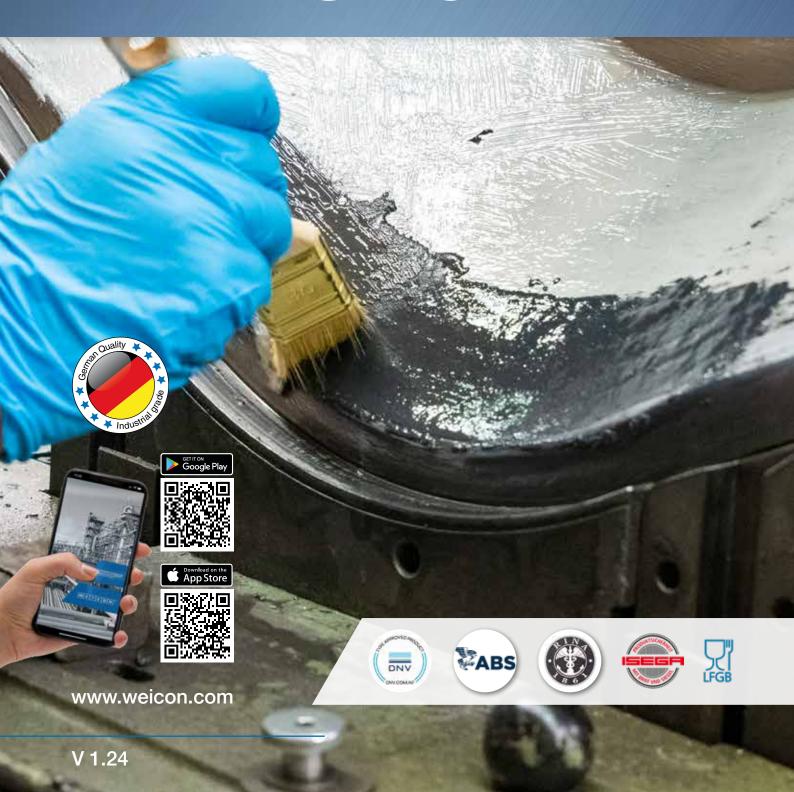






PLASTIC METAL





WHICH INDUSTRIES SEE PLANT COMPONENTS AND STRUCTURES SUFFER FROM EROSION, CORROSION, OR ABRASIVE MATERIAL



Breweries and malthouses

Cement and gravel works Chemical & Petro-Chemical

industry

Coal, ore mining, coking plants

Concrete plants

Gas works

Glass works

Iron works / rolling mills

Lime, sand, potash plants

Paper mills

Power stations

Scrap utilisation plants

Sugar factories

Waste incineration plants

Waste water / sewage

WHICH PLANT COMPONENTS OR STRUCTURES ARE AFFECTED BY EROSION, CORROSION, OR ABRASION?



Bucket Elevators

Bunkers or Underground

Storage Bins

Chutes

Classifiers

Containers, Vessels, Tanks

Conveyor systems / Augers

Cyclones

Feed Hoppers

Nozzles

Mills

Mixers

Pipelines

Pumps

Rotary Valves

Separator

Silos

Troughs (or Channels)

WHICH BULK-GOODS OR MATERIALS CAUSE HEAVY EROSION. CORROSION OR WEAR?



Ash

Cement

Chips (or Shavings)

Coal Coke

Grain

Gravel Gypsum Mill scale (or Scale, in

metallurgical contexts)

Lime Ores

Salts

Sand

Solids dissolved in liquids

Sinter

Slag





Versatile use

In industrial construction and manufacturing, epoxy resin systems are used in many areas. The 2C systems can be used for adhesive bonding, as casting compound, as coating and for fast and durable repairs on various materials.

For example, they can be used for tool production, for model and mould making, machine construction, in metal work, in filter construction, for use on mills and pumps, or for the chemical industry.

The different types are used, for example, for repairing and reconditioning broken metal threads, damaged plastic parts, broken housings or leaks in pipes. They can also be used as aids for mould making for rubber and injection moulded parts or for making embossing dies, templates, models, gauges and clamping devices.

A typical field of application for epoxy resin systems is the coating of heavily stressed parts. Due to its high resistance to aggressive substances, Plastic Metal can be used in very demanding applications.

