

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.

Epoxy Resin Systems

Plastic Metal

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/cm³
Consumption	Layer thickness 1.0 mm 1,6 kg/m²
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/m²
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 cm³
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
MIL-Spec	complies with MIL-A-47284A

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WEICON Middle East L.L.C.
United Arab Emirates
phone +971 4 880 25 05
info@weicon.ae

WEICON Czech Republic s.r.o.
Czech Republic
phone +42 (0) 417 533 013
info@weicon.cz

WEICON GmbH & Co. KG
(Headquarters) Germany
phone +49 (0) 251 9322 0
info@weicon.de

WEICON Romania SRL
Romania
phone +40 (0) 3 65 730 763
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WEICON South East Asia Pte Ltd
Singapore
Phone (+65) 6710 7671
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Canada
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Spain
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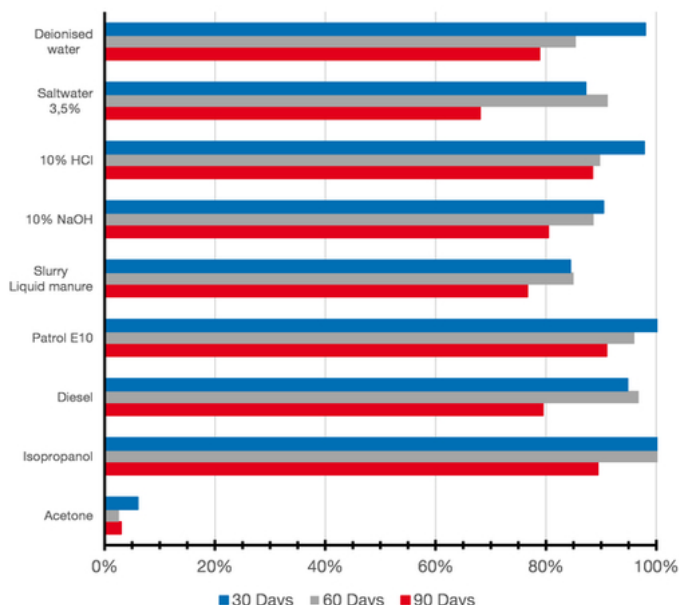
WEICON SA (Pty) Ltd
South Africa
phone +27 (0) 21 709 0088
info@weicon.co.za

WEICON Kimya Sanayi Tic. Ltd. Şti.
Türkiye
phone +90 (0) 212 465 33 65
info@weicon.com.tr

WEICON CBC

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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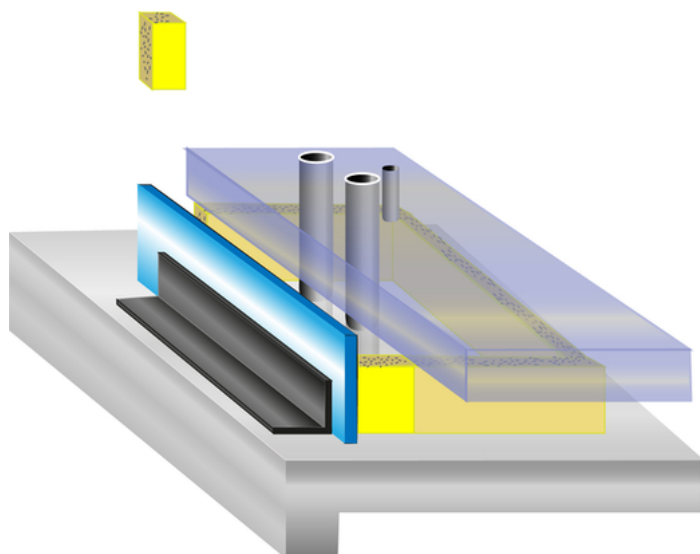
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Spain
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Italy
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WEICON SA (Pty) Ltd
South Africa
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WEICON Kimya Sanayi Tic. Ltd. Şti.
Türkiye
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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

