

Technical Data Sheet

Our Easy-Mix S 50 Epoxy Adhesive is a professional-quality epoxy adhesive suitable for manufacturing, construction and repair work. This two-part Epoxy is extremely strong and able to create permanent, long lasting bonds between metals, plastics, fibre reinforced materials, ceramic, glass, stone and more.

Our Easy-Mix S 50 has a short-pot life and a fast cure time. Bonds made with this epoxy will achieve handling strength in about 30 minutes and can bear mechanical loads after about an hour.

Manufactured by Weicon in Germany, this industrial-grade epoxy has several features and benefits that have led to its use in industries around the world.



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Applications

- Securing (and insulating) leads, wires and connectors for electric components, devices and motors.
- In the marine sector for boat construction and maintenance.
- In the transport sector for vehicle body construction and attachment fitting.
- For joining and securing ceramic and glass to vertical surfaces and walls.
- Bonding metal parts and sheets.
- Furniture making and repairs.
- In the hobby, craft and DIY sectors for all kinds of high strength bonding.
- For laminating sheets of fibreglass and other reinforced plastics.
- Attaching plastic or wood to metal.

Easy-Mix S 50 Adhesive Surface Compatibility

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

++ = Highly Compatible
 + = Compatible
 - = Not Compatible

*Except for plastics such as polyethylene, polypropylene, polyacetal and other fluorinated hydrocarbons with naturally adhesive rejecting surfaces.

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.

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Properties

Basis	Epoxy Resin (unfilled)
Colour After Curing	Transparent
Mix Ratio	1:1
Pack Size	50ml
Nature	Viscous
Density of the Mixture	1.15 g/cm ³
Viscosity of the Mixture	8,500 mPas (@ 20°C)
Pot Life (10ml @ 20°C)	4-5 Minutes
Processing Temperature	+10°C to 30°C
Curing Temperature	+6°C to 40°C
Maximum Gap Covering Power	2mm
Handling Strength (35%) When Curing at 20°C	30 Minutes
Mechanical Strength (50%) When Curing at 20°C	1 Hours
Final Strength (100%) When Curing at 20°C	24 Hours
Temperature Resistance	-50°C to +80°C
Average Strength (25°C) acc. To DIN 53281-83	
Pressure	9 MPa
Tensile	40 MPa
Torsion	58 MPa
Average Tensile Shear Strength acc. To DIN 53281-83	
Steel, Sand-Blasted	20 N/mm ²
Aluminium, Sand-Blasted	19 N/mm ²
Rigid PVC, Roughened	13 N/mm ²
Shore Hardness	65 Shore D
Linear Shrinkage	2%
Thermal conductivity (ASTM D 257)	0.3 W/m·K
Electrical resistance (ASTM D 257)	10 ¹³ Ω/cm
Dielectric strength (ASTM D 149)	1 kV/mm
Thermal expansion coefficient (ISO 11359)	50 x 10 ⁻⁶ k ⁻¹

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Easy-Mix S 50 Adhesive Chemical Resistance After Curing

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	+	Soda Lye	+
Crude Oil Products	+	Sodium Bicarbonate (Sodium Hydrogen Carbonate)	+
Diesel Fuel Oil	+	Sodium Carbonate (Soda)	+
Ethanol < 85% (Ethyl Alcohol)	+	Sodium Chloride (Cooking Salt)	+
Ethyl Alcohol	O	Sodium Hydroxide (Caustic Soda, <20%)	O
Ethyl Benzole	O	Sulphur Dioxide	+
Ethyl Ether	-	Sulphuric Acid (<5%)	O
Exhaust Gases	+	Tannic Acid Dilute (<7%)	+
Formic Acid (>10%)	+	Tetralin	O
Glycerine	-	Toulene	-
Glycol	+	Trichloroethylene	O
Grease, Oils and Waxes	O	Turpenetine 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

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Preparation of the Surface

To ensure perfect bonding, the surfaces to be joined must be clean and dry (to clean and degrease use Weicon Surface Cleaner). The highest strength values can be achieved through additional pre-treatment of the surfaces, such as roughening using blasting or abrasive agents. Several plastics, in particular polyamide, PTFE, polyolefin etc. can only be bonded after special surface treatment, for example using fluoridation, low-pressure plasma, corona, flame impingement etc.

Processing

All Weicon Easy-Mix Adhesives can be processed directly from the double cartridge with the assistance of a compatible dispensing gun (such as the Weicon D 50) and the included mixing nozzle.

Reject the first 5cm of the dosed bear. Apply the adhesive to only one side of the surfaces being bonded.

The pot life given (4-5 minutes) is for a material quantity of 10ml at room temperature. If larger quantities are used curing will be faster due to the exothermic reaction typical of epoxy resins. Similarly, higher ambient temperatures will shorten the cure time (as a rule of thumb, every +10°C increase above room temperature will halve working time). Temperatures below +16°C will extend working and curing times. Below +5°C no reaction will take place at all.

Storage

When kept at a constant room temperature of about +20°C and unopened in dry conditions, WEICON Epoxy Adhesives will keep for at least 18 months. Avoid direct sunlight. If these storage instructions are disregarded, the storage life will be reduced to six months.

Epoxy resins are fundamentally liable to crystallise at temperatures of less than +5°C. This effect is accentuated by wide variations in temperature such as can frequently occur during transport in winter. This also has a negative effect on working qualities, curing and technical details, although these effects can be reversed by warming up to a maximum of +50°C (no naked flame).

In the case of WEICON Epoxy Adhesives, careful selection and combination of the base resins (bisphenol A and F) ensures a reduction of crystallisation.

Available Sizes

Easy-Mix S 50 Epoxy Adhesive is available from Swift Supplies in 50ml Double Cartridge Packs.

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