In modern shipbuilding, the materials used must be able to permanently withstand extreme stresses, such as contact with salt water or salty air. In wastewater systems or exhaust pipes, both aggressive substances and suspended particles have an effect on the installed materials. These influences cause severe corrosion, pitting and abrasion, for example on pump housings, fans or valves.

The resulting damage makes it necessary to replace or repair components at regular intervals. Coating the parts with the epoxy resin system beforehand can lead to a significant increase in service life.

Due to its rather uncomplicated application, Plastic Metal is a real alternative to build-up welding, as there is no heat distortion during the processing of the epoxy resin as with welding.



With the application of WEICON Plastic Metal, many problems can be solved quickly and easily. The variety of epoxy resin systems allows an individual adjustment to the respective repair or maintenance. The cold-metal repair eliminates many timeconsuming operations, such as welding, dismantling, new acquisition, etc.





REPAIR, MOULDING AND REBUILDING OF METAL



Ш E I C O П







| | | Steel | | | | | | |
|--------------|--|---|---|--|---|---|--|--|
| | | pasty | high temperature resistance | flowable | very fast curing | high temperature resistance | | |
| | | WEICON (| WEICON HT 111 | WEICON B | WEICON (| WEICON HB 300 | | |
| | Keyfacts | highly filled, trowelable, certified by DNV | universally applicable, corrosion-resistant, mixing ratio 1:1 | self-levelling, exact reproduction of details (reproduces the finest details) | pasty, certified by DNV | pasty, non-drip, resistant to high temperatures up to +280 °C for a short period of time | | |
| | Max. layer thickness per work step | 20 mm | 20 mm | 30 mm | 10 mm | 20 mm | | |
| | Pot life | 60 minutes | 30 minutes | 60 minutes | 5 minutes | 30 minutes | | |
| | Final strength after | 24 hours | 24 hours* | 24 hours | 6 hours | 24 hours* | | |
| | Temperature resistance | -35 °C to +120 °C | -35 °C to +200 °C briefly up to +280 °C | -35 °C to +120 °C | -35 °C to +90 °C | -35 °C to +200 °C briefly up to +280 °C | | |
| | Specific properties | universal epoxy resin system for repair and maintenance work | temperature- resistant epoxy resin system for areas with high thermal stress, can be applied with spatula | epoxy resin system for general repair work | epoxy resin system for quick emergency repairs on unpressurised systems | non-drip and temperature- resistant epoxy resin system for areas exposed to high thermal stresses | | |
| Applications | | removal of corrosion damage and pitting repairing holes and blowholes ideal for use in sewer systems where pipes and pipelines are exposed to strong influences of different substances | - repair and bonding of cast and metal parts - filling blowholes and repairing damage to tanks, engines, car bodies and machine parts - sealing pumps and pipes - can be applied to vertical surfaces | - detailed reproduction in model and mould making production of tools, clamping devices, fastening systems, templates, gauges and prototypes filling of cavities and microporosities on castings and steel parts | - fast repairs and repair work on leaking pipelines, housings, gearboxes and anchorages - production of clamping devices | - can be applied to vertical surfaces repair and bonding of cast and metal parts filling blowholes and repairing damage to tanks, engines, car bodies and machine parts sealing pumps and pipes | | |
| | ArtNo. | 1000003 | 10062984 | 10000020 | 10000071 | 10000099 | | |

Application areas:

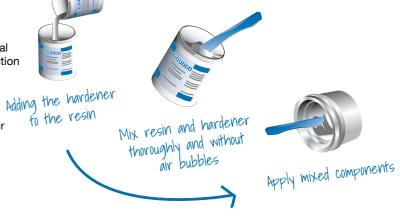
 automotive industry, agricultural technology, mechanical engineering, food technology, tool and mould construction

Areas of use:

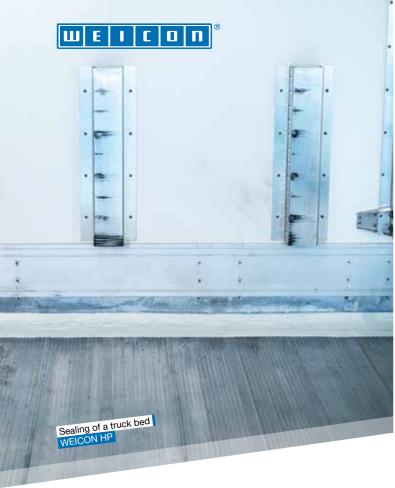
repair of cavitation and corrosion damage, repair of moulds / press moulds and holding devices, pipe repair