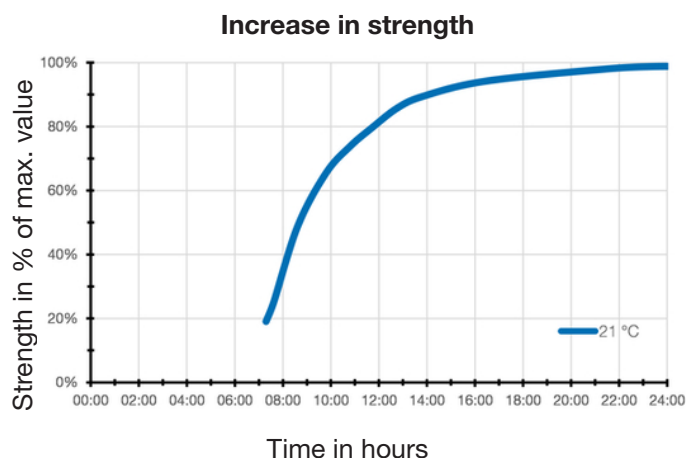
least +20°C is ideal. Air bubbles can have a negative effect on the product's static properties. Cast the cavity, until an overflow of 15 mm to 20 mm of the lower edge of the

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



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Canada
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Spain
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Italy
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info@weicon.it

WEICON SA (Pty) Ltd
South Africa
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WEICON Kimya Sanayi Tic. Ltd. Şti.
Türkiye
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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, 1 PCE
10022562	Processing Spatula, 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	

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 TI	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)

Exhaust fumes	+	Potassium carbonate	+
Acetone	o	Potassium hydroxide 0-20 % (caustic potash)	+
Ethyl ether	+	Milk of lime	+
Ethyl alcohol	o	Carbolic acid	-
Ethylbenzene	-	Creosote oil	-
Alkalis (alkaline substances)	+	Cresylic acid	-
Hydrocarbons, aliphatic (petroleum derivatives)	+	Magnesium hydroxide	+
Formic acid >10 % (methanoic acid)	-	Maleic acid (cis-ethylenedicarboxylic acid)	+
Ammonia anhydrous 25%	+	Methanol (methyl alcohol) <85 %	-
Amyl acetate	+	Mineral oil	+
Amyl alcohol	+	Naphthalene	-
Hydrocarbons, aromatic (benzene, toluene, xylene)	+	Naphthene	-
Barium hydroxide	+	Sodium carbonate (soda)	+
Petrol (92-100 octane)	+	Sodium bicarbonate (sodium hydrogen carbonate)	+
Hydrobromic acid <10 %	+	Sodium chloride (table salt)	+
Butyl acetate	+	Sodium hydroxide >20 % (caustic soda)	o
Butyl alcohol	+	Caustic soda	+
Calcium hydroxide (slaked lime)	+	Heating oil, diesel	+
Chloroacetic acid	-	Oxalic acid <25 % (ethanedioic acid)	+
Chloroform (trichlormethane)	o	Perchloraethylene	o
Chlorosulphuric acid (wet and dry)	-	Kerosene	+
Chlorinated water (swimming pool concentration)	+	Oils, vegetable and animal	+
Hydrochloric acid	+	Phosphoric acid <5%	+
Chromium bath	+	Phthalic acid, phthalic anhydride	+
Chromic acid	+	Crude oil	+
Diesel fuels	+	Nitric acid <5%	o
Mineral oil and mineral oil products	+	Hydrochloric acid <10 %	+
Acetic acid diluted <5%	+	Sulphur dioxide (wet and dry)	+
Ethanol <85 % (ethyl alcohol)	+	Carbon disulphide	+
Greases, oils and waxes	+	Sulphuric acid <5%	o
Hydrofluoric acid diluted	o	White spirit	+
Tannic acid diluted <7%	+	Carbon tetrachloride (tetrachloromethane)	+
Glycerin (trihydroxipropene)	+	Tetralin (tetrahydronaphthalene)	o
Glycol	o	Toluene	-
Humic acid	+	Trichloroethylene	o
Impregnating oils	+	Hydrogen peroxide <30 % (hydrogen superoxide)	+
Potash	+	Xylene	-

+ = 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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