Castolin Eutectic®
Eutectic Castolin

CATALOGUE

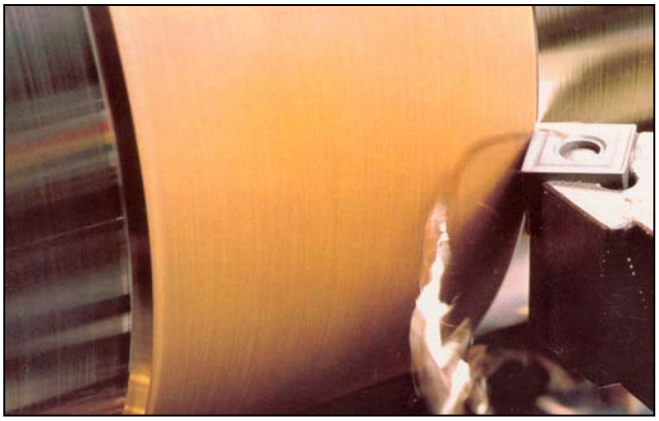
MAINTENANCE and REPAIR

Castolin Eutectic International SA

Switzerland

CONTENTS

NEED TOP PERFORMANCE



Wear mechanism can cause expensive damage by reducing the lifetime of machinery parts. Prolonging the lifetime of your key machinery requires deep understanding of wear phenomena. Castolin Eutectic is specialized in conserving your resources, reducing waste and optimizing the use of your capital investment.

Castolin Eutectic is the life-prolonging factor for you – this means reduced downtime and extended lifetime of your key equipment trough high quality solutions for protection, repair and joining.

This knowledge enables our dedicated technical staff to apply our metallurgical experience and extend the life of your equipment. Most types of damage result from combined wear mechanisms such as abrasion, surface fatigue, impact and erosion. Components are rarely subjected to only one type of wear.

Different mechanisms add up to a combined wear effect that relates to a system with many parameters. Analyzing these and finding the right coating to protect your machinery and equipment are the core tasks of our specialists.

Castolin Eutectic®
Eutectic Castolin

PRODUCTS INDEX

Manual electrode

Continuous electrode

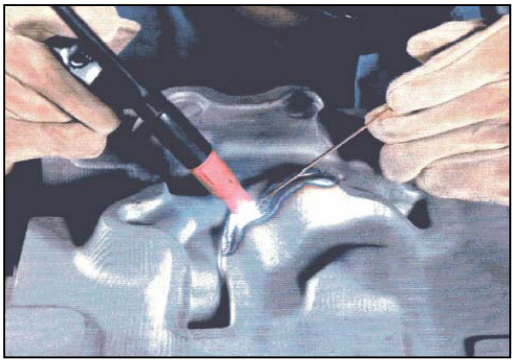
Brazing alloy

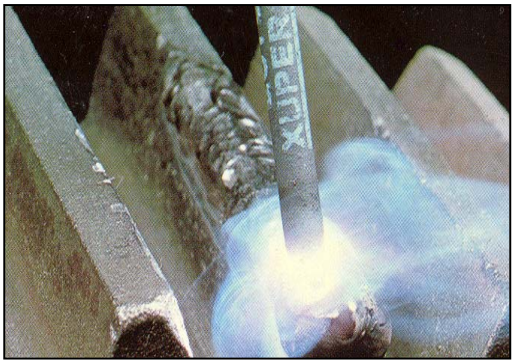
Alloy Powder

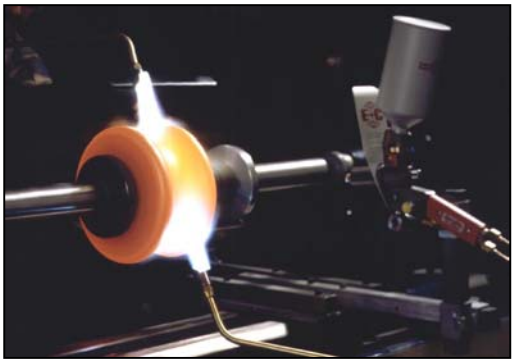
Polymer composite

TIG Filler rod

CATALOGUE STRUCTURE AND GUIDE FOR USE







This catalogue is designed to provide the user with a selection of Castolin Eutectic products, which offer the most suitable solutions to different categories of problems. For each category, the appropriate products are listed in the following order of product types or families:

EnDOtec®
Gas-shielded, flux-cored wire continuous electrodes

TeroMatec®
Flux-cored wire continuous electrode, without gas shielding

CastoMag®
Solid-wire continuous MIG/MAG electrodes

CastoTIG®
TIG filler alloy rods

Castolin®, XHD®, CastoDur®
Special manual electrodes

Eutalloy®
Alloy powders for thermal spraying with simultaneous fusion

Eutalloy® RW
Alloy powders for thermal spraying with subsequent fusion

RotoTec®
Alloy powders for ”cold” thermal spraying, using a separate bond coat

ProXon®
Alloy powders for “one-step”, “cold” thermal spraying

MetaCeram®
Ceramic powders for “cold” thermal spraying

MeCaTeC®
Polymer composite material, applied cold with no heat source or power supply required

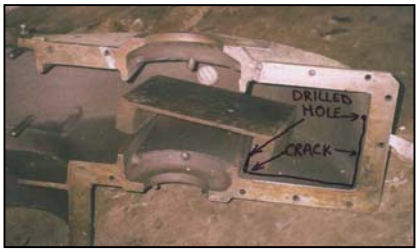
1.1 JOINING AND REBUILDING CAST IRON

Low-heat-input manual electrode for « in-situ » repair and maintenance of cast-iron and for joining cast-iron with steels or copper alloys.

Technical data
Tensile strength Rm: 370-440 N/mm^2
Hardness: 130-170 HV30

- Exceptional weldability in all positions
- Nodular graphite deposit resists cracking
- Low-heat-input
- No electrode overheating

XUPER 2240



Low-heat-input manual electrode for repairing high-strength cast-iron and for dissimilar joining cast-iron with steels

Technical data
Tensile strength Rm: 470-550 N/mm^2
Hardness: 180-230 HV30

- Maximum resistance to cracking
- Excellent blend of tensile strength and ductility
- High deposition rate
- Insensitive to overheating
- Very good weldability in AC and DC

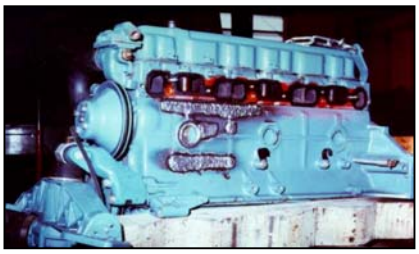
XHD 2230

Low-heat-imputmanual electrode for joining old cast-iron. Applications include engine block.