Advantages: selection

- different fillers
- different viscosities
- different curing speeds
- different temperature ranges



| Aluminium | | | Mineral-Filled | | Special Filler | | | |
|--|--|--|---|---|---|--|--|--|
| high temperature resistance | high thermal conductivity | flowable | underwater application | wear resistant | bronze | stainless steel | titanium | |
| WEICON C | WEICON F | WEICON F2 | WEICON UW | WEICON WR2 | WEICON BR | WEICON ST | WEICON TI | |
| pasty, self-levelling, resistant to high temperatures, drinking water approval according to BS 6920 | pasty, trowelable, non-corrosive | self-levelling, non-corrosive | pasty, adheres to wet and moist surfaces | pasty, trowelable high compressive strength | pasty, non-corrosive, colour: bronze metallic | viscous, trowelable, anti-corrosive | pasty, trowelable, high pressure resistance, temperature-resistant up to +200 °C, short term up to +260 °C | |
| 10 mm | 30 mm | 10 mm | 10 mm | 20 mm | 12 mm | 10 mm | 10 mm | |
| 60 minutes | 60 minutes | 60 minutes | 30 minutes | 30 minutes | 60 minutes | 60 minutes | 120 minutes | |
| 12 hours* | 36 hours | 72 hours | 36 hours | 12 hours | 12 hours | 12 hours | 16 hours* | |
| -80 °C to +220 °C | -35 °C to +120 °C | -35 °C to +120 °C | -35 °C to +160 °C | -35 °C to +120 °C | -35 °C to +120 °C | -35 °C to +120 °C | -35 °C to +200 °C briefly up to +260 °C | |
| novolak-based epoxy resin system for use in areas with high thermal stress | epoxy resin system for the restoration of worn aluminium surfaces, can be applied with spatula | epoxy resin system for aluminium, aluminium alloys, magnesium and other light metals | epoxy resin system for repairs on wet and damp surfaces and under water | epoxy resin system as wear protection, especially suitable for areas where it is not possible to use casting compounds | epoxy resin system for the restoration of worn bronze surfaces | epoxy resin system ideal for use on machine parts and components made of stainless steel | epoxy resin system for applications requiring high temperature and pressure resistance as well as good chemical resistance | |
| - for large-surface applications - casting of moulds and manufacture of fixing devices and tools | - for filling cavities on light metal castings - for all metals requiring high thermal conductivity - reconstruction of components | - casting of models, moulds and templates repairing porous and damaged castings - manufacture of prototypes and holding devices - pouring out dies to check for accuracy | - repairs and touch-up work, e.g. on pipes, pumps, tanks and containers | - repair of conveyors, guides and sliding ways - protection against wear on metal surfaces exposed to high abrasion and erosion - wear-resistant base layer before the final coating with WEICON Ceramic BL | - for filling blowholes and rebuilding bronze parts and bronze cast parts - reproduction of bronze cast parts - use throughout the marine and inland waterway sectors as well as in many industrial areas | - versatile repairs and touch-up work on tanks, pipes, vessels, funnels and flanges - wide-ranging areas of application, such as the chemical industry, marine and inland shipping sectors, wastewater plants and paper industry | - repairs to pumps, valves, wear plates, ball bearing seats, shafts, propellers and exhaust systems - lining of pump housings and plain bearings | |
| 10000032 | 10000039 | 10000061 | 10000933 | 10000087 | 10012669 | 10012669 | 10013464 | |









ADHESIVE

Application areas:

▶ mechanical engineering, prototyping, building technology

Areas of use:

 building maintenance, prototype construction, series production

Advantages: selection

- high temperature range
- high initial strength
- high strength



Contour Spatula Flexy

Versatile use, e. g. for coating and processing 2C adhesives. The spatula is perfect for applying adhesives on large or small surfaces. The spatula is made of wear-resistant polyamide.



