MeCaTeC®

CERAMIC SURFACING POLYMERS

Castolin Eutectic®
Eutectic Castolin

INDUSTRIES

MeCaTec can prolong the service life of components in a wide array of industries.

WATER / WASTE WATER

- Piping systems
- Digester tanks
- Clarifiers
- Manholes
- Lift stations
- Sludge pumps
- Sand filters
- Pumps
- Valves

MINING / CEMENT

- Piping
- Buckets
- Chutes
- Hoppers
- Kiln wall
- Gas ducting
- Baghouse
- Crushers

CHEMICAL / OIL & GAS

- Hydrocarbon storage
- Heat exchangers
- Piping systems
- Autoclave
- Pressure vessels
- Condensers
- Separators
- Cargo vessels
- Containment pumps
- Pumps

POWER GENERATION

- Heat exchangers
- Tube sheets
- Condensers
- Piping
- Pumps
- Waterboxes
- Scrubbers
- Absorber tower
- FGD ducting
- Baghouse
- Pulverizers
- Ash piping
- Chemical containment
- Silos
- Cooling tower basin
- ID fans, precipitators

STEELMAKING

- Flooring
- Pumps
- Chemical containment
- Gas ducting

The MeCaTeC® brand has been delivering polymeric surfacing solutions to a wide array of industries for over 30 years. The **MeCaTeC® line of polymer coatings** from Castolin Eutectic has been meticulously engineered to provide the perfect balance between affordability, application ease and performance. The goal is to **make critical industrial assets last much longer**.

With a vast service and product range in the areas of welding, brazing and coating technologies, we offer the **most advanced surfacing technologies** to address the toughest wear and corrosion protection problems. Your business will become **STRONGER with Castolin Eutectic**.

ENVIRONMENTALLY FRIENDLY

MeCaTeC® is **easy to apply manually**, which makes it ideal for repairing machine parts either on-site or in the workshop.

The MeCaTeC® formulae are **environmentally friendly** as they are **free of VOC** (Volatile Organic Compounds) and **free of halogen**.

MECASPRAY GUN

For larger surfaces, application time can be dramatically reduced with the **MeCaSpray Gun**. The MeCaSpray equipment can be used with the following cartridges:

- **MeCaWear 300**
- **MeCaWear 350**
- **MeCaCorr 700**
- **MeCaCorr 710**
- **MeCaCorr 750**
- **MeCaCorr 780**

MECAFIX - REPAIR & REBUILD

MECAFIX 100 EXPRESS

Type

Fast setting metal filled emergency repair polymer. MeCaFix 100 Express is a two component polymer with a 1 to 1 ratio by volume. The working life is 3 minutes and it is ready to sand within 1 hour.

Applications

- Piping
- Threads
- Resurfacing metal loss
- Cold bonding adhesive
- Leaks
- Wood repair
- Castings
- Polymer shimming

Key Benefits

- Extremely fast dry to touch time
- Low temperature cure
- Excellent adhesive properties
- Suitable for live repair of active leaks
- The go to repair product for rapid maintenance repairs

Other

Maximum Temperature:
Wet Service: 40°C (104°F)
Dry Service: 48°C (120°F)

MECAFIX 120

Type

It cures at temperature down to 0°C (32 °F) enabling cold weather applications. Specially formulated to protect working surfaces in all positions against wear by a wide variety of corrosive liquids, abrasive media, slurry erosion and cavitation effects.

Applications

- Butterfly and gate valves
- Tube sheets
- Propellers
- Resurfacing metal loss
- Pump housings and impellers
- Scored hydraulic rams
- Cracked casing

Key Benefits

- Low temperature cure
- Excellent adhesive properties
- Excellent sag resistance for thick applications
- Designed to be precision machined with low defects
- Exceptional resistance to pressure and deformation

Other

Maximum Temperature:
Wet Service: 50°C (122°F)
Dry Service: 90°C (195°F)

MeCaFix is designed to get facilities up and running fast. For fast metal fills, leak repairs and adhesive bonding, **MeCaFix 100** is a great choice. For larger repairs and for precision machining, choose **MeCaFix 120** for its ease of use, large packaging format and superior alloying content.

MECAWEAR - WEAR PROTECTION

MECAWEAR 300

Type

Specially formulated to protect working surfaces against wear by abrasion and erosion. The reinforced silicon carbide ceramic composite matrix is easily brushed or applied by MeCaSpray. The polymer technology is elastomeric modified to reduce film brittleness and improve both impact and abrasion resistance.