Technical data
Tensile strength Rm: 250-300 N/mm^2
Hardness: 130-170 HV30

- Low-heat-input welding of all contaminated cast-iron
- Stable, intense arc, no spatter
- Easily filed
- Easy slag removal
- Dense, homogeneous and porosity-free deposit

Castolin 2-44



Flux-coated composite brazing rod developed specifically for rebuilding gears and pinions.

Technical data
Working temperature: ~ 910°C
Hardness: 160-200 HB

- Low coefficient of friction
- Easily machinable
- Very tough deposit
- Easy bonding

Castolin 185XFC

Gas-shielded continuous electrode for low-heat-input semi-automatic joining, rebuilding and anti-wear protective coating of cast-iron, plus dissimilar joining of cast-iron and steels.
Technical data
Tensile strength Rm: ~ 470 N/mm^2

- No cracks or porosities
- Special ingredients for improved welding of cast-iron
- Very high resistance to cracking under service conditions

EnDOtec DO*23

Alloy powder for anti-wear protective coating and repair of steel, cast-iron and nickel-base alloy parts.

Technical data
Service temperature: ~ 600°C
Hardness: 240 HV30

- For joining and coating applications
- Good resistance to corrosion
- Excellent resistance to friction
- Applied by simultaneous spray/fusion-process, using SuperJet torch

Eutalloy 10224

Manual electrode **Brazing alloy** **Continuous electrode** **Alloy powder**

1.2 STEELS AND ALLOYS STEELS

XUPER 680 S

Highly alloyed special manual electrode for joining a broad range of difficult-to-weld metals including special-,austenitic-manganese-, air hardening and high-carbon steels, and for dissimilar joining.

Technical data

Tensile strength Rm:750-850 N/mm^2

Yield strength Rp0.2: >640 N/mm^2

- Outstanding tensile strength
- Superb crack-resistance
- Unrivalled deposit characteristics
- Rapid slag removal, excellent bead appearance
- Ease of welding in all positions

XHD 6868

Special manual electrode for anti-wear protective coating, repair and joining of difficult-to-weld steels.

Technical data

Tensile strength Rm: 740-820 N/mm^2
Yield strength Rp0.2: 590 N/mm^2
Elongation A5: 15-25%

- Remarkably easy to weld
- Very good resistance to cracking
- Very high strength
- High yield and deposition rate
- Electrode unaffected by overheating

XUPER 2222

Highly alloyed special manual electrode for joining and buttering layers on thick sections and difficult-to-weld steels.

Technical data

Tensile strength Rm: 650-690 N/mm^2
Impact strength Av:110 J (-196°C)
Elongation A5: 40-45%

- Exceptional elongation properties for maximum crack resistance
- Very tolerant of dilution
- Good low-temp characteristics
- Thermal cycling does not make deposit structure fragile
- Excellent resistance to heat, corrosion and oxidation.

Castolin 16

Low silver content brazing alloy for capillary joining and braze-welding of steels, cast-iron, German silver and nickel alloys.

Technical data

Working temperature: ~ 900°C
Tensile strength Rm: 440 N/mm^2

- For high-strength joints
- Usable in all positions
- High fluidity allows capillary joining
- Homogeneous, clean and shiny joints

Castolin 6666 N

Double-coated manual electrode for joining structural steels.

Technical data

Tensile strength Rm: 540 N/mm^2
Yield strength Rp0.2: 400 N/mm^2
Elongation A5: 25%

- Low heat-input
- High impact value at sub-zero temperatures
- Ease of use in all positions

CastoMag 45250

Solid-wire, gas-shielded continuous electrode for joining applications on a wide range of non-alloy and low – alloy steels.

Technical data

Tensile strength Rm: 540 N/mm^2
Elongation A5: 25%

- High deposition rate, reduced welding time
- Very low dilution, particularly in pulsed mode
- Eliminates common solid-wire welding problems, such as sticking and incomplete fusion

Manual electrode **Brazing alloy** **Continuous electrode**

1.3 STAINLESS STEELS AND NICKEL ALLOYS

CastoMag 45554

Solid-wire, CrNiMn alloy gas-shielded continuous electrode for joining difficult-to-weld steels and thick steel sections.

Technical data
Tensile strength Rm: 540 N/mm^2
Hardness: 200 HV30
Hardness(work-hardened):350 HV30

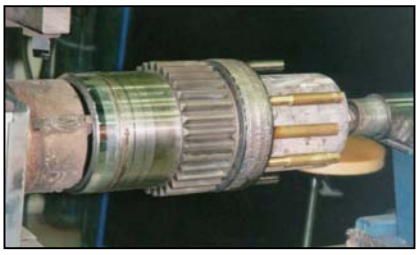
- Very good resistance to thermal shocks and oxidation at service temperatures up to 600°C
- Work-hardening deposit
- Excellent resistance to cracking

CastoTIG 45500 W

Low-carbon alloy CrNiMo alloy TIG filler rod for joining and anti-wear protective coating of 18-8-3 type stainless steels.

Technical data
Tensile strength Rm: 610 N/mm^2
Yield strength Rp0.2: 400 N/mm^2

- Excellent resistance to intercrystalline corrosion
- High strength joints
- Good resistance to oxidation at temperatures up to 800°C
- 45553 W niobium stabilised
- Good resistance to corrosion



CP 33500

Special manual electrode for joining and repair of parts of the following type of stainless steels CrNiMo.