| | Aluminium | | Minera | I-Filled | Sto | Steel | | |
|--|--|--|---|--|--|--|--|--|
| | high temperature resistance | high thermal conductivity | high adhesive strength | flame retardant | high temperature resistance | high temperature resistance | especially for stainless steel workpieces | |
| | WEICON C | WEICON F | WEICON HP | WEICON Fire Safe | WEICON HB 300 | WEICON HT 111 | WEICON ST | |
| Keyfacts | flowable, self-levelling, resistant to high temperatures, drinking water approval according to BS 6920 | pasty, trowelable, non-corrosive | pasty, can be applied with spatula, impact resistant, adheres to wet and moist surfaces, very good adhesive properties | flame-retardant, strong adhesion, trowelable | pasty, non-drip, resistant to high temperatures up to +280 °C for a short period of time | universally applicable, corrosion-resistant, mixing ratio 1:1 | viscous, trowelable, anti-corrosive | |
| Max. layer thickness per work step | 10 mm | 30 mm | 10 mm | 20 mm | 20 mm | 20 mm | 10 mm | |
| Pot life | 60 minutes | 60 minutes | 30 minutes | 30 minutes | 30 minutes | 30 minutes | 60 minutes | |
| Final strength after | 12 hours* | 36 hours | 36 hours | 24 hours | 24 hours* | 24 hours* | 12 hours | |
| Temperature resistance | -35 °C to +220 °C | -35 °C to +120 °C | -35 °C to +160 °C | -35 °C to +120 °C | -35 °C to +200 °C briefly up to +280 °C | -35 °C to +200 °C briefly up to +280 °C | -35 °C to +120 °C | |
| Specific properties | novolak-based epoxy resin system for use in areas with high thermal stress | epoxy resin system for the restoration of worn aluminium surfaces, can be applied with spatula | - epoxy resin system with very high adhesive strength, impact strength, elongation at break and residual elasticity - can also be used as an adhesive on damp and oily surfaces | - epoxy resin system for fire protection applications - is used to fix wear protection ceramics or steel parts to a wide variety of surfaces | non-dripping filling compound for areas with high thermal stress | temperature- resistant epoxy resin system for areas with high thermal stress, can be applied with spatula | epoxy resin system ideal for use on machine parts and components made of stainless steel | |
| Applications | adhesive for large-surface applications | - for filling cavities on light metal castings - reconstruction of components | well suited for bonding, repairs and for lining heavily stressed equipment | - for fire protection applications - is used to fix wear protection ceramics or steel parts to a wide variety of surfaces | - can be applied to vertical surfaces repair and bonding of cast and metal parts filling blowholes and repairing damage on tanks, engines, car bodies and machine parts sealing pumps and pipes | - repair and bonding of cast and metal parts - filling blowholes and repairing damage on tanks, engines, car bodies and machine parts - sealing pumps and pipes - can be applied to vertical surfaces | - versatile repairs and touch-up work on tanks, pipes, vessels, funnels and flanges - wide-ranging or versatile areas of application, such as the chemical industry, marine and inland shipping sectors, wastewater plants and paper industry | |
| ArtNo. | 10000032 | 10000039 | 10054003 | 10062920 | 10000099 | 10062984 | 10000900 | |

^{*} after tempering (for more information, see technical datasheet)

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WEAR, EROSION AND CORROSION PROTECTION

Application areas:

mining, conveyor technology, construction industry, marine industry

Areas of use:

- protection against cavitation and corrosion (pump, chute and bulk coating)
- protection against slipping and hitting movements

Advantages: selection

- ▶ different fillers (coarse and fine particles)
- different consistencies
- different strengths (rigid to impact-resistant)
- protection against abrasion or erosion by coarse or fine particles

WEICON PRODUCTS FOR WEAR, EROSION AND CORROSION PROTECTION ARE EXCELLENTLY SUITED AS

PRIMER AND SURFACE FINISH

FOR A SYSTEM BUILD-UP WITH A VISUAL CONTROL LAYER



| | Pasty | | | | |
|--|---|---|--|--|--|
| | for slipping movements (e.g. dust, fine particles) | in case of impact (e.g. debris, coarse dust) | | | |
| | WEICON Ceramic W | WEICON WP | | | |
| Keyfacts | pasty, wear-resistant, hard curing | pasty, high-strength, ceramic- filled, extremely wear-resistant, viscoplastic and impact-resistant | | | |
| Filler | aluminium oxide | ceramic beads | | | |
| Max. layer thickness per work step | 10 mm | 20 mm | | | |
| Pot life | 120 minutes | 30 minutes | | | |
| Final strength after | 24 hours* | 36 hours | | | |
| Temperature resistance | -35 °C to +230 °C, briefly up to +250 °C | -35 °C to +120 °C | | | |
| Specific properties | non-dripping epoxy resin system as wear protection with high abrasion resistance, can be applied with spatula | protective coating for heavily stressed surfaces with high strengths against wear and abrasion | | | |
| Applications | bonding or lining of aluminium oxide bricks in mill construction lining of heavily stressed pump housings wear protection for sliding bearings, slides and pipes | - prevents metal loss and, depending on the application, replaces common wear-resistant alloys, ceramic tiles, rubber linings or welded metal coatings - reconstruction of worn metal surfaces - wear-resistant coating with particularly good protection against wear caused by laterally impacting particles | | | |
| ArtNo. | 10012232 | 10032320 | | | |