Applications

- Cyclones
- Hoppers/Chutes
- Duct work
- Augers
- Fan blades
- Pump Casings/lining
- Screws

Key Benefits

- Elastomeric modified for improved impact and abrasion resistance
- Reinforced with silicon carbide
- Provides a super smooth coating surface
- Designed for sliding and slurry abrasion
- Can be applied by brush or MeCaSpray

Other

Maximum Temperature:
Wet Service: 50°C (122°F)
Dry Service: 90°C (195°F)

MECAWEAR 350

Type

Fine sized silicon carbide and alumina ceramic filled to offer higher film build and maximum abrasion resistance. This hybridized inorganic/organic novolac polymer chemistry is designed to offer ultra high glass transition temperature for extreme high temperature abrasion service.

Applications

- Baghouse/Duct work
- Wearplate
- Air heater
- Cyclones
- Pulverizers
- Fly ash separators

Key Benefits

- Ultra high temperature resistance
- Reinforced with silicon carbide
- Good film and release properties
- Can be applied by brush or MeCaSpray

Other

Maximum Temperature:
Wet Service: 150°C (300°F)
Dry Service: 270°C (518°F)

MECAWEAR 400

Type

Medium size spherical and platy alumina ceramic filled to offer higher film build and maximum abrasion resistance. Specially formulated to protect working surfaces against wear in severe erosion and abrasion environments. Coating system is modified with elastomeric toughening technology to improve crack and impact resistance.

Applications

- Pipe elbows, chutes for clinker, cement, sand
- Slurry tank bottoms
- Coal pulverizers and exhausters
- Pump housings, impellers, lining
- Screw conveyors

Key Benefits

- Highest impact resistance
- Loaded with treated angular and ceramic alumina beads
- Reinforced with Kevlar
- Excellent alternative to ceramic tile

Other

Maximum Temperature:
Wet Service: 50°C (122°F)
Dry Service: 90°C (195°F)

MeCaWear 300 and 400 introduce elastomer-modified technology, which means improved resistance to cracking from impact and flex damage.

MECAWEAR - WEAR PROTECTION

MECAWEAR 450

Type

Medium size spherical and platy alumina ceramic filled verion of MecaWear 350 to offer higher film build and maximum abrasion resistance. Kevlar modified to strengthen the polymer matrix. This is a trowel grade material.

Applications

- Baghouse/Duct work
- Pump lining
- Elbows
- Fan blades

Key Benefits

- Excellent alternative to ceramic tile for high temperature service
- High surface hardness
- Loaded treated angular and ceramic alumina beads
- Reinforced with Kevlar

Other

Maximum Temperature:
Wet Service: 150°C (300°F)
Dry Service: 270°C (518°F)

MECAWEAR A5

Type

High performance trowel grade ceramic polymer coating containing a high volume percentage of platy alumina and silicon carbide particles. Additions of Kevlar fibers reinforce the matrix promoting exceptional resistance to abrasion and erosion.

Applications

- Repair and replace ceramic tile
- Pipe elbows, chutes
- Ash handling pipes and valves
- Coal pulverizers and exhausters
- Slurry pumps / Screw conveyors

Key Benefits

- Economical and easy to use trowel grade wear protection
- Sag resistant for high film build
- Great for odd shapes or to create wear pads
- Surface finish is semi rough and easily topcoated with MeCaWear 300

Other

Maximum Temperature:
Wet Service: 50°C (122°F)
Dry Service: 90°C (195°F)

MECAWEAR A5 HT

Type

Specially formulated trowel grade coating designed to protect working surfaces at high temperature against wear in severe erosion and abrasion environments. The tough, composite matrix is reinforced with ultra resilient Kevlar fibres and a dense dispersion of hard, wear resistant ceramic phases.

Applications

- Repair and replace ceramic tile
- Pipe elbows, chutes
- Coal pulverizers and exhausters
- Pump housings, impellers, lining
- Slurry pumps / Screw conveyor

Key Benefits

- Economical and easy to use wear protection
- Sag resistant for high film build
- Great for odd shapes or to create wear pads
- Surface finish is semi rough and easily topcoated with MeCaWear 350

Other

Maximum Temperature:
Wet Service: 60°C (140°F)
Dry Service: 135°C (275°F)

The **MeCaWear** range of advanced polymer surfacing formulations from Castolin Eutectic provides fast and practical solutions to a wide variety of wear problems in manufacturing machinery and equipment.