Technical data
Tensile strength Rm: 700 N/mm^2
Elongation A5: 30%

- Immediate striking and restriking
- Excellent weldability in contact
- Easily removable slag
- Good resistance to high temperatures
- Fine grain structure for anti-corrosion performance

Castolin 1020/1800

Cadmium-free, high-silver-content, flux coated (1020XFC) and without flux (1800) brazing alloy for capillary joining of copper, ferrous alloys and stainless steels.
Technical data
Tensile strength Rm: 430 N/mm^2
Melting range: 620-660°C

- Excellent fluidity
- Excellent resistance to corrosion
- Deposit colour resembles stainless steel

Castolin 157

Lead- and cadmium- free silver soldering alloy.
Recommended for joining applications in the food industry.

Technical data
Tensile strength Rm: 35-45 N/mm^2
Melting range: 220-240°C

- Very low heat input
- Very good fluidity for complete joint penetration
- Suitable for dissimilar joining (stainless steels, copper and ferrous alloys)
- Accepts subsequent galvanisation

XHD 6865

Special manual electrode for anti-wear protective coating of carbon steels and low alloy steels, also for joining NiCrFe, NiFeCrMo alloys.
Technical data
Tensile strength Rm: 700 N/mm^2
Yield strength Rp0.2: 460 N/mm^2
Elongation A5: 40%

- Excellent resistance to pitting, crevice and intergranular corrosion, plus corrosion combined with fatigue and stress corrosion

Manual electrode **Brazing alloy** **Continuous electrode** **TIG filler rod**

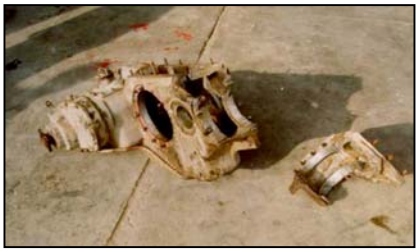
1.4 ALUMINIUM AND LIGHT METALS

Castolin 2101 S

Low heat input manual electrode for joining cast aluminium alloys, plus repair and maintenance of sheet aluminium and aluminium casting.

Technical data
Tensile strength Rm: 160-200 N/mm^2
Hardness: 50-60 HB5

- Low amperage welding
- Stable arc, even fusion
- Minimum spatter
- High deposition rate
- Smooth, even weld bead

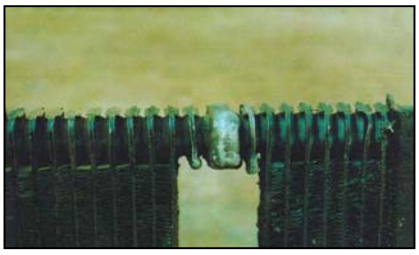


Castolin 21 F

Flux coated brazing alloy rod for joining, repair and rebuilding of parts in aluminium and its alloys.

Technical data
Tensile strength Rm: 160-220 N/mm^2
Melting range: 573-625°C

- Good resistance to corrosion
- Allow joining of aluminium by capillary brazing or braze-welding
- Special flux coating facilitates brazing



CastoMag 45802

Solid-wire, gas-shielded continuous electrode for joining and rebuilding wrought aluminium alloys.
AlMg alloy

Technical data
Tensile strength Rm: 245 N/mm^2

- All-position weldability
- Excellent resistance to atmospheric corrosion, salt-water, and certain acids and salts
- Excellent mechanical properties, deposit's colour matches base metal, suitable for polishing and anodising

Castolin 190

Low melting point brazing alloy for capillary joining of aluminium and its alloys without fusion with the base metal.

Technical data
Tensile strength Rm: 60-120 N/mm^2
Melting range: 573-590°C

- Good strength and resistance to corrosion
- Very good fluidity
- 190 AL : ready to use brazing paste containing flux

CastoTIG 45803 W

Aluminium-base alloy TIG filler rod for joining and rebuilding aluminium and its alloys, in either cast or wrought form.
AlSi alloy.

Technical data
Tensile strength Rm: 160 N/mm^2

- Made from metals free from impurities and gaseous inclusions, ideal for assemblies that are subject to X-ray inspection.

CastoTIG 45859 W

Magnesium alloy for use as brazing rod with flux 190 or TIG filler rod, for joining and repair Mg alloys.

- Good tensile strength
- Good resistance to corrosion

Manual electrode **Brazing alloy** **Continuous electrode** **TIG filler rod**

1.5 COPPER ALLOYS

Castolin 285

Low heat input manual electrode for joining of bronze and dissimilar joining of bronze with steel and cast-iron.

Technical data
Tensile strength Rm: 240-300 N/mm^2
Hardness: 100-140 HB

- Good resistance to salt-water corrosion and steam
- Same colour as bronze
- Low coefficient of friction
- Easily machinable deposit

XHD 1855

Manual electrode for repairing and joining aluminium-bronze alloys. Typical examples include ship's propellers.
Technical data
Tensile strength Rm: 630-770 N/mm^2
Yield strength Rp0.2: 360-470 N/mm^2
Elongation A5: 15-30%

- Very good resistance to cavitation
- Very high tensile strength
- Low coefficient of friction
- Excellent resistance to salt-water corrosion
- Good elongation properties

Castolin 181 F

Brazing alloy ideal for high strength joining with Maximum Safety Margin, high silver content: either by capillary attraction, in the case of close-fitting components, or by moulding in the case of large joint gaps.
Technical data
Melting range: 690-820°C

- Cadmium free
- .High tensile strength
- Good elongation properties
- Low coefficient of friction

CastoTIG 45703 W

Bronze-base alloy TIG filler rod for repair and maintenance of parts in copper, brass, bronze (for casting defects) as well as protective coating of parts in steel or cast-iron.
Technical data
Tensile strength Rm: 295 N/mm^2
Yield strength Rp0.2: 185 N/mm^2

- Ductile and machinable deposit
- Excellent resistance to corrosion
- Very low coefficient of friction
- Strength and hardness increased by work hardening

CastoMag 45751

Solid-wire, gas-shielded continuous electrode for joining and anti-wear protective coating of parts in simple or multi-alloy cupro-aluminium copper.
Technical data
Tensile strength Rm: 420 N/mm^2
Hardness (work-hardened):140 HB

- Though deposit, work-hardens without cracking
- Deposit has good resistance chemical corrosion due to passivation of surface by age hardening
- Allows dissimilar joining between steel and cupro-aluminium

Castolin 1802

High-silver-content alloy brazing rod with low melting point, for capillary joining of close-fitting parts in ferrous metals and copper alloys.

