

WEICON TFS cartridge



strong adhesion | cold-resistant | process-safe application

WEICON TFS cartridge is a 2-component epoxy resin system that can be applied with a spatula. It is used for fixing ceramic tiles and steel parts to a wide variety of surfaces and has good wear protection properties against particle erosion. The system offers extremely strong adhesion even on hot-dip galvanised steel surfaces. The adhesive is especially suitable for use at low temperatures down to -35 °C and is impact-resistant even under extreme loads. The system does not become brittle and has good chemical resistance. WEICON TFS cartridge is very user-friendly. The epoxy resin system is processed in a double cartridge and therefore delivers reliable results. The adhesive is available in white and grey.

Characteristics

Base	Epoxy
Filler	mineral
Texture	viscous/pasty
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 volume	1:1
Density of the mixture	1,5 g/cm ³

Curing

Pot life	at 20 °C, 500 g batch	20 min.
Additional layer after		8 h
Working strength after		14 h
Final strength	(100 % strength)	72 h

Mechanical properties after curing

- Measured after curing at		24 h RT + 24 h 60 °C
Tensile strength	DIN EN ISO 527-2	30 MPa
Elongation at break (tensile)	DIN EN ISO 527-2	3,7 %
E-modulus (tensile)	DIN EN ISO 527-2	1.900 - 2.200 MPa
Compressive strength	DIN EN ISO 604	30 MPa
Hardness (Shore D)	DIN ISO 7619	75±3
Adhesive strength	DIN EN ISO 4624	22 MPa
Lap shear strength material thicken. 1,5mm DIN EN 1465		
	Steel 1.0338 sandblasted	18 MPa
	Stainless steel V2A sandblasted	20 MPa
	Aluminium sandblasted	10 MPa
	Galvanized steel	17 MPa

Thermal parameters

Temperature resistance	-35 °C to +80 °C
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Electrical parameters

Magnetic	no
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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 TFS cartridge depends on the careful preparation of the surfaces. This is the most important factor for ensuring overall success. Dust, dirt, oil, grease and rust have a negative impact on the adhesion. The following points must therefore be observed before using WEICON TFS cartridge:

the areas to be bonded or repaired must be free of any oil, grease, dirt, rust, oxides, paint and other impurities or residues. We recommend WEICON Cleaner Spray S for cleaning and degreasing.

Smooth and very 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 2.5 – “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 abrasives (aluminium oxide, corundum) should be used. Multi-use abrasive media (slag, glass, quartz) but also ice blasting will have a negative effect on the surface quality. The air for blasting must be dry and oil-free.

Metal parts that have come into contact with sea water or other saline 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 TFS cartridge, a test for soluble salts should be carried out according to the Bresle method (DIN EN ISO 8502-6).

Note

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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 TFS cartridge should be applied as soon as possible (within one hour) in order to avoid oxidation, flash rust or new contamination.

Application

We recommend an ambient temperature of 20°C (68 °F) with less than 85 % relative humidity for application. Insert the unopened cartridge into the pressure gun. With the help of the provided static mixer, the product can be applied straight from the double cartridge. Discard the first five centimetres of the bead and then apply WEICON TFS cartridge evenly to the surface with the nozzle.

For a thin pre-coat, work WEICON TFS cartridge thoroughly into the surface in crosswise layers using the Contour Spatula Flexy to achieve maximum adhesion. By means of this technique, the epoxy resin penetrates well into all cracks and roughness depths. Afterwards, further applications can be carried out straight away, until the desired layer thickness is reached.

Curing

Final hardness is reached after 48 hours at 20°C (68°F) at the latest. At lower temperatures, the curing can be accelerated by evenly applying heat up to max. 40°C (104°F), e.g. with a heating pack, hot air blower or fan heater. Higher temperatures shorten the curing time. The following rule of thumb applies: each increase by +10 °C (50 °F) above room temperature (20 °C/68 °F) will decrease the curing time by half. Temperatures below 16°C (61°F) increase the curing time, until at approx. 5°C (41°F) and below, almost no reaction will take place at all.

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

Spiral Mixer MCH 13-18T

Accessories

1000147	Cleaner Spray S, 500 ml, transparent
10028608	Dispenser Easy-Mix D 400, 1 PCE
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
10016002	Pump Dispenser WPS 1500, 1 PCE
10039667	Cable Scissors No. 35, 1 PCE
10045523	Processing Kit, 1 PCE

Recommended equipment

Angle grinder	Hot or fan heater
Blast machine	Smoothing trowel, spatula
Heat pocket	Lint-free cloth

Conversion table

(°C x 1.8) + 32 = °F	Nm x 8.851 = lb·in
mm/25.4 = inch	Nm x 0.738 = lb·ft
µm/25.4 = mil	Nm x 141.62 = oz·in
N x 0.225 = lb	mPa·s = cP
N/mm ² x 145 = psi	N/cm x 0.571 = lb/in
MPa x 145 = psi	kV/mm x 25.4 = V/mil

Available sizes

10064192	WEICON TFS cartridge, 400 ml, white
10101976	WEICON TFS cartridge, 400 ml, grey

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	WEICON A	WEICON B	WEICON BR	WEICON C	WEICON F	WEICON F2	WEICON HE 300	WEICON SF	WEICON ST	WEICON TI	WEICON UW	WEICON WR2	WEICON HP	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										
Adhesive				x	x		x		x				x									
Wear, erosion and corrosion protection – abrasion-resistant coating														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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