MECACORR - CORROSION PROTECTION

MECACORR 700

Type

Elastomer epoxy hybrid coating with exceptional adhesion and sag resistance. Designed to provide resistance in wastewater service and is well suited for coating concrete surfaces.

Applications

- Concrete protection
- Pipelines
- Sewer pipe
- Digestor tanks
- Manholes
- Penstocks
- Lift stations
- Forcemains

Key Benefits

- Economical and easy to use
- Designed for immersion service
- Versatile corrosion protection suitable for a variety of substrates
- Cures under cold and damp conditions

Other

Maximum Temperature:
Wet Service: 50°C (122°F)
Dry Service: 85°C (185°F)

MECACORR 710

Type

High performance multi functional novolac based silicon carbide ceramic polymer coating designed for immersion service with exceptional resistance to warm water service up to 65° C.

Applications

- Heat exchanger
- Tube sheet / Water box
- Pipelining
- Storage tanks
- Turbines
- Waste water
- Sea water
- Hydrocarbons

Key Benefits

- Economical and easy to use
- Designed for immersion service
- Versatile corrosion protection suitable for a variety of substrates
- Cures under cold and damp conditions

Other

Maximum Temperature:
Wet Service: 65°C (150°F)
Dry Service: 100°C (212°F)

MECACORR 750

Type

The polymer matrix is specifically designed to achieve wear and chemical resistance characteristics for the restoration and protection of metallic surfaces subjected to harsh corrosion and chemical attack. It provides outstanding chemical resistance allowing it to be used in a wide variety of chemicals including crude oil and sulphuric acid service.

Applications

- Penstock lining
- Pipe coating
- Petroleum tanks
- Chemical tanks
- Heat exchangers

Key Benefits

- Glass flake modified
- Excellent chemical resistance
- Outstanding performance in acid service
- Fast cure and return to service

Other

Maximum Temperature:
Wet Service: 95°C (200°F)
Dry Service: 150°C (300°F)

MECACORR 780

Type

Unique ceramic hybrid epoxy coating that incorporates an advanced molecular cross-linking of inorganic and organic chemistry to provide a thermally stable high performance polymer matrix. The matrix is designed to achieve maximum corrosion protection and temperature resistance in immersion service.

Applications

- Tank lining
- Scrubbers
- Pipe lining
- Immersion heater
- Stack lining
- Heat exchanger

Key Benefits

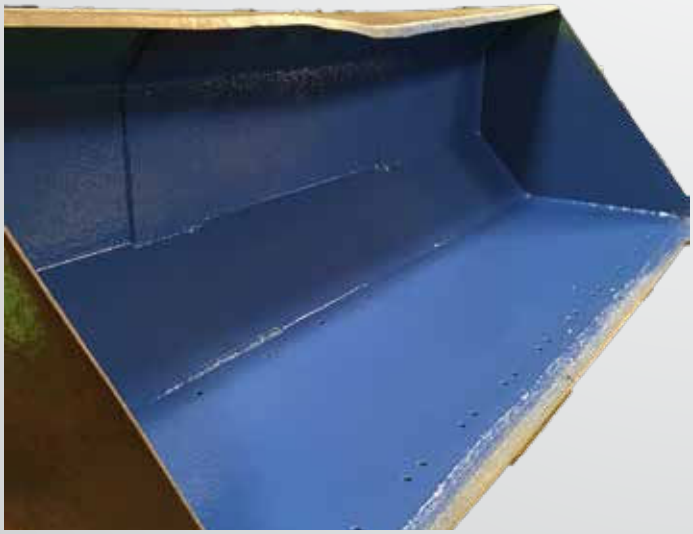
- Highest temperature resistant polymer coating
- Excellent under rapid decompression service
- Resistant to steam out
- Outstanding corrosion protection

Other

Maximum Temperature:
Wet Service: 180°C (356°F)
Dry Service: 243°C (470°F)

QUICK MECATEC SELECTION GUIDE

Service Type	Fast Cure	Machinable	High Toughness	Bonding Adhesive	Anti-Hang Up	Impact	High Temperature	Cavitation	Abrasion	Waste Water	Industrial Service	Chemical Exposure	Salt Water
Repair	100	120	100 120	100 120									
Wear	A5FS				300 710	400	A5HT 350 450	A5 300 700	A5 450 400 A5HT				
Immersion / Corrosion	750						780 750			700	710	710 750	710