Technical data
Tensile strength Rm: 400-510 N/mm^2
Melting range: 595-630°C

- Good fluidity, for maximum capillary action
- Low heat input
- High tensile strength
- Joining dissimilar metals

Manual electrode **Brazing alloy** **Continuous electrode** **TIG filler rod**

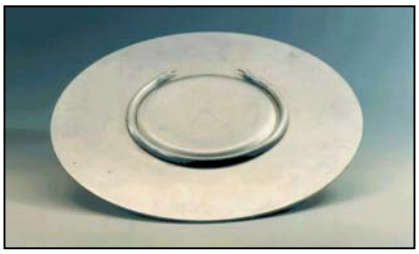
2. SPECIALS PRODUCTS AND WELDING AIDS

2.1 Brazing pastes

Combining the filler alloy 190 and 190 NH flux into a ready-to-use paste, this product has been designed for use with automatic metering devices, having a consistency suitable for most such systems.

- Exceptional wetting properties
- In position application
- Non-corrosive residues
- Designed for automated processes
- Complete joint coverage by capillarity
- Electrical/thermal conductor

Castolin 190 AL



Brazing paste, consisting of a mixture of high-silver-content filler alloy and flux. For capillary joining of copper and ferrous alloys.

Technical data
Melting range: 595-630°C

- Ready-to-use paste
- Low melting point
- Correct amount of flux already included

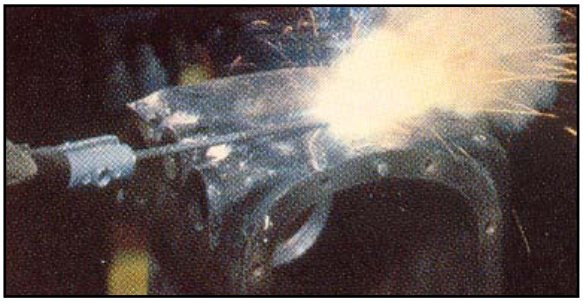
Castolin 1802 PA

Soldering paste containing alloy filler and flux for soft soldering or tinning of steel and copper alloy parts.
CastoTin 2 is for applications in the food processing industry, Lead-free.
Technical data
Shear strength: 20-30 N/mm^2
Melting range: 180-220°C

- Ready-to-use paste
- Low fusion temperature
- Corrosion resistant deposit

CastoTin 1
CastoTin 2

2.2 Electrodes for chamfering



Special manual electrode for chamfering, gouging, and removal of old, worn or cracked metal, plus correction of casting defects.

Technical data
Current: DC (+)

- Fast metal removal, high yield
- Burn up impurities, degasses metal, leaving it metallurgically clean
- No oxygen or compressed air needed
- Does not overheat base metal, even at high amperages

ChamferTrode 03

Special manual electrode for rapid cutting and piercing of most metals, in all positions. Applications include removal of bolts, old weld metal, gates and risers, plus dismantling and modification of metal structures.

Technical data
Current: Ac or DC (+)

- Easy to use
- No oxygen or compressed air needed
- Does not overheat base metal, even at high amperages

CutTrode 01

Notes

3.1 FOR REBUILDING AND/OR PROTECTIVE COATINGS AGAINST FRICTION AND PRESSURE

Eutalloy 10009

Alloy powder for anti-wear protective coatings on metals including steel, stainless steels, cast-iron and nickel alloys. Applications on cams, conveyor screws.

Technical data

Hardness: 54-59 HRC
Service temperature (max): ~700°C

- Low coefficient of friction
- Excellent resistance to low-pressure abrasion and erosion
- Good resistance to corrosion
- Easy to use
- Applied by simultaneous spray/fusion-process, using SuperJet torch

XHD 646

Manual electrode for intermediate layers and rebuilding 13% manganese steel, alloy steels and hardenable steels, plus anti-wear protective coating.

Technical data

Hardness as deposited: 150-190 HV
After cold work hardening: 430 HV

- Very high impact resistance
- Contact welding
- Easy slag removal
- Machinable deposit
- High efficiency (~150%)
- Work-hardens in service
- Corrosion-resistant deposit

EnDOtec DO*02

Gas-shielded continuous electrode for joining and anti-wear protective coating plus intermediate filler passes on difficult-to-weld steels and thick section steel parts.

Technical data

Tensile strength Rm: 630-770 N/mm^2
After cold work hardening: 430 HV

- Excellent crack resistance
- High ductility
- No slag or scaling
- Machinable deposit

RotoTec 19985

Alloy powder for anti-wear protective coatings on all metals. Applications include roller bearing races, shafts. Requires separate bond coat of RotoTec 51000 alloy.

Technical data

Hardness: 170-190 HV30
Service temperature (max): ~550°C

- No deformation or structural change in base metal
- Very low coefficient of friction, even under pression
- Easily machinable
- Applied by « cold »spray process, using CDS 8000 torch.

Eutalloy RW 12495

Alloy powder for anti-wear protective coatings on metals including steel, stainless steels, cast-iron and nickel alloys. Applications includes shafts, pump pistons.

Technical data

Hardness: 360-420 HV30
Service temperature (max): ~800°C

- Low coefficient of friction.
- Good resistance to thermal shock and high temperatures
- Good resistance to atmospheric and salt-water corrosion
- Applied by spraying with subsequent fusion-process, using CDS 8000 torch

MeCaTeC 101 F/P

Polymer composite for repairing casting defects and rebuilding machine components such as keyways, engine blocks, cast-iron machine casings.

Technical data

Hardness: 85 SHORE D
Service temperature (max): 120°C

- Entirely cold process, requiring no heat source
- Applicable on all metals
- Good resistance to atmospheric oxidation

F= FLUID P= PASTE

Manual electrode **Continuous electrode** **Polymer composite** **Alloy powder**

FOR REBUILDING AND/OR PROTECTIVE COATINGS AGAINST FRICTION AND PRESSURE

MetaCeram 28020

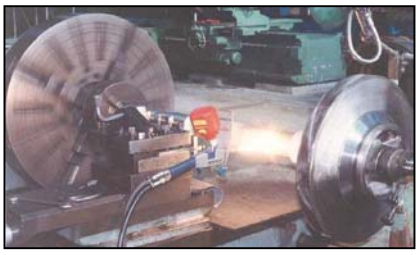
Ceramic powder for anti-wear protective coatings of all types of metals. Applications include shaft sleeves, seals, stuffing boxes.
Requires separate bond coat of RotoTec 51000 alloy.
Technical data
Microhardness: 1950 HV10g
Service temperature (max): ~1000°C

- No deformation or structural change in base metal
- Low coefficient of friction
- Very high resistance to abrasion
- Good electrical insulation
- Applied by « cold »spray process, using CDS 8000 torch.

