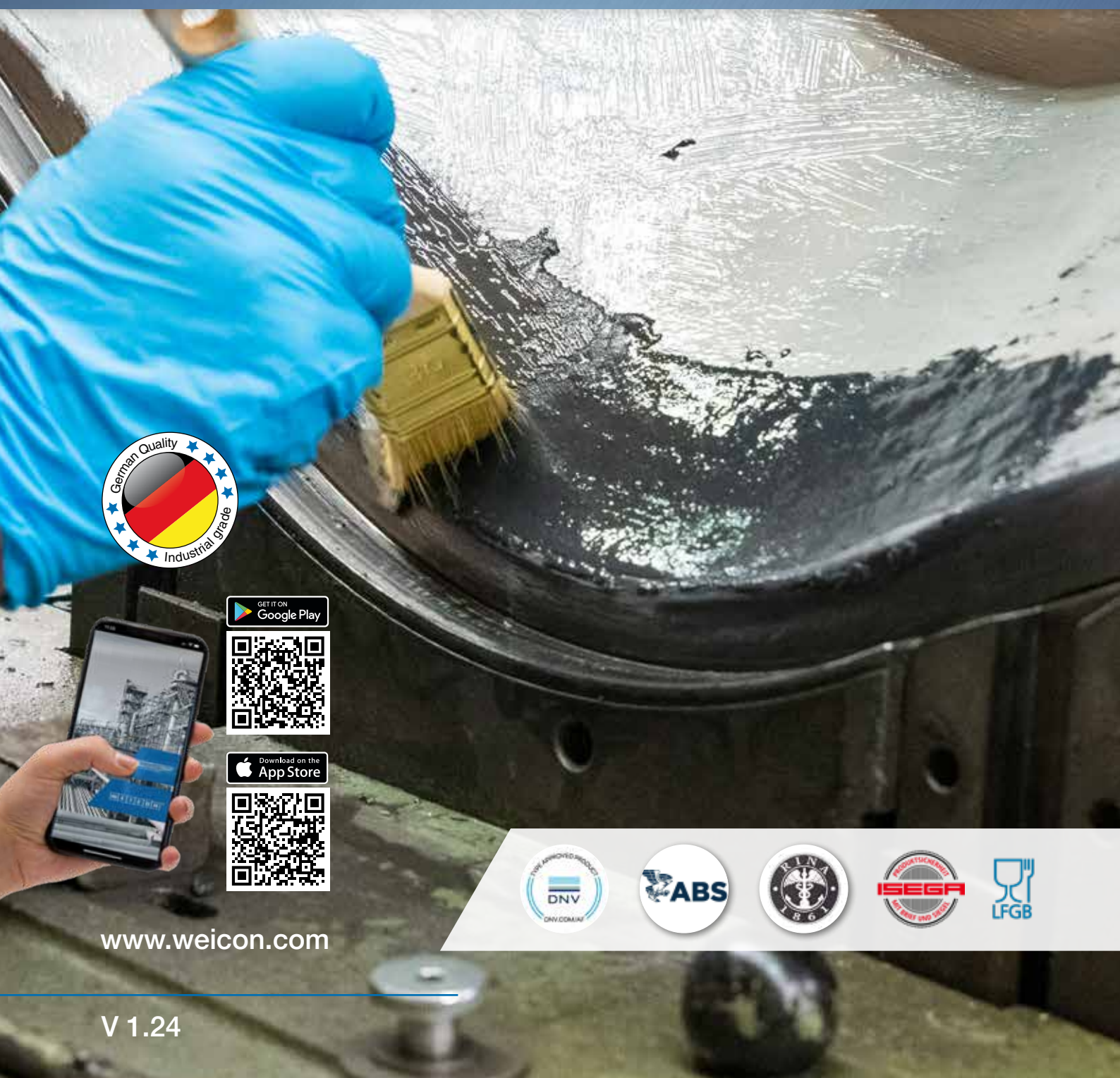




 WEICON Product Overview

PLASTIC METAL



www.weicon.com



PLASTIC METAL

2-component epoxy resin systems

Epoxy resin adhesives belong to the group of reactive adhesives. The two-component systems presented here consist of a resin and a hardener and are called WEICON Plastic Metal.

