	70	50
Wc/10Co/4Cr	70	49
Wc/Co17%	70	45
Wc/Co12%	70	45
625	70	47
Copper	70	63
NiCrBSi	70	48

All figures are approximate

Typical applications:

- Hard chrome plating alternative
- CGL mill rolls
- Gas ball and gate valves
- Down hole tools used in the oil and gas industry
- Paper rolls
- Hydraulic rams
- Aircraft Landing gear
- Suspension components
- Hydro-electric turbines
- Automotive valves
- Wire drawing blocks

Your resource for protection, repair and joining solutions

CastoDur® Diamond Plates

CDP® 4666 - Premium Quality

Weld cladded wear plate for extreme abrasion and erosion resistance. This is the real High Load resistant wearplate with a unique overlay and a complex carbide structure with high density of hard particles. The extremely hard boron and niobium hard particles finely dispersed in between the chromium carbides reduce their spacing and ensure the best protection from abrasive and erosive media of finer size.

Alloying elements: C, Cr, Nb, B

Hardness: 62-65HRC

Carbide content: >50%

Dimension

Base material: mild steel
Plate dimensions: 1500 x 3000 mm
Surface coating: 1220 x2740 mm (3.34 m2)
Thickness of metal base + protective layer:

Product	Size	Size	Size	Size
CDP 4666	3 on 5	4 on 6	5 on 8	5 on 10

Many more plates and sizes are available upon request.
Please ask your local Representative.

XuperWave

Our wearplates are available with straight beads (standard) or with the exclusive XuperWave bead pattern.

Linear wear resistance is increased by 30% with XuperWave geometry. XuperWave, whose beads and crack morphology provide non parallel geometry to wear flow direction.

Strips Weld Geometry

Strips and cut plate can be supplied to your exact dimensions saving you space and costs.

CastoDur® Powder Plate Range

Advantages

CDP® Powder Plates are produced by overlaying an easy-to-weld steel plate with a metal powder alloy fused in a furnace under protected atmosphere. The main advantage of these products is the 100% dilution free overlay obtained, that ensures maximum protection even with just a few millimetres of deposit thickness.
Lightweight and therefore easy to handle Easily formed, and therefore also suitable to tight bending radius.

CDP® 112

Powder Coated wear plate for extreme abrasion and erosion. The deposit consists of a wear resistant Ni Cr B Si matrix and additions of fine dispersed tungsten carbides (WC), designed for resistance to wear by erosion and low stress abrasion both in wet and dry forms.

Wearfacing alloy: Ni Cr B Si + W carbides

Matrix hardness: 60 HRC

Carbide hardness: > 1,700 HV0.03

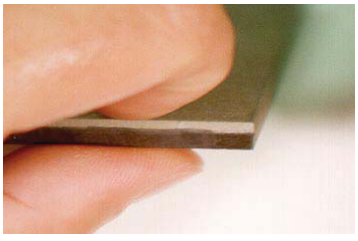
Carbide content: 35%

Max. service Temp: 700°C

Product	1 on 2	2 on 4	2 on 6	4 on 6	2 on 8	2 on 10
CDP® 112	X	X	X	X	X	X
CDP® 496	X	X	X			

Product	Abrasion	Errosion	Corrosion	Metal/Metal	Friction
CDP® 112	XXXX	XXXX	XX	X	
CDP® 496	XX	XXX	XXXX	XXXXX	

Plate dimensions 850 x 1250
Coated surface 800 x 1200



CDP® 496

Powder Coated wear plate to combat erosion. The Ni Cr B Si alloy deposit offers excellent resistance to wear by metal-to-metal friction, erosion and a wide range of corrosive conditions.

Wearfacing alloy: Ni Cr B Si

Hardness: 57 HRC

Max. service Temp: 700°C

CastoTube®

Wearface-welded small diameter tubes
Preventive protection against severe abrasion and erosion

CastoTubes

Small diameter, seamless CastoTubes for superior industrial performance:

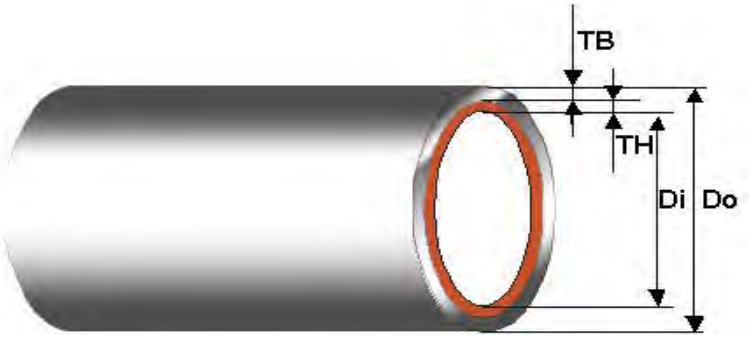
- Extremely wear resistant, lightweight and easy-to-join
- Highly cost effective for rapid replacement of worn tubes
- Increase service life, plant availability and process productivity