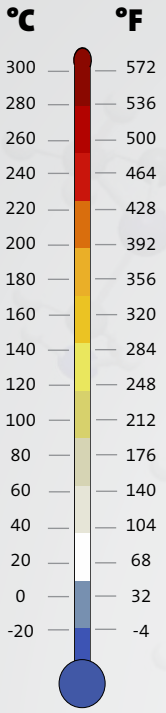
The **MeCaTeC** line offers unique enhancements through the use of urethane chemistry to boost flexibility, nanochemistry to improve toughness and inorganic hybridization for the ultimate in ultra high temperature corrosion protection.

CHEMICAL RESISTANCE

	MeCaCorr				MeCaWear						MeCaFix	
CHEMICAL	700	710	750	780	300	350	400	450	A5	A5HT	100	120
ACETIC ACID, CONC	R	R	R	R	R	R	R	R	S	S	NR	S
ACETIC ACID, DILUTE	R	R	R	R	R	R	R	R	S	S	S	S
ACETONE	R	R	R	R	R	R	R	R	R	R	NR	R
AMMONIA	R	R	R	R	R	R	R	R	R	R	S	R
AMMONIUM CHLORIDE	R	R	R	R	R	R	R	R	R	R	R	R
AMMONIUM FLUORIDE	S	S	R	R	S	R	S	R	S	S	R	S
BENZENE	R	R	R	R	R	R	R	R	S	S	NR	S
BLEACH	R	R	R	R	R	R	R	R	S	S	S	S
BORIC ACID	R	R	R	R	R	R	R	R	R	R	S	R
BRAKE FLUID	R	R	R	R	R	R	R	R	R	R	R	R
BROMINE WATER, SAT.	R	R	R	R	R	R	R	R	R	R	NR	R
BROMINE, LIQUID OR GAS	S	S	R	R	S	R	S	R	R	R	NR	R
CHLORINE, LIQUID OR GAS	R	R	R	R	R	R	R	R	R	R	NR	R
CHROMIC ACID, CONC	R	R	R	R	R	R	R	R	R	R	NR	R
CHROMIC ACID, DILUTE	R	R	R	R	R	R	R	R	R	R	NR	R
CITRIC ACID, CONC	R	R	R	R	R	R	R	R	R	R	NR	R
CITRIC ACID, DILUTE	R	R	R	R	R	R	R	R	R	R	NR	R
CRESOL	R	R	R	R	R	R	R	R	R	R	S	R
ETHANOL	R	R	R	R	R	R	R	R	R	R	S	R
ETHYL ACETATE	R	R	R	R	R	R	R	R	R	R	R	R
ETHYLENE DICHLORIDE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
FERRIC CHLORIDE	R	R	R	R	R	R	R	R	R	R	R	R
FERRIC SULPHATE	R	R	R	R	R	R	R	R	R	R	R	R
FLUOSILICIC ACID	S	S	R	R	S	R	S	R	S	S	NR	S
FORMIC ACID	R	R	R	R	R	R	R	R	R	R	NR	R
GASOLINE	R	R	R	R	R	R	R	R	R	R	R	R
HYDROCHLORIC ACID, CONC	S	S	R	R	S	R	S	R	S	S	NR	S
HYDROCHLORIC ACID, DILUTE	R	R	R	R	R	R	R	R	R	R	S	R
HYDROFLUORIC ACID, CONC	S	S	S	R	S	R	S	R	S	S	NR	S
HYDROFLUORIC ACID, DILUTE	R	R	R	R	R	R	R	R	R	R	S	R
HYDROGEN PEROXIDE	R	R	R	R	R	R	R	R	S	S	S	S
HYDROGEN SULPHIDE	R	R	R	R	R	R	R	R	R	R	R	R
ISOPROPYL ALCOHOL	R	R	R	R	R	R	R	R	R	R	R	R
KEROSENE	R	R	R	R	R	R	R	R	R	R	R	R
LACTIC ACID, CONC	R	R	R	R	R	R	R	R	R	R	NR	R
LACTIC ACID, DILUTE	R	R	R	R	R	R	R	R	R	R	NR	R
METHANOL	R	R	R	R	R	R	R	R	R	R	S	R
METHYL ETHYL KETONE	S	R	R	R	S	R	S	R	S	S	S	S
METHYLENE CHLORIDE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
NAPHTHALENE	R	R	R	R	R	R	R	R	R	R	R	R
NICKEL SALTS	R	R	R	R	R	R	R	R	R	R	R	R
NITRIC ACID, CONC	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
NITRIC ACID, DILUTE	R	R	R	R	R	R	R	R	R	R	S	R
OLEIC ACID	R	R	R	R	R	R	R	R	R	R	S	R
OXALIC ACID	R	R	R	R	R	R	R	R	R	R	S	R
PHENOL	R	R	R	R	R	R	R	R	NR	NR	NR	NR
PHOSPHORIC ACID, CONC	R	R	R	R	R	R	R	R	NR	NR	NR	NR
PHOSPHORIC ACID, DILUTE	R	R	R	R	R	R	R	R	S	S	S	S
SODIUM BICARBONATE	R	R	R	R	R	R	R	R	R	R	R	R
SODIUM CHLORIDE	R	R	R	R	R	R	R	R	R	R	R	R
SULPHURIC ACID, CONC	NR	NR	R	R	NR	R	NR	R	NR	NR	NR	NR
SULPHURIC ACID, DILUTE	R	R	R	R	R	R	R	R	S	S	S	S
TOLUENE	R	R	R	R	R	R	R	R	S	S	S	S
TRICHLOROETHYLENE	S	S	S	S	S	S	S	S	S	S	S	S
TRISODIUM PHOSPHATE	R	R	R	R	R	R	R	R	R	R	R	R
UREA	R	R	R	R	R	R	R	R	R	R	R	R
URIC ACID	R	R	R	R	R	R	R	R	R	R	S	R
WATER, DEMINERALISED	R	R	R	R	R	R	R	R	R	R	R	R
WATER, SALT	R	R	R	R	R	R	R	R	R	R	R	R
XYLENE	R	R	R	R	R	R	R	R	S	S	S	S