ProXon 21031

Alloy powder « one-step » anti-wear protective coating and rebuilding of all types of metals. Applications include wheels, shafts sleeves, plain bearing.
Technical data
Hardness: 250-300 HV30
Service temperature (max): ~900°C

- No deformation or structural change in base metal
- Suitable for thin deposit
- Hard, machinable deposit
- Applied by « cold »spray process, using CDS 8000 torch.



RotoTec 19404

Alloy powder for anti-wear protective coatings on all metals. Applications include shafts, axles, and Hydraulic pistons.
Requires separate bond coat of RotoTec 51000 alloy.
Technical data
Hardness: 360-400 HV30
Service temperature (max): ~400°C

- No deformation or structural change in base metal
- Smooth, self-lubricating deposit with low coefficient of friction
- Good resistance to corrosion
- Applied by « cold »spray process, using CDS 8000 torch

Eutalloy 10680

Alloy powder for anti-wear protective coatings on metals including steel, stainless steels, cast-iron, Ni alloys. Applications include gears, cylinder heads, valve seat, joining cast-iron.
Technical data
Hardness: 200-220 HV30
Service temperature (max): ~600°C

- Thick coatings possible
- Resists impact and pressure
- Low coefficient of friction
- Applied by simultaneous spray/fusion-process, using SuperJet torch

Castolin N9025

Cobalt-base alloy manual electrode for anti-wear coatings on ferrous metals, and for buttering layer prior to wear facing with harder cobalt. For Engine valves, exhaust system.
Technical data
Hardness (as deposited): 250 HV30
Hardness (work-hardened):400 HV30

- Excellent resistance to thermal shock
- Good resistance to oxidation
- Crack-resistant
- Good work-hardening characteristics
- Easily machinable

Castolin 185 XFC

Flux-coated composite brazing rod developed specifically for rebuilding gears and pinions. Also for pump impellers and bodies.
Technical data
Hardness: 160-200 HB
Working temperature: ~910°C

- Low coefficient of friction
- Easy bonding
- Very tough deposit
- Easily machinable

Manual electrode **Brazing alloy** **Alloy powder**

3.2 FOR PROTECTIVE COATINGS AGAINST ABRASION AND EROSION

Xuper AbraTec 5006

Manual electrode for anti-wear protective coating against abrasion, pressure and impact on steel components. Applications on bulldozer blades, crusher teeth.

Technical data
Hardness: 57-62 HRC

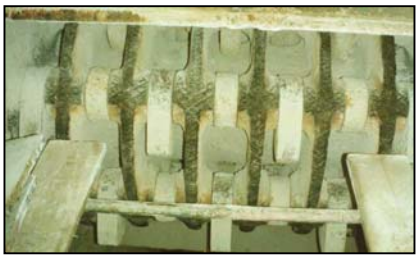
- High deposition rate
- Very easy to weld
- Can be contact welded
- Full alloy properties in first pass
- Easy slag removal

XHD 6710

Manual electrode for anti-wear protective coating on parts such as dragline buckets, conveyor components and ripper teeth.

Technical data
Hardness: 63-69 HRC

- Outstanding resistance to wear from combined abrasion, pressure and impact
- Thick deposit in a single pass
- Very high electrode efficiency (250%)
- Minimum slag



7888 T

Composite self-fluxing alloy rod for anti-wear protective coatings on alloy and non-alloy steels, except 13% manganese steel. Applications include, mixers, conveyor screws.
Technical data
Hardness (matrix): 320-370 HV
Hardness (hard phases): 2700 HV

- High density of carbide hard phases
- Sound, crack free deposit
- No deformation of work piece

Eutalloy 10112

Alloy powder for anti-wear protective coating. Applications include conveyor screws, clay mixers, fan blades and pumps.
Technical data
Hardness (matrix): 57-62 HRC
Hardness (hard phases): 1900 HV
Service temperature (max): ~700°C

- Very strong resistance to abrasion and erosion
- Resistance to high temperatures
- Applicable on steels, stainless steels, cast-iron, nickel alloys
- Applied by simultaneous spray/fusion-process, using SuperJet torch

MeCaTeC A5/A5 HT

Polymer composite for anti-wear protective coating against abrasion and erosion on parts such chutes, elbows, Pump housings, impellors.
Technical data
Hardness: 90 SHORE D
Service temperature (max): 120°C A5
Brief exposure (max): 250°C A5 HT

- Entirely cold process, requiring no heat source
- Parts having an intricate shape or form
- Difficult-to-weld metals e.g. Ni-Hard castings
- Thin section components

Eutalloy RW 12112

Alloy powder for anti-wear protective coating. Applications include mixers, press plungers, press screws, wear rings on pumps.
Technical data
Hardness (matrix): 60-65 HRC
Hardness (hard phases): 1500 HV
Service temperature (max): ~700°C

- Very strong resistance to abrasion and erosion
- Resistance to high temperatures
- Applicable on steels, stainless steels, cast-iron, nickel alloys
- Applied by spraying with subsequent fusion-process, using CDS 8000 torch

Manual electrode **Brazing alloy** **Polymer composite** **Alloy powder**

FOR PROTECTIVE COATINGS AGAINST ABRASION AND EROSION

EnDOtec DO*48

Gas-shielded, metal cored alloy wire, ideal for maintenance and repair applications, the slag-free deposit features a high density of hard, cast tungsten carbide particles evenly distributed in a ferrous alloy matrix.

Technical data
Hardness (matrix): 55 HRC
Hardness (hard phases): 2300 HV

- Maximal resistance to abrasion
- Low heat input for low dilution
- Maximised weld metal recovery
- Faster deposition rate for reduced labour costs

EnDOtec DO*30

Gas-shielded continuous electrode specifically designed for anti-wear protective coatings on parts such as press screws and sections, mixers and scrapers.

