

WEICON CBC



Certified by ABS | vibration-resistant | impact-resistant

WEICON CBC is suitable for the shimming and backfilling of systems difficult to align in the industrial and maritime sector. The "ABS Product Design Assessment" certified system serves as a replacement for fittings and worn metal sheets and ensures the direct contact to foundation plates. The special epoxy resin system has a low viscosity, is very flowable and self-levelling. It has a pot life of 45 minutes and cures nearly shrink-free. It provides a permanent high-static stability and has a high resistance to ageing. The epoxy resin system adheres particularly well to steel and concrete. It has a good compressive strength and is resistant to oils, fuels and many chemicals. It is vibration-resistant as well as temperature-resistant. Due to almost no cure shrinkage, machines and systems keep their specific alignment after the casting of WEICON CBC.

Characteristics

Base	Epoxy
Filler	aluminium
Texture	flowable
Colour	grey
Minimum shelf life	at room temperature 24 mon.

Processing

Processing temperature	+15°C to +40°C
Component temperature	>3 °C above dew point
Relative air humidity	< 85 %
Mixing ratio by weight	100:21
Mixing ratio by volume	100:33
Viscosity of the mixture	at +25 °C ~32.000 mPa·s
Density of the mixture	1,6 g/cm ³
Consumption	Layer thickness 1.0 mm 1,6 kg/m ²
Max. layer thickness	per step 30 mm

Curing

Pot life	at 20 °C, 500 g batch	45 min.
Additional layer after	(35 % strength)	8 h
Working strength after	(80 % strength)	12 h
Final strength	(100 % strength)	24 h
Shrinkage		0,06 %

Mechanical properties after curing

- Measured after curing at		24 h RT + 4 h +60 °C
Tensile strength	DIN EN ISO 527-2	58 MPa
Elongation at break (tensile)	DIN EN ISO 527-2	2,3 %
E-modulus (tensile)	DIN EN ISO 527-2	3.800-4.700 MPa
Compressive strength	DIN EN ISO 604	80 MPa
Bending strength	DIN EN ISO 178	80 MPa
Impact strength	DIN EN ISO 179-1/1eU	10-15 kJ/m ²
Hardness (Shore D)	DIN ISO 7619	84±3
Adhesive strength	DIN EN ISO 4624	12 MPa
Taber Test	DIN ISO 9352 (H18, 1 kg, 1000 rotations)	1,2 g / 0,8 cm ³

Lap shear strength material thicken. 1,5mm DIN EN 1465	
Steel 1.0338 sandblasted	16 MPa
Stainless steel V2A sandblasted	17 MPa
Aluminium sandblasted	8 MPa
Galvanized steel	12 MPa

Thermal parameters

Temperature resistance		-40°C to +160°C, briefly up to +180 °C
Tg after curing at room temperature	(DSC)	~ +50 °C
Tg after tempering (at 120°C)	(DSC)	~ +75 °C
Heat deflection resistance	DIN EN ISO 75-2	+62 °C
Thermal conductivity	DIN EN ISO 22007-4	0,7 W/m·K
Heat capacity	DIN EN ISO 22007-4	1,17 J/(g·K)

Electrical parameters

Resistance	DIN EN 62631-3-1	8,4·10 ¹⁶ Ω·m
Magnetic		no

Approvals / Guidelines

American Bureau of Shipping	Product Design Assessment
ISSA Code	75.510.01
IMPA Code	812955/56