^{*} after tempering (for more information, see technical datasheet)



Brush 35 Iona, Adhesive

10065455

Natural bristles 46 mm, for viscous materials

Brush 35, flat, Plastic Metal

Brush 60, flat, Plastic Metal

Natural bristles 24 mm, for flowable materials





10059417

10068373

10062869

10062940

10062958

| Flowable system build-up | | | | | Flowable special requirements | | | nts |
|--|--|--|---|--|--|-----------------------------------|--|--|
| sprea blue | dable green | short processing time | yable long processing time | high temperature resistance | foodstuffs ap | proval | anti-stick effect | antistatic |
| WEICON Ceramic BL | WEICON GL-S | WEICON GL | WEICON WL | WEICON Ceramic HC 220 | WEICO Food Gra | | WEICON Anti-Stick | WEICON Anti-Static |
| flowable, temperature-resistant up to +220 °C, drinking water approval according to BS 6920 | flowable, brushable, longer processing time, high-temperature- resistance | flowable, extremely wear-resistant, high-temperature- resistance | liquid, sprayable, long processing time, high adhesion especially on stainless steel | flowable, temperature-resistant up to +220 °C, drinking water approval according to BS 6920 | flowable, w protection, co protection drinking wa approval accor BS 6920 | rrosion n, ater rding to | wear protection, non-drip, sprayable | liquid wear protection system, high chemical resistance |
| silicium carbide, zirconium silicate | silicium carbide, zirconium silicate | mineral-filled | ceramic-filled | silicium carbide, zirconium silicate | mineral-fil | lled | mineral-filled | aluminium oxide |
| 10 mm | 10 mm | 10 mm | 20 mm | 10 mm | 10 mm | 1 | 10 mm | 10 mm |
| 55 minutes | 55 minutes | 30 minutes | 70 minutes | 45 minutes | 30 minut | es | 30 minutes | 30 minutes |
| 12 hours | 12 hours | 8 hours | 36 hours | 10 hours | 24 hour | 'S | 24 hours | 36 hours |
| -35 °C to +180 °C | -35 °C to +180 °C | -35 °C to +180 °C | -35 °C to +120 °C | -35 °C to +220 °C | -35 °C to +1 | 20 °C | -35 °C to +120 °C | -35 °C to +120 °C |
| WEICON Ceramic BL is filled with silicon carbide and zirconium silicate, is resistant to chemicals and offers extreme wear protection and high abrasion resistance. | WEICON GL-S is filled with silicon carbide and zirconium silicate, is resistant to chemicals and offers extreme wear protection and high abrasion resistance. | - control layer and primer for absorbent substrates in combination with WEICON Ceramic BL - provides high abrasion resistance and serves as wear protection for heavily used surfaces - high adhesive strength and chemical resistance | owing to its long pot life, WEICON WL can be used for applications with higher ambient temperatures or for larger surfaces | WEICON Ceramic HC 220 is filled with silicon carbide and zirconium silicate, is resistant to chemicals and offers extreme wear protection as well as high abrasion resistance. Wear-resistant final coating for all Plastic Metal types. | epoxy resin sy for coating wit approval from the Ruhr Distri Institute of Hy for contact wit aqueous and t foods up to 70 | h ict giene th fatty | epoxy resin system for coating with special additives that create an anti-stick effect | epoxy resin system for coating with a high proportion of fine ceramic solids |
| - lining of heavily stressed pump housings - wear protection for bearings, chutes, hoppers, pipes and containers - repair of castings, valves and fan blades - is suitable with one of the other Plastic Metal types for a system build-up | - lining of heavily stressed pump housings - wear protection for bearings, chutes, hoppers, pipes and containers - repair of castings, valves and fan blades - is suitable with one of the other Plastic Metal types for a system build-up | - lining of heavily stressed pump housings - protection for slide bearings, slides, funnels, pipes and tanks - repair of castings, valves and blower fans - is suitable with one of the other Plastic Metal types for a system build-up | - lining of heavily stressed pump housings made of stainless steel - is suitable with one of the other Plastic Metal types for a system build-up | - lining of heavily stressed pump housings - wear protection for bearings, chutes, hoppers, pipes and containers - repair of castings, valves and fan blades - is suitable with one of the other Plastic Metal types for a system build-up | - coating of a w variety of part such as pum conveyors, lift screws, hopp tanks and pip | is, os, ting pers, | - suitable for a wide variety of parts such as pipes, pumps and exhaust systems - preliminary tests under conditions simulating practical use are always recommended, especially if the parts are additionally exposed to increased temperature or mechanical stress | -coating of a wide variety of parts, such as rollers, pumps, chutes, conveyors, lifting screws, separators, hoppers, propellers, fans and heat exchangers |