Technical data
Hardness: 63-68 HRC

- Excellent resistance to fine particle abrasion and moderate impact erosion
- Full alloy properties and hardness in first pass
- Excellent yield, no waste or filler metal

TeroMatec 4923

Continuous electrode without shielding gas, for anti-wear coating on parts such as crusher hammers, gyratory crushers, excavator buckets, ripper teeth.

Technical data
Hardness: 52-58 HRC

- Good resistance to combined impact and abrasive wear
- Ideal for multi-pass coatings
- High deposition rate
- Recommended for outdoor use
- For semi-automatic welding using drooping characteristic power source

MeCaTeC 103 F

Polymer composite for anti-wear protective coating against abrasion and erosion on low pressure on parts such as Mixer blades, Fan blades, Pump impellors.

Technical data
Hardness: 90 SHORE D
Service temperature (max): 175°C

- Entirely cold process, requiring no heat source
- High electrical insulating properties
- The low viscosity, durable reinforced composite matrix is easily brushed or rolled in thin, precision layers over large areas or complex forms

Castolin 8800

Flux-coated brazing rod for anti-wear protective coatings on parts in alloy and non-alloy steels. Applications include drills, pipe handling equipment and ripper teeth.

Technical data
Hardness (matrix): 180 HB
Hardness (hard phases): 1500 HV
Working temperature (max): ~910°C

- Outstanding resistance to severe abrasion combined with impact wear
- Good cutting action
- Features carbide hard phases in a tough matrix

TeroMatec 4601

Continuous electrode without shielding gas, for anti-wear coating on parts such as pump impellers, dredge cutters, rolls, crusher pinions and grinders, cement conveyor screws.

Technical data
Hardness: 60 HRC

- Excellent resistance to abrasion
- Few slag residues to clean
- Ideal for multi-pass coatings
- High deposition rate
- Recommended for outdoor use
- For semi-automatic welding using drooping characteristic power source

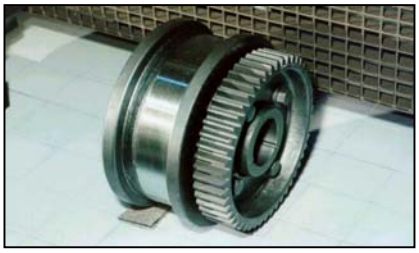
Manual electrode **Brazing alloy** **Polymer composite** **Continuous electrode**

3.3 FOR PROTECTIVE COATINGS AGAINST IMPACT AND PRESSURE

Gas-shielded continuous electrode with non-magnetic, high chrome and manganese-content alloy deposit for anti-wear coating for parts subject to wear due to impact, metal-metal friction. Applications include rollers, wheels for heavy equipments.
Technical data
Hardness (work-hardened):400 HV30

- Exceptional work hardening properties
- Machinable with standard tools
- High resistance to plastic deformation, reducing local stresses

EnDOtec DO*05



Gas-shielded continuous electrode for forgeable heat-treatable, anti-wear protective coatings on parts subjected to combined-wear-phenomena (pressure, abrasion, and severe impact), Application include drills, and hot and cold forging tools.
Technical data
Hardness: 55-60 HRC

- Magnetic deposit
- Hard, tough deposit with no slag or scaling
- Very stable arc, for precision coating such as edges
- Forgeable, heat-treatable deposit

EnDOtec DO*15

Continuous electrode without shielding gas, for anti-wear coating on parts such as crane wheels, excavator buckets, ripper teeth, rails and rolling mill wobblers.
Technical data
Hardness (as deposited): 250 HV30
Hardness (work-hardened):450 HV30

- Excellent resistance to impact and pressure
- Rapid work hardening
- Rust-free deposit
- Recommended for outdoor use
- For semi-automatic welding using drooping characteristic power source

TeroMatec 3205

Continuous electrode without shielding gas, for anti-wear coating on parts such as drills, grab buckets, crusher hammers and strikers.

Technical data
Hardness: 55 HRC

- Excellent resistance to pressure, abrasion and combined heavy impact
- Tough, hard deposit
- Forgeable magnetic deposit
- Recommended for outdoor use
- For semi-automatic welding using drooping characteristic power source

TeroMatec 4415

Solid-wire, gas-shielded continuous electrode for anti-wear protective coatings on parts subjected to combined-wear-phenomena. Applications include conveyor rollers, stamping and forging tools.
Technical data
Hardness: 55 HRC

- Excellent resistance to high temperatures and thermal shock
- Heat-treatable deposit
- Very high yield (97%)

CastoMag 45351

Manual electrode for anti-wear protective coatings on parts subjected to pressure and impact wear, including dragline buckets, crusher hammers, chisels and forging tools.
Technical data
Hardness: 53-58 HRC

- High deposition rate
- Smooth, even deposit: abrasive particles slide rather than gouge
- Easily detachable slag
- Allows superimposed multi-pass coatings

Castolin N 102

Manual electrode **Continuous electrode**

3.4 FOR PROTECTIVE COATINGS FOR TOOLS AND DIES

Gas-shielded continuous electrode for anti-wear protective coatings and repair of parts such as hot working tools, hot forming tools, stamping tools and dies.

Technical data
Hardness: 42-47 HRC

- Excellent resistance to heat thermal shocks and hot cracking up to 550°C
- Resists corrosion, hot oxidation, plastic deformation and creep

EnDOtec DO*16

Gas-shielded continuous electrode for anti-wear protective coatings on blades, tools for pressing and cold stamping, plus aluminium injection moulds. When heat treatment, precipitates of intermetallic compounds form, which increase the hardness of the deposit.