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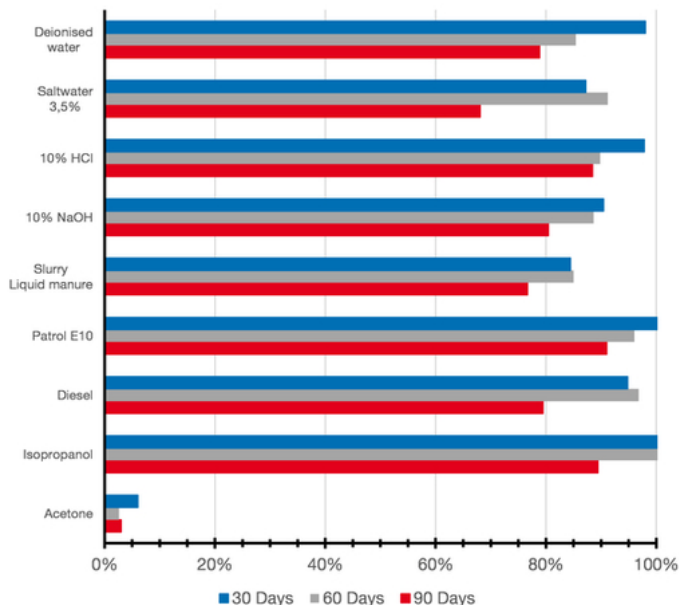
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Instructions for use

When using WEICON products, the physical, safety-related, toxicological and ecological data and regulations in our EC safety data sheets (www.weicon.com) must be observed.



Surface Pre-Treatment

The successful application of WEICON CBC depends on the thorough preparation of the surfaces. This is the most important factor for overall success. Dust, dirt, oil, grease, rust and moisture or wetness have a negative impact on the adhesion. Therefore, before processing WEICON CBC, the following points must be observed: Foundation areas (structure element and structure foundation) need to be clean, dry and free of grease. Therefore, grease, oil, rust, loose concrete, cement milk, and paint need to be thoroughly removed. For cleaning and degreasing, we recommend WEICON Cleaner Spray S. The resin component should of the WEICON CBC should be preheated to approx. +25°C. Smooth and particularly heavily soiled surfaces should additionally be treated by mechanical surface pre-treatment, e.g. by grinding or preferably by blasting. In case of blasting, the surface should be brought to a degree of purity of SA 2 ½ - "Near White Blast Cleaning" (according to ISO 8501/1-2, NACE, SSPC, SIS). In order to achieve an optimum surface roughness of 75 - 100 µm, angular, disposable blasting media (aluminum oxide, corundum) should be used. The surface quality is negatively influenced by the use of reusable blasting media (slag, glass, quartz), but also by ice blasting. The air for blasting must be dry and oil-free. Metal parts that have come into contact with sea water or other salt solutions should first be rinsed thoroughly with demineralised water and, if possible, left to rest overnight so that all salts can be dissolved from the metal. Before each application of WEICON CBC, a test for soluble salts should be carried out according

to the Bresle method (DIN EN ISO 8502-6). The maximum amount of soluble salts remaining on the substrate should not exceed 40 mg/m². Heating and repeated blasting of the surface may be necessary to remove all soluble salts and moisture. After each mechanical pre-treatment, the surface should be cleaned again with WEICON Cleaner Spray S and protected from further contamination until the coating is applied. Areas where no adhesion to the substrate is desired must be treated with silicone-free mould release agents. For smooth surfaces, we recommend WEICON Mould Release Agent Liquid F 1000 or, for porous surfaces, WEICON Mould Release Agent Wax P 500. After the surface pre-treatment, WEICON CBC should be applied as soon as possible (within one hour) to avoid oxidation, flash rust or new contamination.

Formwork

Line the surfaces, which are going to be cast, with the already prepared

formwork material and prepare for casting according to the formwork plan.

Formwork 1

Cut the formwork material (foam material) to the required size. The front foam strip should reach the upper edge of the building component.

Formwork 2

Before adjusting, coat the formwork material, e.g. made of foam boards, with a release agent. When using adjustment screws for aligning the installation, they must also be coated with a release agent wax to protected from the casting resin and to ensure easy loosening of the screws after the resin has cured.

