Weicon Titanium Repair Sticks are fast, versatile, permanent and very simple to use. Manufactured in Germany from Titanium filled epoxy resin, Titanium Repair Sticks bond well to most surfaces, have exceptional abrasion resistance and toughness and can withstand continuous exposure to 280°C.

View This Product

Out of the tube, Titanium Repair Sticks are soft, pliable and easy to mix and shape by kneading in your hands. Once applied, they'll bond with high adhesive strength and cure to form a solid mass that will be grey-green in colour and non-rusting. Weicon Repair Sticks require no special tools; just cut off the amount you want from the tube, knead and apply.

Applications

- Repairs to holes and leaks in tank and conduit pipes
- Repairs, filling and gap covering on aluminium, light metal and diecast parts
- Sealing, fixing and patching heating, ventilation and air conditioning equipment
- Shaft and slide bearing repair
- Reconditioning defective, damaged or torn out threads
- Repairs to pumps and housings
- Injection moulded part repairs
- Repair, crack filling, hole filling and the recondition of components

Preparation of the Surface

To ensure that the Titanium Repair Stick bonds well and achieves its full potential it is very important that you ensure the surface to which it will be applied is clean and dry. Adhesion to very smooth surfaces will be enhanced if you are able to roughen the surface slightly before applying the repair stick as this will increase the available bonding area. Just make sure you clean away any dust generated by this roughening if you do.

Application

Remove the putty from the tube and cut off the amount you want to use. Mix the cut off portion by kneading it until it has a single, homogenous colour to it.

Weicon Titanium Repair Sticks can cover gaps up to 15mm in size. Pot life starts once you mix portion together. For this grade, you can expect an extended pot life of about 70 minutes if you mix 25 grams or putty at room temperature. If larger quantities are used, the curing time will be faster due to the typical reaction heat of epoxy resins (exothermic reaction). Similarly, higher ambient temperatures shorten the cure time (as a rule of thumb, every 10ºC increase above room temperature will halve working time and cure time). Temperatures below +16ºC will extend working time and cure time considerably while below around +5ºC no reaction will occur.

Physiological properties / health and safety at work

Weicon Repair Sticks, when properly handled and completely cured, are toxicologically harmless. When using these adhesives, the physical, safety, technical, toxicological and ecological data and regulations in the SDS must be observed.

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Technical Details

General Surface Compatibility

Metal (e.g. stainless steel, brass, cast iron, aluminium)	++
Hard Plastics* (e.g. epoxy laminates, rigid PVC)	+
Wood (e.g. oak, beech, spruce, balsa)	+
Derived Timber Products (e.g. plywood, MDF)	+
Fibre Reinforced Materials (e.g. GFRP, CFRP, Fibreglass)	+
Glass, Ceramics	+
Stone (e.g. granite, brick, concrete, marble)	+
Rubber Elastomers	-

++ = Highly Compatible + = Compatible - = Not Compatible
*Performance will vary depending on the exact type of plastic being bonded. Generally, low surface energy plastics will be much harder to bond to then high surface energy (such as rigid PVC).

Properties

Basis	Epoxy Resin with Titanium Fillers
Nature	Putty
Density	1.9 g/cm³
Maximum Gap Covering Power**	15mm
Pot Life for 25g of Material @ 20°C	70 Minutes
Processing Temperature	+10°C to +50°C
Curing Temperature	+6°C to +65°C
Colour After Curing	Grey Green
Handling Strength (35% of Final) When Curing @ 20°C	2 Hours
Mechanical Strength (50% of Final) When Curing @ 20°C	8 Hour
Final Strength (100%) When Curing @ 20°C	72 Hours (24 Hours if cured at 65°C)
Temperature Resistance (Continuous)	-50°C to +280°C
Temperature Resistance (Short-Term, 2 Hours Max.)	+300°C
Pressure (DIN 52381-83)	80 N/mm²
Shore Hardness	80 Shore D
Average Tensile Shear Strength After 7 Days at 20°C (as per DIN 52383)	5.1 N/mm² on Sand Blasted Steel
Thermal Conductivity (ASTM D527)	0.5 W/m·K
Linear Shrinkage While Curing	<1%
Electrical Resistance (ASTM D257)	$5 \cdot 10^{11}$ Ω/cm
Dielectric Strength (ASTM D149)	3 kV/mm
Thermal Expansion Coefficient (ISO 11359)	30-40 x 10^{-6} k-1

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Weicon Titanium Repair Stick Chemical Resistance

Acetic Acid Dilute (<5%)	+	Hydrochloric Acid (<10%)	+
Acetone	O	Hydrochloric Acid (10-20%)	+
Alkalis (Basic Minerals)	+	Hydrofluoric Acid Dilute	O
Amyl Acetate	+	Hydrogen Peroxide (<30%)	+
Amyl Alcohols	+	Impregnating Oils	+
Anhydrous Ammonia (25%)	+	Magnesium Hydroxide	+
Barium Hydroxide	+	Maleic Acid	+
Butyl Acetate	+	Methanol (Methyl Alcohol, <85%)	O
Butyl Alcohol	+	Milk of Lime	+
Calcium Hydroxide (slaked lime)	+	Naphthalene	-
Carbolic Acid (Phenol)	-	Naphthene	-
Carbon Disulphide	+	Nitric Acid (<5%)	O
Carbon Tetrachloride	+	Oils, Vegetable and Animal	+
Caustic Potash Solution	+	Oxalic Acid (<25%)	+
Chlorinated Water	+	Paraffin	+
Chloroacetic Acid	-	Perchloroethylene	O
Chloroform	O	Petrol (92-100 Octane)	+
Chromic Acid	+	Phosphoric Acid (<5%)	+
Chroming Baths	+	Phthalic Acid	+
Creosote Oil	-	Phthalic Acid Anhydride	+
Cresylic Acid	-	Potassium Hydroxide (Caustic Potash, 0-20%)	+
Crude Oil	+		
Crude Oil Products	+	Soda Lye	+
Diesel Fuel Oil	+	Sodium Bicarbonate (Sodium Hydrogen Carbonate)	+
Ethanol < 85% (Ethyl Alcohol)	O		
Ethyl Alcohol	O	Sodium Carbonate (Soda)	+
Ethyl Benzole	-	Sodium Chloride (Cooking Salt)	+
Ethyl Ether	+	Sodium Hydroxide (Caustic Soda, <20%)	O
Exhaust Gases	+		
Formic Acid (>10%)	-	Sulphur Dioxide	+
Glycerine	+	Sulphuric Acid (<5%)	O
Glycol	O	Tannic Acid Dilute (<7%)	+
Grease, Oils and Waxes	+	Tetralin	O
Heating Oil, Diesel	+	Toulene	-
Humic Acid	+	Trichloroethylene	O
Hydrobromic Acid (<10%)	+	Turpenetine Substitute (White Spirit)	+
Hydrocarbons (Aliphatic)	+	Xylene	-
Hydrocarbons (Aromatic)	-		

+ = Resistant O = Resistant for a Limited Time - = Not Resistant

Storage

When stored unopened and in normal climatic conditions (20ºC) Weicon Titanium Repair Stick has a minimum shelf-life of 18 months. Storage in direct sunlight should be avoided.

Available Sizes

Weicon Titanium Repair Sticks are available from Swift Supplies in 57gm and 115gm tubes.

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