Technical data
Hardness: 33-38 HRC
Hardness (after ageing for 4hrs/480°C): 53-58 HRC

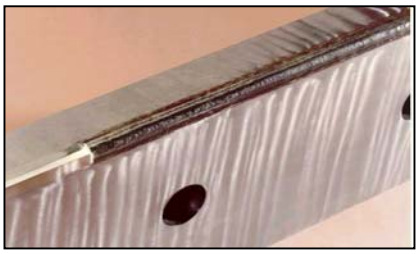
- Three-dimensional stability after heat treatment and low coefficient of thermal expansion
- Machinable with cutting tools

EnDOtec DO*55

Gas-shielded continuous electrode for anti-wear protective coatings on parts such as hot cutting blades, forging tools and thermal deburring tools.
Technical data
Hardness (as deposited): 320 HV30
Hardness: 43-48 HRC

- Remarkable increase in deposit hardness when subjected to impact
- Excellent resistance to heat and corrosion
- Highly alloyed CoCrNiMoMn deposit gives very controlled structure with excellent work-hardening properties

EnDOtec DO*80



Highly alloyed TIG filler rod for coating and rebuilding of parts such as hot cutting blades, shears, stamping dies and wear parts such as cams, grippers, and mixers.
Technical data
Hardness (as deposited): 65 HRC

- High-strength deposit
- Very good cutting properties
- Excellent resistance to wear
- Deposit maintains its mechanical properties at high temperatures

CastoTIG 45303 W

Manual electrode for protective coatings against abrasion, pressure and impact wear on parts such as crusher hammers, stamping dies, excavator buckets and blades.

Technical data
Hardness(as deposited): 57-62 HRC

- Highly crack-resistance deposit
- Humidity-resistant flux coating for on-site work
- Heat-treatable deposit
- Easy slag removal
- Easy striking, spatter-free welding

Castolin 2

Special manual electrode for anti-wear protective coatings of parts such as stamping and trimming tools, forging dies, shears, punches and cutting blades.
Technical data
Hardness(as deposited): 47-52 HRC

- Excellent hot crack resistance
- Very good resistance to heat, impact and oxidation
- Smooth, even and homogeneous deposit
- Suitable for hardening by heat treatment

Castolin 6806

Manual electrode **Continuous electrode** **TIG filler rod**

3.5 FOR PROTECTIVE COATINGS AGAINST HIGH TEMPERATURE COMBINED WEAR

Gas-shielded continuous electrode for protective coatings of parts subjected to metal-metal friction, cavitation, and corrosion at high-temperature. Applications include wiredrawing dies, extrusion pistons.
Technical data
Hardness (work-hardened):560 HV30

- Martensitc stainless steel deposit with precipitation-hardening structure
- Excellent resistance to corrosion and oxidation up to 650°C
- Allows large-scale coating of up to 50 HRC without risk of cracking

EnDOtec DO*04

Gas-shielded continuous electrode for protective coatings of parts such as valves shutters, conveyors screws for food and chemical industries, and woodworking tools.
Technical data
Hardness(as deposited): 40-45 HRC

- Highly alloyed deposit CoCrW offering excellent resistance to abrasion, heat, corrosion and friction
- Combines all the beneficial features of cobalt-based alloys with excellent resistance to corrosion and cavitation.

EnDOtec DO*60

Manual electrode for anti-wear coatings on tools-steel parts working under very hot or cold conditions. Applications include wire drawing dies, valves, kiln parts and pump shafts.
Technical data
Hardness (work-hardened):560 HV30

- Excellent resistance to corrosion and oxidation up to 650°C
- Crack resistant
- Tough, creep-resistant deposit
- Good thermal conductivity
- Resists metal-metal friction up to 650°C

XHD 6804

Continuous electrode without shielding gas, Complex carbide alloy containing chromium, molybdenum and niobium for maximum resistance to fine, hot particle abrasion and erosion by coke, clinker, cement or sand at elevated temperatures
Technical data
Hardness: 65 HRC

- Exceptional resistance to hot abrasion up to 650°C
- Deposits can be grinded and resist rusting
- Very hard deposits with one or two layers maximum
- For semi-automatic welding using drooping characteristic power source

TeroMatec 3952

Manual electrode for anti-wear coatings and rebuilding parts such as sinter fan blades, asphalt mixers, blast furnaces cones, and extruder screws.

Technical data
Hardness: 65-70 HRC

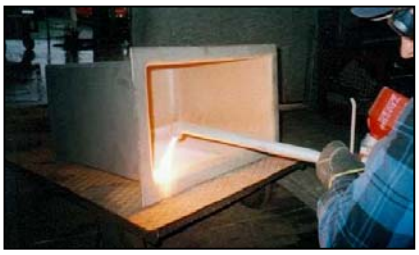
- Exceptional resistance to hot abrasion up to 650°C
- Very little slag
- Very high weld metal recovery (~230%)
- Very thick deposit in a single pass

XHD 6715

Ceramic powder for thermal spray anti-wear coatings on steels and other alloys. Applications include smelting crucibles, casting ladles. Requires separate bond coat of RotoTec 51000 alloy.
Technical data
Microhardness: 700 HV10g
Service temperature (max): ~1200°C

- No deformation or structural change in base metal
- Low wetting when in contact with molten metal, notably aluminium and cast-iron
- Good electrical insulation
- Applied by « cold »spray process, using CDS 8000 torch.

MetaCeram 28085



Manual electrode **Continuous electrode** **Alloy powder**

3.6 FOR PROTECTIVE COATINGS AGAINST CAVITATION

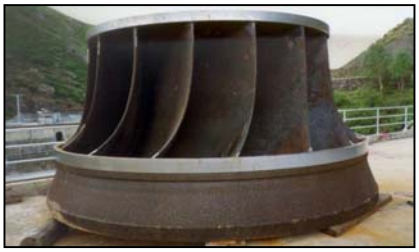
CAVITEC GMA

Gas-shielded continuous electrode for protective coatings of parts subjected to cavitation. Applications include water pumping, irrigation, water treatment plants. Desalination plants and heat exchangers. Thermal power stations

Technical data

Hardness (work-hardened):390 HV30

- CAVITEC GMA represents a new alloy system concept around a high strength cobalt alloyed austenitic stainless steel for combating cavitation damage and corrosion often occurring in hydraulic engineering fields such as Francis, Kaplan and pump turbines.



CAVITEC SMA

Special manual electrode for depositing a proprietary alloy system engineered to resist severe cavitation attack and corrosion.

Technical data

Hardness (work-hardened):450 HV30

- CAVITEC SMA represents a new alloy system concept around a high strength cobalt alloyed austenitic stainless steel for combating intense cavitation damage and corrosion often occurring in hydraulic engineering fields such as Francis, Kaplan and pump turbines.

