

# WEICON TRK



## wear protection | strong adhesion | self-levelling

The epoxy resin system WEICON TRK provides wear protection with high-strength corundum particles for metal surfaces. In addition to its high abrasion resistance, the system has good chemical resistance and adheres excellently to metals and ceramics, even under vibration or stretching.

The wear protection system is self-levelling and forms a very smooth and even surface. WEICON TRK is also used for fixing, bonding and backfilling in mechanical engineering, e.g. for connecting aluminium parts to stainless steel.

Typical applications for the wear protection system are pumps, cyclones, chutes, conveyor systems, pipes for powder, separators or hoppers. In mechanical engineering, WEICON TRK is used for fixing machine parts and guide rails, as well as for supporting entire machines. The use of the system as a casting compound for adjusting and fixing machine parts can often significantly reduce processing times.

### Characteristics

Base	Epoxy
Filler	mineral
Texture	viscous
Colour	white
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	100:43
Density of the mixture	1,4 g/cm <sup>3</sup>
Consumption	Layer thickness 1.0 mm 1,4 kg/m <sup>2</sup>
Max. layer thickness	per step 10 mm

### Curing

Pot life	at 20 °C, 500 g batch	60 min.
Additional layer after	(35 % strength)	6 h
Working strength after	(80 % strength)	10 h
Final strength	(100 % strength)	24 h
Shrinkage		< 0,19 %

### Mechanical properties after curing

- Measured after curing at		24 h RT + 24 h 60 °C
Tensile strength	DIN EN ISO 527-2	24 MPa
Elongation at break (tensile)	DIN EN ISO 527-2	0,7 %
E-modulus (tensile)	DIN EN ISO 527-2	3.300 - 3.900 MPa
Compressive strength	DIN EN ISO 604	71 MPa
Hardness (Shore D)	DIN ISO 7619	87±3
Adhesive strength	DIN EN ISO 4624	23,6 MPa
Lap shear strength material thickn. 1,5mm DIN EN 1465		
	Steel 1.0338 sandblasted	20 MPa
	Stainless steel V2A sandblasted	22 MPa
	Aluminium sandblasted	12 MPa
	Galvanized steel	12 MPa

### Thermal parameters

Temperature resistance	-35 °C to +150 °C
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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](http://www.weicon.com)) must be observed.

### Surface Pre-Treatment

The successful application of WEICON TRK 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. Therefore, before processing WEICON TRK, the following points must be observed:

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

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application of WEICON TRK, 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/m<sup>2</sup>. 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 TRK should be applied as soon as possible (within one hour) to avoid oxidation, flash rust or new contamination.

## Mixing

First, stir the resin. Then mix the resin and hardener together thoroughly and bubble-free for at least four minutes at 20°C (68°F). The included processing spatula or a mechanical mixer, such as the Stirrer Stainless Steel, can be used for this purpose. With mechanical mixers, a low speed of max. 500 rpm should be used. The components should be stirred until a homogeneous mixture is achieved. The mixing ratio of the two components must be strictly observed, as otherwise strongly deviating physical values will result (max. deviation +/- 2 %). Only prepare a batch as large as can be processed within the pot life of 60 minutes. The specified pot life refers to a material batch of 500 g and a material temperature of 20°C (68°F). Mixing larger quantities or higher processing temperatures will result in faster curing due to the typical reaction heat of epoxy resins.

## Application

We recommend an ambient temperature of 20°C (68°F) with less than 85 % relative humidity for application. The highest adhesive strength is achieved when the parts to be processed are heated to >35°C (>95°F) before application. For a thin pre-coat, work WEICON TRK thoroughly into the surface in crosswise layers using a paint brush to achieve maximum adhesion. By means of this technique, the epoxy resin penetrates well into all cracks and roughness depths. Afterwards, a second application with a paint brush or foam roller can be carried out straight away, until the desired layer thickness is reached.

A layer of approx. 0.25 to 0.50 mm can be achieved per work step. Make sure that the epoxy resin is applied evenly and without air bubbles. Additional coats can be applied after approx. 4 hours (layer sequence time).

## Curing

Final hardness is achieved after 24 hours at 20°C (68°F) at the latest. At lower temperatures, curing can be accelerated by evenly applying heat up to max. 40°C (104°F), e.g. with 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

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

## Recommended equipment

Angle grinder	PE film 0.2 mm
Blast machine	Fabric tape
Heat pocket	Brush
Hot or fan heater	Foam roller
Smoothing trowel, spatula	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 <sup>2</sup> x 145 = psi	N/cm x 0.571 = lb/in
MPa x 145 = psi	kV/mm x 25.4 = V/mil

## Available sizes

10102162	WEICON TRK, 0,2 kg, white
10102168	WEICON TRK, 0,5 kg, white
10102175	WEICON TRK, 2 kg, white

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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)	-	Perchloraethylene	-
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	Trichloraethylene	-
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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