Formwork 3

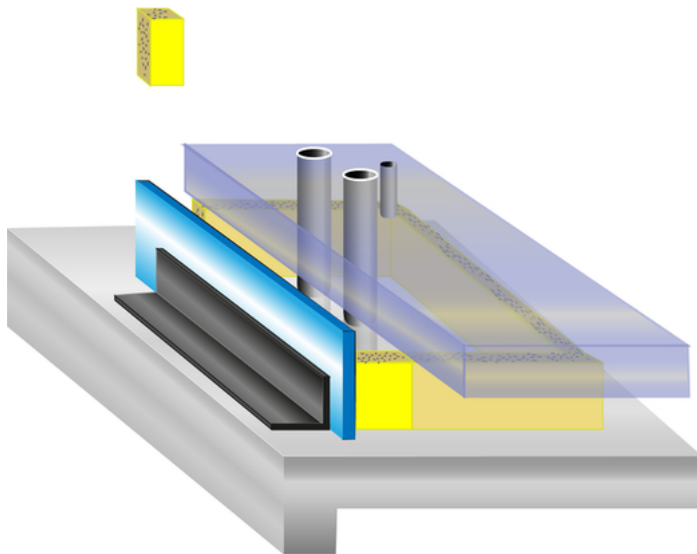
Exposed screw holes should be covered with a flexible foam tube. Before attaching the foam tubes, they must also be covered with a release agent wax, for example WEICON Mould Release Agent Wax P 500.

Formwork 4

The front part of the formwork is closed with a foam board and a folded sheet metal, leaving a gap of at least 40 mm to the base plate to ensure complete ventilation. To attach the folded sheet metal, WEICON Speed-Flex is ideal.

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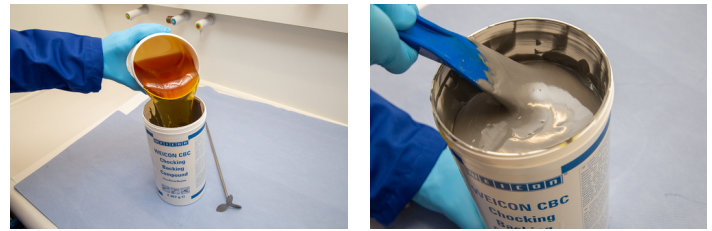


Formwork 5

After completing the formwork, small cracks, gaps and angles should be sealed with WEICON Speed-Flex. Make sure that all areas are sealed well. Additional sealing after casting CBC is very difficult, should leakages appear then. Once the formwork is completed according to the formwork plan, preparations for casting CBC can be made.

Mixing

Before adding the hardener, it is absolutely necessary to stir up the resin with its fillers thoroughly and bubble-free. Then the hardener can be added. Mix the components for at least four minutes thoroughly and bubble-free with mechanical mixers at a low speed of 300-1000 rpm to get a uniform mixture. Caution! Do not immerse or remove drill with Stirrer Stainless Steel in/ from resin container while switched on! This will produce air bubbles within the compound, which will later on have a negative effect on the product's static qualities. Only prepare a batch as large as can be processed within the pot life. The specified mixing ratio by weight (max. deviation +/- 2%) must be strictly observed. CBC is available in complete processing packages with matching amounts of resin and hardener. To avoid mixing errors, a complete processing package should always be used up. The specified pot life refers to a material batch of 10kg and +20°C material temperature. Mixing larger quantities or higher processing temperatures will result in faster curing due to the typical reaction heat of epoxy resins. Portioning the total quantity increases the pot life.



Casting

Apply the casting resin immediately, after mixing thoroughly. To prevent air bubbles, pour as close to the casting surface as possible. For curing and complete

ventilation, an ambient temperature of at

least +20°C is ideal. Air bubbles can have a negative effect on the product's static properties. Cast the cavity, until an overflow of 15 mm to 20 mm of the lower edge of the

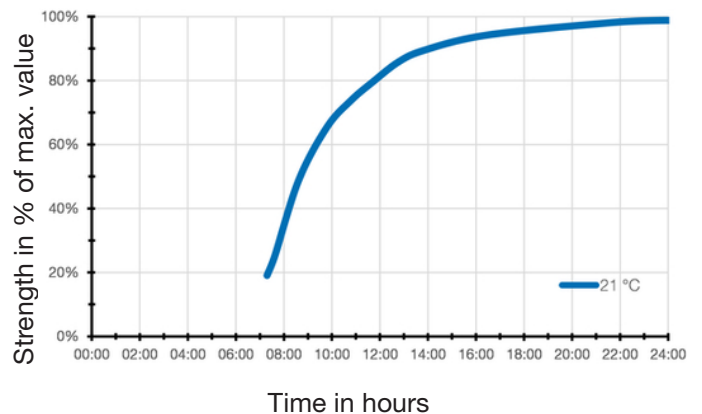
component's foot is reached. For producing a retain sample, the screw-on lid of the hardener container can be used.

