

Weicon Copper Repair Sticks are fast, versatile, permanent and very simple to use. Manufactured from copper filled epoxy resin, Copper Repair Sticks bond well to most surface types (especially metal). This grade is also NSF approved for use in food preparation areas and in drinking water applications.

Out of the tube, Copper 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 copper coloured. Weicon Repair Sticks require no special tools; just cut off the amount you want from the tube, knead and apply.

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Applications

- Repairs, hole patching and reconditioning of fuel and water tanks
- Repairing pipes and pipe elbows
- Sealing and reconditioning the faces of fittings and flanges
- Repairing cracks, holes and covering gaps on copper gutters and sheets
- Fixing leaks on pipes and tanks
- Sealing, filling holes and bonding hot and cold water pipes
- Repairs to metals, plastics, ceramic surfaces, glass, stone, bricks, wood and more

Preparation of the Surface

To ensure that the Copper 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 Copper Repair Sticks can cover gaps up to 15mm in size. Pot life starts once you mix portion together. For this grade, you can expect a fast pot life of about 3 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 10°C increase above room temperature will halve working time and cure time). Temperatures below +16°C will extend working time and cure time considerably while below around +5°C 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.

Important

The values listed here and the information presented should not be treated as a substitute for specific technical advice. We cannot warrant the products performance or suitability for particular applications.

Date Created: 4/11/2016

Date Modified: 4/11/2016

Document # SSD-TDS-SWP000035

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 than high surface energy (such as rigid PVC).

Properties

Basis	Epoxy Resin with Copper Fillers
Nature	Putty
Density	1.9 g/cm ³
Maximum Gap Covering Power**	15mm
Pot Life for 25g of Material @ 20°C	3 Minutes
Processing Temperature	+10°C to +30°C
Curing Temperature	+6°C to +40°C
Colour After Curing	Copper
Handling Strength (35% of Final) When Curing @ 20°C	10 Minutes
Mechanical Strength (50% of Final) When Curing @ 20°C	1 Hour
Final Strength (100%) When Curing @ 20°C	24 Hours
Temperature Resistance (Continuous)	-50°C to +120°C
Temperature Resistance (Short-Term, 2 Hours Max.)	+150°C
Pressure (DIN 52381-83)	80 N/mm ²
Shore Hardness	80 Shore D
Average Tensile Shear Strength After 7 Days at 20°C (as per DIN 52383)	4.8 N/mm ² on Sand Blasted Copper
Thermal Conductivity (ASTM D527)	0.7 W/m·K
Linear Shrinkage While Curing	<1%
Electrical Resistance (ASTM D257)	5 · 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 Copper Repair Stick Chemical Resistance

Acetic Acid Dilute (<5%)	+	Hydrochloric Acid (<10%)	+
Acetone	O	Hydrochloric Acid (10-20%)	+
Alkalies (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	+	Soda Lye	+
Crude Oil Products	+	Sodium Bicarbonate (Sodium Hydrogen Carbonate)	+
Diesel Fuel Oil	+	Sodium Carbonate (Soda)	+
Ethanol < 85% (Ethyl Alcohol)	O	Sodium Chloride (Cooking Salt)	+
Ethyl Alcohol	O	Sodium Hydroxide (Caustic Soda, <20%)	O
Ethyl Benzole	-	Sulphur Dioxide	+
Ethyl Ether	+	Sulphuric Acid (<5%)	O
Exhaust Gases	+	Tannic Acid Dilute (<7%)	+
Formic Acid (>10%)	-	Tetralin	O
Glycerine	+	Toulene	-
Glycol	O	Trichloroethylene	O
Grease, Oils and Waxes	+	Turpenetene Substitute (White Spirit)	+
Heating Oil, Diesel	+	Xylene	-
Humic Acid	+		
Hydrobromic Acid (<10%)	+		
Hydrocarbons (Aliphatic)	+		
Hydrocarbons (Aromatic)	-		

+ = Resistant

O = Resistant for a Limited Time

- = Not Resistant

Storage

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

Available Sizes

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

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