

# Repair stick titanium

Art. No. 114581

Type No. 115.01



Versand in die Schweiz nicht möglich!

Exemplary illustration

For permanent, high-temperature and wear resistant repairs or bonds of metal parts (tanks, conduit pipes, aluminium, light metal and die-cast parts, shafts, pumps, casings, defective threads).

## Technical data

Contents	57 g
Hazard statements	H412 - Harmful to aquatic life with long lasting effects.
Base	epoxy
Filler	titanium
Texture	modelling compound
Colour	brown
Processing temperature	15 to 40 °C
Cure temperature	6 to 65 °C
Relative air humidity	< 85 %
Mixing ratio by weight	1:1
Density of the mixture	1.9 g/cm <sup>3</sup>
Gap bridging to max.	15.0 mm
Pot life at 20 °C, 10 g batch	90 min
Working strength after (80 % strength)	8 Hours
Final strength (80 % strength)	72 Hours
Shrinkage	< 1,0 %
Compressive strength ASTM D695	55 MPa
Hardness (Shore D) ASTM D 2240	80±3
Thermally stable	-50 to 280 °C
Briefly temperature resistance	300 °C
Resistance DIN EN 62631-3-1	ca. 3 - 10 <sup>10</sup> Ω·m
Dielectric strength	11.8 kV/mm
Magnetic	no

## Commercial data

Customs tariff number	32141010
Country of origin	DE
eCl@ss 5.1.4	30021609
eCl@ss 9.0	30021609
UNSPSC_Code_v190501	47131825
UNSPSC_CodeDesc_v190501	Contact surface cleaners

## Material informations

REACH SVHC1 substance name	no
CAS no. SVHC 1	no CAS No.
RoHS materials notice	RoHS compliant
REACH Info	no SVHC substance included

## Conversion table

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

## Product informations

**Wear-resistant | titanium-filled | high-temperature-resistant up to +280 °C (+536 °F) (briefly up to +300 °C (+572 °F))**

It is suited for the permanent and wear-resistant repair and bonding of metal parts such as tanks and pipelines, aluminium, light metal and injection moulded parts, shafts and slide bearings, pumps and housings and torn-out threads. The Repair Stick Titanium can be used in machine and system construction, tank construction and apparatus engineering, and in many other industrial areas.

### Instructions for use

When using RIEGLER products, the physical, safety-related, toxicological and ecological data and regulations in our EC safety data sheets ([www.riegler.com](http://www.riegler.com)) must be observed.

### Surface pre-treatment

The successful application of Repair Stick Titanium depends on the careful preparation of the surfaces. Dust, dirt, oil, grease, adhesions, rust, moisture or wetness have a negative effect on adhesion. The best results are achieved when applied to clean, firm and well-roughened surfaces. The surfaces must be clean, dry and free of grease (metallically clean). Almost all surface soiling, such as old paint residues, oil, grease, dust and dirt, can be removed with surface cleaner or sealant and adhesive remover. In the case of particularly heavily soiled or smooth surfaces, adhesion can be optimized by mechanical roughening with coarse abrasives. After mechanical pre-treatment, the surface should be cleaned again with surface cleaner.

### Processing

We recommend an ambient temperature of 20 °C (68 °F) with less than 85 % relative humidity for processing. Only mix as much material as can be processed within the pot life. The pot life and curing time specified refer to a material batch of 10 g at room temperature. The typical reaction heat of epoxy resins (exothermic reaction) causes faster curing with larger quantities or higher processing temperatures. Twist off or cut off the required quantity of Repair Stick. The components should be mixed together until a homogeneous mixture and color is achieved. If necessary, the plasticine can be warmed to room temperature to facilitate mixing. Work the well-mixed Repair Stick into the cracks and holes to be filled and brush off any excess material before it hardens. To achieve a smooth surface, the material can be smoothed with water or a damp cloth before curing. Curing can be accelerated by heating the Repair Stick or by applying it to a warm surface. After approx. 8 hours at room temperature, the repaired area is mechanically resilient and can be tapped, drilled or sanded. Repair Sticks Titanium bridge an adhesive gap of up to max. 15 mm per operation.

### Curing

The specified final hardness refers to curing at 20 °C (68 °F). At lower temperatures, curing can be accelerated by applying uniform heat up to max. 40 °C (104 °F), e.g. with heat pockets, hot air or fan heaters. Higher temperatures also shorten the pot life and curing time. As a rule of thumb: for every +10 °C increase above room temperature (20 °C / 68 °F), the pot life and curing time is reduced by half. Temperatures below +16 °C (61 °F) extend the pot life and curing time until there is almost no reaction from approx. +5 °C (41 °F).

### Storage

Repair Stick Titanium can be stored unopened at a constant room temperature of approx. +20 °C and stored in a dry place for at least 18 months. Avoid exposure to sunlight.

## Repair Stick Titanium

### Chemical resistance of Repair sticks titanium 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)	+	Tetraalin (tetrahydronaphthalene)	o
Glycol	o	Toluene	-
Humic acid	+	Trichloraethylene	o
Impregnating oils	+	Hydrogen peroxide <30 % (hydrogen superoxide)	+
Potash	+	Xylene	-

+ = resistant 0 = for a limited time - = not resistant \*The storage of all Repair sticks was carried out at +20°C chemical temperature.