Castolin Eutectic®
Eutectic Castolin

CastoTube®

CastoTubes - the latest addition to our expanding range of semi-finished, anti-wear solutions for industry.
Basically it consists of easy-to-weld mild steel tubes which have been internally wearface-welded with TeroMaTec 4666 alloy thus maintaining the exceptional wear resistance of our well known 4666 CastoDur Diamond Plates. Furthermore, by avoiding expensive forming operations of flat plates into tubes, seamless small diameter CastoTubes offer many advantages:

- Highly cost effective
- Absence of harmful linear weld joints
- Exceptional wear resistance
- Perfectly round cross section
- Spiral welding minimises distortion
- Lightweight for handling
- Easy-to-join by welding or mechanical means

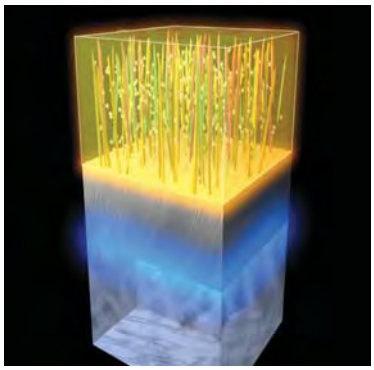


Item No	Inner Dia Di mm	Basic Tube Do mm	Basic Tube Wall TB mm	Wear Facing TH mm
0082CT0640	82	101.6	5.6	4.0
0100CT0735	100	121.0	7.1	3.5
0125CT0435	125	139.7	4.0	3.5
0150CT0635	150	168.0	5.6	3.5
0175CT630	175	193.7	6.3	3.0
0200CT0635	200	219.1	6.3	3.5
0250CT0835	250	273.0	8.0	3.5

Many more sizes are available upon request. Please ask your local Representative.

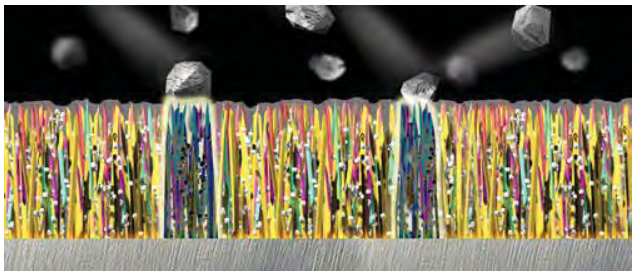
CastoTubes coating

Applied internal coating thicknesses are typically 3 - 4.5 mm. The TeroMaTec 4666 wearfacing alloy contains multiple hard phases with hardnesses reaching 1500 - 2700 HV which resist abrasion and erosion up to 500°C. Alternative alloys and different base tube compositions for extreme service conditions (eg high temperature erosion), are available on request.



CastoTubes are engineered for exceptional wear resistance as illustrated by the laboratory abrasion wear test data above. This performance results from:

1. Ultra-hard phases anchored in a tough matrix. Their hardness is typically 2-3 times higher than the most abrasive media used in industrial processes.



2. Unique geometry of hard phases achieved by controlled cooling of weld solidification kinetics. These tend to nucleate as a dispersion between other needle shaped phases which are strongly oriented and firmly anchored within the matrix. This prevents premature “washing out” of the hard phases from the “softer” matrix by wear mechanisms.

Standard CastoTubes Range

Tubes with a minimum diameter of 82 mm are available, with a maximum length of 3 m.
CastoTubes can be fitted with standard flanges so that the replacement of worn out tubes can be done quickly and easily.
Virtually any inner diameter from the 82 - 300mm range can be produced by applying a different wearfacing thickness inside the standard base tube.
This allows a close mating joint to the existing installation thus avoiding turbulent media flow.

Flanged joints CastoTubes are available with slip-on or integral flanges in accordance with DIN standards. Other types of flange joints are also available upon request.

Elbows Elbows are fabricated by cutting CastoTubes into wedges and reassembling them according to customer specifications for the pipe bend geometry.

Castolin Eutectic®
Eutectic Castolin

Smenco Pty Ltd,
100% Australian company proudly promoting ***Castolin Eutectic***.
World wide solutions with local support through our many regional offices and Distributor network.

Your local distributor is:

ABN 21 060 672 979

TOOWOOMBA WELDING SUPPLIES

Ph: 07 4659 0044
500 Boundary Street, Toowoomba QLD 4350
E: sales@tweld.com.au I www.tweld.com.au

We deliver on time ... EVERYTIME
We are an Australian locally owned family business

welding - wear solutions - automation