Curing

Ideally, the application should be carried out at room temperature (+20 °C). Higher temperatures shorten the curing (rule of thumb: Each increase by +10°C (50°F) above room temperature will decrease the curing time by half) At temperatures below +16°C the pot life and cure time will slow down; below approx. +5°C no reaction will take place any more. At low ambient temperatures, make sure that the temperature is at least +15°C until the compound is fully cured. For heating the compound,

only flame-free heat sources, such as electronic hot air blowers, should be used. Cure speed at different temperatures: +15°C: 36 hours +20 °C: 24 hours +25 °C: 18 hours +30 °C: 12 hours +35 °C: 8 hours

Increase in strength



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Sheeting

After full cure, the formwork can be removed carefully and completely. Then, bolts can be installed and nuts can be tightened with

the predefined torque value (for securing the bolts, we recommend

WEICONLOCK AN 302-72).

Storage

WEICON Epoxy Resin Systems should be stored in a dry place at room temperature. Unopened containers can be stored at temperatures from +18 °C to +28 °C. Opened containers must be used up within 6 months.

Scope of delivery

Processing Spatula | Contour Spatula Flexy | Instructions for use | Gloves | Resin & Hardener

Accessories

- 10000147 Cleaner Spray S, 500 ml, transparent
- 10000347 Cleaner S, 5 L, colourless, transparent
- 10024313 Surface Cleaner, 400 ml, transparent
- 10025288 Surface Cleaner, 5 L, transparent
- 10026647 Mould Release Agent Liquid F 1000, 250 ml, white, milky
- 10026712 Mould Release Agent Wax P 500, 150 g
- 10053995 Repair Stick Multi-Purpose, 115 g, vintage white
- 10000913 Glass Fibre Cloth Tape, 1 PCE, white
- 10010887 Processing Spatula short, 1 PCE
- 10022562 Processing Spatula long, 1 PCE
- 10001978 Stirrer Stainless Steel, 1 PCE
- 10016002 Pump Dispenser WPS 1500, 1 PCE
- 10057667 Injection Packer Set, 1 PCE
- 10057730 Injection Packer/ rectangular, 1 PCE
- 10057731 Injection Packer/ flat, 1 PCE
- 10002034 Empty cartridge, 1 PCE
- 10000441 Cartridge Gun, 1 PCE
- 10039667 Cable Scissors No. 35, 1 PCE
- 10045523 Processing Kit, 1 PCE
- 10019653 Speed-Flex® MS-Polymer, 310 ml, grey

Recommended equipment

- | | |
|-----------------------|-------------------|
| Drill | Hot or fan heater |
| Foam strip, foam tube | Fabric tape |
| Sheet steel bracket | Brush |
| Angle grinder | Foam roller |
| Blast machine | Lint-free cloth |
| Heat pocket | |

Conversion table

- | | |
|---|---|
| $(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$ | $\text{Nm} \times 8.851 = \text{lb}\cdot\text{in}$ |
| $\text{mm}/25.4 = \text{inch}$ | $\text{Nm} \times 0.738 = \text{lb}\cdot\text{ft}$ |
| $\mu\text{m}/25.4 = \text{mil}$ | $\text{Nm} \times 141.62 = \text{oz}\cdot\text{in}$ |
| $\text{N} \times 0.225 = \text{lb}$ | $\text{mPa}\cdot\text{s} = \text{cP}$ |
| $\text{N}/\text{mm}^2 \times 145 = \text{psi}$ | $\text{N}/\text{cm} \times 0.571 = \text{lb}/\text{in}$ |
| $\text{MPa} \times 145 = \text{psi}$ | $\text{kV}/\text{mm} \times 25.4 = \text{V}/\text{mil}$ |