These special 2-component epoxy resin systems can be used in a very wide range of applications due to their versatile formulation options. That way, they can be customised to the respective application. They are suitable for many different areas of industry.

The term Plastic Metal is used to imply that the material can be mechanically processed in its cured state – just like metal. You can drill, mill, grind or file the cured adhesive – depending on the application.

Depending on the type, the resin component of the Plastic Metal is mixed with steel, aluminium powder or mineral fillers, all of which improve the technical characteristics. For example, an especially high abrasion resistance, impact strength, compressive strength or a very high temperature resistance can be achieved.

Depending on the formulation, the epoxy resin systems have a pasty, viscous or liquid, spreadable consistency.

After mixing the two components, the material cures at room temperature at different speeds, depending on the type, to form a solid metal-like material that adheres immediately to almost any surface. That way, a wide variety of materials can be firmly and permanently bonded.



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 time-consuming operations, such as welding, dismantling, new acquisition, etc.

Simply find solutions
with our
WEICON App



weicon.de/en/app



REPAIR, MOULDING AND REBUILDING OF METAL

Application areas:

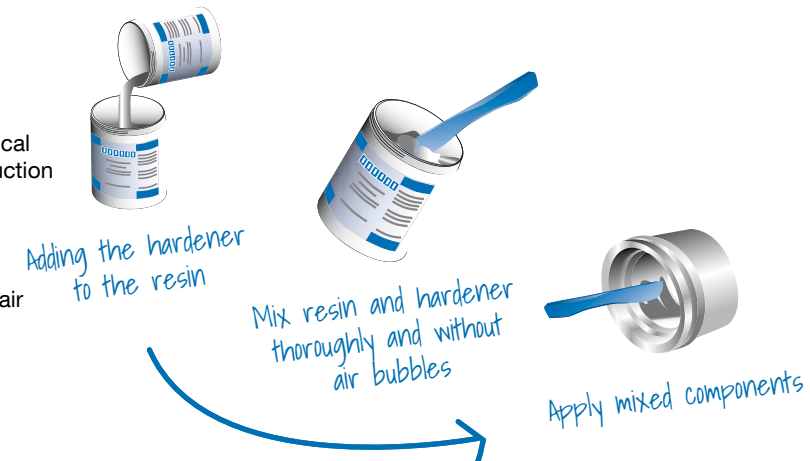
- ▶ automotive industry, agricultural technology, mechanical engineering, food technology, tool and mould construction

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



	Steel				
	WEICON A	WEICON HT 111	WEICON B	WEICON SF	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
Art.-No.	10000003	10062984	10000020	10000071	10000099

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

	Aluminium			Mineral-Filled		Special Filler		
	WEICON C	WEICON F	WEICON F2	WEICON UW	WEICON WR2	WEICON BR	WEICON ST	WEICON TI
Keyfacts	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
Max. layer thickness per work step	10 mm	30 mm	10 mm	10 mm	20 mm	12 mm	10 mm	10 mm
Pot life	60 minutes	60 minutes	60 minutes	30 minutes	30 minutes	60 minutes	60 minutes	120 minutes
Final strength after	12 hours*	36 hours	72 hours	36 hours	12 hours	12 hours	12 hours	16 hours*
Temperature resistance	-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
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 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
Applications	- 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
Art.-No.	10000032	10000039	10000061	10000933	10000087	10012669	10012669	10013464



Sealing of a truck bed
WEICON HP



Bonding stainless steel filter caps
WEICON C



Coating of a stainless steel printing roller
WEICON HP



Coating of a heat exchanger with WEICON HP as barrier layer
WEICON HP

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



Find our application videos on YouTube!