EnDOtec DO*53 S

Gas-shielded continuous electrode for joining and anti-wear coatings of parts such as hydraulic systems, turbine components, pump bodies.

Technical data

Hardness (heat-treated): 270-300 HB

- Excellent resistance to cavitation and erosion
- Good resistance to corrosion
- Slag and shielding gas protection for high deposit quality

Xuper TurboTec 5300

Manual electrode for joining and coating of 13 % chrome steels and nickel alloys. Applications include protection of turbine components, valves, pump and shafts.

Technical data

Hardness (work-hardened):450 HV30

- Excellent resistance to cavitation and erosion
- Good resistance to corrosion
- Excellent impact strength
- Easily machinable deposit

Castolin 1851

Bronze-aluminium manual electrode for joining and anti-wear protective coating on parts subjected to wear by corrosion and friction. Applications include protection of pump bodies, valve seats, turbine components.

Technical data

Hardness: 140-170 HB

- Good resistance to salt-water corrosion
- Resistance to oxidation up to 400°C
- Low coefficient of friction
- Work-hardening deposit

MeCaTeC 110 P/F

Polymer composite for anti-wear protective coatings against impact wear and cavitation. Applications include parts such as pump bodies, hydraulic systems, and conveyor belts.

Technical data

Hardness: 87 SHORE A

- Entirely cold process, requiring no heat source
- Good electrical insulating properties

F= FLUID P= PASTE

Manual electrode **Continuous electrode** **Polymer composite**

4. OXY-ACETYLENE THERMAL SYSTEMS

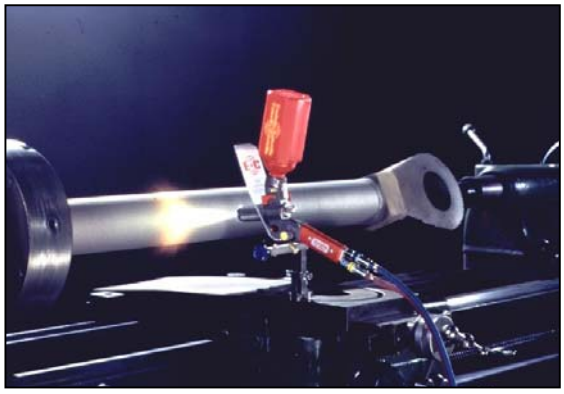
SuperJet-S- Eutalloy®

SuperJet-S- Eutalloy is an oxy-acetylene thermal spray torch, which delivers very precise anti-wear protective coating, thanks to its sensitive controls. Alloy powders are sprayed onto the part to be coated and are fused simultaneously. Bonding with the base metal diffusion ensures that it does not reach its melting point. The dense coating is not affected by dilution and retains all its designed properties. For thermal spraying of Eutalloy alloy powders.

Advantages

- Flexible, multi purpose and quick
- Rapid shut-off of fuel while maintaining setting
- Reliable, even and precise coating
- Usable in all positions on a wide range of base metals, including steels, alloy steels, stainless steels and cast-iron

CastoDyn® DS 8000



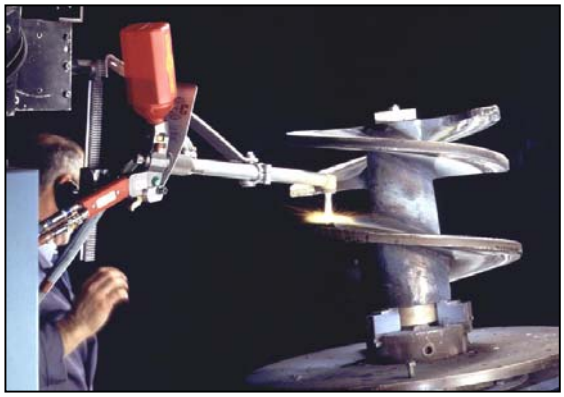
CastoDyn DS 8000 is an advanced modular oxy-acetylene thermal spray system, designed to spray a wide range of alloys and other materials for many different applications, from anti-abrasion coatings to thermal shielding. The CDS 8000 can be integrated into automated installations for large-scale mass-production applications.

- For “hot” thermal spraying of **Eutalloy RW**
- For “cold” thermal spraying of **RotoTec** and **ProXon** alloy powders
- For “cold” thermal spraying of **MetaCeram** alloy powders
- For “cold” thermal spraying of **CastoPlast** thermoplastic powders

Advantages

- Practical, lightweight, robust, Kit supplied in valise
- Outstanding operator safety and ease-of-use

CastoDyn® SF Lance



The CastoDyn SF Lance kit increases this already-wide range of applications by allowing the CDS 8000 to perform spraying with simultaneous fusion. Its robust, water-cooled design permits sustained high-intensity spraying, and is ideal for both automated and manual applications.

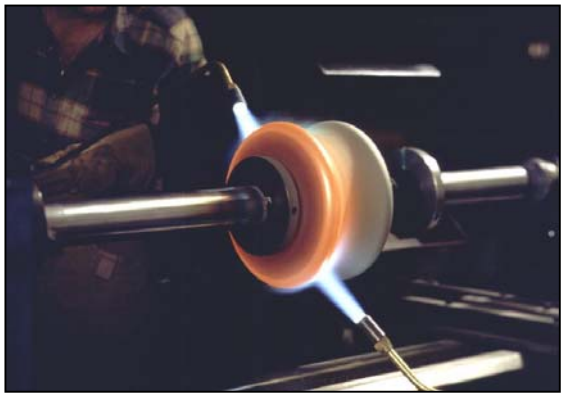
Advantages

- Increased energy output for highest deposition rates
- Advanced nozzle design delivers exceptional yield (>90%)

Consumable

- Eutalloy SF family powders

CastoFuse®



The advantage of local heating using the CastoFuse torch is obvious compared with an oven. Local preheating and fusing prevents the dispersion of heat in the rest of the workpiece, to the surrounding area and into the oven walls. CastoFuse offers the heat where needed. Furthermore, only a small investment is required.

Advantages

- Performance: nozzles designed specifically to fuse self-fluxing coatings
- Full line: assortment of lances to ensure optimum flame power

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