R: Recommended for full exposure S: Satisfactory for splash and spillage exposure NR: Not recommended

CONVERSION TABLES



Useful Metric Conversion Factors

N	= Newtons	1N	= 9.80665 kg/s^2
Pa	= Pascals	1 Pa	= 1 N/m^2 = 9.80665kg/m^2
kPa	= Kilopascals	1 KPa	= 1000 Pa = 1 KN/m^2
MPa	= Megapascals	1 MPa	= 1000 KPa = 1 million Pascals
GPa	= Gigapascals	1 GPa	= 1000 MPa = 1 million KPa
M	= Meters		
Kg	= Kilograms		
s	= Seconds		
PSI	= Pounds per square inch		

Examples:
1 PSI = 6.894757 KN/M^2 = 6.894757 KPA
To convert PSI to MPa, multiply PSI by 0.006894757. Ex: 120,000psi x 6.895 x 10^4 = 827.4 MPa
To convert MPa to PSI, divide by 0.006894757. Ex: 1000 MPa / 6.895 x 10^4 = 145,038 PSI

TO CONVERT LENGTH

FROM	TO	X
mils	microns	25
microns	mils	0.04
centimeters	inches	0.04
inches	centimeters	2.54
centimeters	feet	0.03281
feet	centimeters	30.48
feet	meters	0.3048

TO CONVERT AREA

FROM	TO	X
sq. ft.	sq. meters	0.0929
sq. meters	sq. ft.	10.764

TO CONVERT TEMPERATURES

FROM	TO	
Celsius	Fahrenheit	(°C x 1.8) + 32
Fahrenheit	Celsius	(°F - 32) / 1.8

THEORETICAL COATING COVERAGE

sq. ft. / US gal = ((% solids by volume) / 100) x 1604
sq. meters = ((% solids by volume) / 100) x 1000 / dry film thickness (microns)

COVERAGE WITH WASTE FACTOR

Coverage with Waste Factor = Theoretical Coverage - (Theoretical Coverage x % Waste Factor) / 100

CONSUMPTION RATE

Consumption = Area (sq. ft. or sq. meters) / Coverage with Waste Factor

AREA CALCULATIONS

Rectangle = Length x Width
Circle = 3.1416 x Radius x Radius
Pipe = 3.1416 x Diameter x Length
Cylindrical Tank with Floor and Roof = 3.1416 x Diameter x Length + 2 x (3.1416 x Radius x Radius)
Open Top Cylindrical Tank with Floor = 3.1416 x Diameter x Length + (3.1416 x Radius x Radius)

NOTES

MECATECPOLYMERS.COM

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