WEICON Plastic Metal

10000093







CASTING, RELINING AND GAP COMPENSATION

Application areas:

bridge repair, steel construction, track construction, crane systems

Areas of use:

 abutment repairs, levelling, compensating unevenness, pouring/foundation work

Advantages:

- high flowability
- ▶ high pressure resistance
- ▶ anti-corrosive
- high adhesion



| | Pa | | |
|--|---|---|--|
| | steel-filled | mineral-filled | wear resista |
| | WEICON A | WEICON WR2 | WEICON V |
| Keyfacts | highly filled, trowelable, certified by DNV | pasty, trowelable high compressive strength | liquid, self-levelling filled |
| Filler | steel | mineral-filled | steel |
| Max. layer thickness per work step | 20 mm | 20 mm | 10 mm |
| Pot life | 60 minutes | 30 minutes | 40 minutes |
| Final strength after | 24 hours | 12 hours | 16 hours |
| Temperature resistance | -35 °C to +120 °C | -35 °C to +120 °C | -35 °C to +120 |
| Specific properties | universal epoxy resin system for repair and maintenance work | epoxy resin system as wear protection, especially suitable for areas where it is not possible to use casting compounds | epoxy resin syste areas where meta are exposed to st wear due to friction |
| Applications | - removal of corrosion damage and pitting - repairing holes and blowholes - ideal for use in sewer systems where pipes and pipelines are exposed to strong influences of different substances | - repair of conveyors, guides and sliding ways - protection against wear on metal surfaces exposed to high abrasion and erosion - wear-resistant base layer before the final coating with WEICON Ceramic BL | - repairs and casting of shafts - for casting bearing cutting and punching tools - for the production casting and profilmilling models as well as moulds - backfilling of made and foundations - wear-resistant ballayer before the focating with WEI Ceramic BL |
| ArtNo. | 10000003 | 10000087 | 10000077 |

| | | Flowable | |
|------------------|---|--|--|
| | wear resistant | repair | foundation |
| | WEICON WR | WEICON F2 | WEICON CBC WABS |
| ngth | liquid, self-levelling, steel- filled | aluminium-filled, self-levelling, non- corrosive | vibration-resistant, impact- resistant, anti-corrosive, anti-magnetic, self- levelling, certified by ABS |
| | steel | aluminium | aluminium |
| | 10 mm | 10 mm | 30 mm |
| | 40 minutes | 60 minutes | 45 minutes |
| | 16 hours | 72 hours | 24 hours |
| | -35 °C to +120 °C | -35 °C to +120 °C | -40 °C to +160 °C (briefly up to +180 °C) |
| | epoxy resin system for areas where metal parts are exposed to strong wear due to friction | epoxy resin system for aluminium, aluminium alloys, magnesium and other light metals | - low viscosity epoxy resin system - offers permanent high static strength and high ageing resistance - high compressive strength and chemical resistance - temperature resistant up to +160 °C |
| vays ces n | - repairs and casting of shafts - for casting bearings, cutting and punching tools - for the production of casting and profile milling models as well as moulds - backfilling of machines and foundations - wear-resistant base layer before the final coating with WEICON Ceramic BL | - casting of models, moulds and templates - repairing porous and damaged castings - manufacture of prototypes and holding devices - pouring out dies to check for accuracy | - serves as a replacement for fittings, such as metal or other materials, and ensures direct contact to foundation plates - shimming and backfilling of difficult to align equipment in the industrial and maritime sector |
| | | | |

10000061

10 WEICON Plastic Metal

10045020