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		Mineral-Filled		Steel		Stainless 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	pasty, 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
Art.-No.	10000032	10000039	10054003	10062920	10000099	10062984	10000900

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

Restoration work on a large submersible pump
WEICON HB 300
WEICON GL
WEICON Ceramic BL

Coating of rotary valve in a cement plant
WEICON Anti-Stick

Maintenance of a vibration plate in mining
WEICON WP

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
Art.-No.	10012232	10032320

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

Brush 35 long, Adhesive

Natural bristles 46 mm, for viscous materials



10065455

Brush 35, flat, Plastic Metal

Natural bristles 24 mm, for flowable materials



10059417

Brush 60, flat, Plastic Metal



10068373

	Flowable system build-up					Flowable special requirements		
	spreadable blue	green	sprayable short processing time	long processing time	high temperature resistance	foodstuffs approval	anti-stick effect	antistatic
	WEICON Ceramic BL	WEICON GL-S	WEICON GL	WEICON WL	WEICON Ceramic HC 220	WEICON Food Grade	WEICON Anti-Stick	WEICON Anti-Static
Keyfacts	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, wear protection, corrosion protection, drinking water approval according to BS 6920	wear protection, non-drip, sprayable	liquid wear protection system, high chemical resistance
Filler	silicium carbide, zirconium silicate	silicium carbide, zirconium silicate	mineral-filled	ceramic-filled	silicium carbide, zirconium silicate	mineral-filled	mineral-filled	aluminium oxide
Max. layer thickness per work step	10 mm	10 mm	10 mm	20 mm	10 mm	10 mm	10 mm	10 mm
Pot life	55 minutes	55 minutes	30 minutes	70 minutes	45 minutes	30 minutes	30 minutes	30 minutes
Final strength after	12 hours	12 hours	8 hours	36 hours	10 hours	24 hours	24 hours	36 hours
Temperature resistance	-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 +120 °C	-35 °C to +120 °C	-35 °C to +120 °C
Specific properties	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 system for coating with approval from the Ruhr District Institute of Hygiene for contact with aqueous and fatty foods up to 70 °C	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
Applications	- 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 wide variety of parts, such as pumps, conveyors, lifting screws, hoppers, tanks and pipes	- 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
Art.-No.	10000093	10060362	10057714	10067882	10060705	10062869	10062940	10062958



Repair of a water boiler
WEICON WR



Gap compensation on a flange joint
WEICON WR



Lining a machine robot stand
WEICON CBC

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



roof-shaped material application of a pasty epoxy resin for uniform material expansion

	Pasty		Flowable		
	steel-filled	mineral-filled	wear resistant	repair	foundation
	WEICON A	WEICON WR2	WEICON WR	WEICON F2	WEICON CBC
Keyfacts	highly filled, trowelable, certified by DNV	pasty, trowelable high compressive strength	liquid, self-levelling, steel-filled	aluminium-filled, self-levelling, non-corrosive	vibration-resistant, impact-resistant, anti-corrosive, anti-magnetic, self-levelling, certified by ABS
Filler	steel	mineral-filled	steel	aluminium	aluminium
Max. layer thickness per work step	20 mm	20 mm	10 mm	10 mm	30 mm
Pot life	60 minutes	30 minutes	40 minutes	60 minutes	45 minutes
Final strength after	24 hours	12 hours	16 hours	72 hours	24 hours
Temperature resistance	-35 °C to +120 °C	-35 °C to +120 °C	-35 °C to +120 °C	-35 °C to +120 °C	-40 °C to +160 °C (briefly up to +180 °C)
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 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
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 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
Art.-No.	10000003	10000087	10000077	10000061	10045020

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Management System
ISO 9001:2015
ISO 14001:2015

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WEICON Handbook

Plastic Metal

Art.-No. 10062509

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