Available sizes

- | | |
|----------|--------------------------|
| 10045019 | WEICON CBC, 10 kg, grey |
| 10045020 | WEICON CBC, 3 kg, grey |
| 10064790 | WEICON CBC, 0,5 kg, grey |
| 10064890 | WEICON CBC, 10 kg, grey |

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	WEICON A	WEICON B	WEICON BR	WEICON C	WEICON F	WEICON F2	WEICON HE 300	WEICON HT 111	WEICON SF	WEICON ST	WEICON TT	WEICON UW	WEICON WR2	WEICON HP	WEICON Fire Safe	WEICON Anti-Static	WEICON Food Grade	WEICON Anti-Stick	WEICON Ceramic BL	WEICON GL	WEICON GL-S	WEICON Ceramic W	WEICON Ceramic HC 220	WEICON WP	WEICON WR	WEICON CBC	
Repair and moulding	x	x	x	x	x	x	x	x	x	x	x	x	x														
Adhesive				x	x		x	x		x				x	x												
Wear, erosion and corrosion protection – abrasion-resistant coating																	x	x	x	x	x	x	x	x	x		
Casting, relining and gap compensation – casting and injecting potting compound	x					x							x												x	x	

To the product detail page:



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Chemical resistance after curing* (Excerpt)

1,4-Dioxane	-	Glycol	+
Exhaust fumes	+	Uric acid	-
Adipic acid	-	Impregnating oils	+
aliphatic hydrocarbons	+	Iodides (K, Na etc.)	-
Formic acid >10 % (methanoic acid)	-	Potassium carbonate	+
Ammonia anhydrous 25%	-	Potassium hydroxide 0-20 % (caustic potash)	+
Aniline	-	Milk of lime	+
aromatic hydrocarbons	+	Cresol	-
Barium hydroxide	+	Magnesium hydroxide	+
Benzoic acid	-	Maleic acid (cis-ethylenedicarboxylic acid)	-
Benzyl alcohol	-	Methanol (methyl alcohol) <85 %	o
Benzyl chloride	-	Methylene chloride	-
Boric acid	-	Mineral oil	+
Bromides	-	Naphthalene	+
Butadiene (1,3-)	-	Sodium bicarbonate (sodium hydrogen carbonate)	+
Butyric acid	-	Sodium carbonate (soda)	+
Butyl acetate	o	Sodium chloride (table salt)	+
Butyl alcohol	o	Nitrates	-
Calcium hydroxide (slaked lime)	+	Nitrobenzene	-
Chloroanilines	-	Oils, vegetable and animal	+
Chloroform (trichlormethane)	-	Oxalic acid <25 % (ethanedioic acid)	o
Chlorosulphuric acid (wet and dry)	-	Perchloroethylene	-
Chlorosilanes	-	Kerosene	+
Chlorinated water (swimming pool concentration)	-	Phenol	-
Chromates (K, Na, etc.)	-	Phosphoric acid <50%	+
Chromic acid	-	Phthalic acid, phthalic anhydride	-
Cyanides (K, Na etc.)	-	Nitric acid <5%	-
Cyclohexanone	-	Sulphur dioxide (wet and dry)	-
Diethyl ether	+	Carbon disulphide	-
Mineral oil and mineral oil products	+	Sulphuric acid <5%	+
Acetic acid diluted <5%	o	Soap solution	+
Ethanol <85 % (ethyl alcohol)	o	Turpentine	+
Greases, oils and waxes	+	Carbon tetrachloride (tetrachloromethane)	-
Hydrofluoric acid	-	Tetralin (tetrahydronaphthalene)	-
Tannic acid diluted <7%	o	Trichloroethylene	-
Glycerin (trihydroxipropane)	+	Hydrogen peroxide <30 % (hydrogen superoxide)	o

+ = resistant 0 = for a limited time - = not resistant *The storage of all WEICON Plastic Metal types was carried out at +20°C chemical temperature.

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