



ADHESIVES & SEALANTS



Weicon Easy-Mix S 50

Weicon Epoxy Adhesives are two-part, cold-curing, solvent free systems with extremely high bonding strength. These easy to use adhesive enable material bonds with high impact and tensile strength and are widely used for a range of assembly, production and repair applications.

Easy-Mix S 50 is a viscid, self-levelling grade of epoxy adhesive supplied in an easy to use double cartridge system. Thanks to this system, the need for mixing is eliminated as the two components are mixed as they pass through the Weicon Quadro Mixing Nozzle so that by the time they reach the material, they're ready to bond.

Weicon Easy-Mix S 50 has a very short pot life (4-5 minutes) and is fast curing. This adhesive has been designed especially for quick repair and maintenance jobs or production runs that require short-cycle times. Once cured, it slightly yellow / semi-transparent colour and withstands temperatures up to 80°C.

Properties

Basis	Unfilled Epoxy Resin
Nature	Viscid
Pack size	50ml
Mixing ratio by volume	1:1
Pot life with 10ml of material @ 20°C	4-5 minutes
Density of the mixture	1.15 g/cm ³
Viscosity of the mixture @ 20°C	8,500 MPa
Processing temperature	+10°C to +30°C
Curing temperature	+6°C to +40°C
Colour	Slightly yellowish, clear
Maximum gap covering power	2mm
Handling strength (35% of final) @ 20°C	30 minutes
Mechanical strength (50% of final) @ 20°C	1 hour
Final strength (100%) @ 20°C	24 hours
Average strength (+25°C) DIN 53281-83	
Pressure	9 MPa
Tensile	40 MPa
Torsion	58 MPa
Shore Hardness D	65
Average tensile shear strength as per DIN 53281-83	
Steel, sand-blasted	20 N/mm ²
Aluminium, sand-blasted	19 N/mm ²
Rigid PVC, roughened	13 N/mm ²
Temperature resistance	-50°C to +80°C
Linear shrinkage	20mm / metre (2% approx.)
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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Important

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Easy-Mix S 50 Bonding Surface Compatibility

Metals (e.g. aluminium, cast iron, brass, stainless steel)	++	++ = Highly Compatible
Hard Plastics* (e.g. epoxy, resin, rigid PVC)	++	+ = Compatible
Fibre Reinforced Materials (e.g. GFRP, CFRP, Fibreglass)	++	- = Not Compatible
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	-	

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

Repair Stick Concrete 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)	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	+	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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Processing

The prerequisite for good adhesion is a clean and dry bonding surface (cleaning and degreasing may be done with Weicon Cleaner S, Surface Cleaner or Plastic Cleaner). Smooth surfaces should also be roughed.

Weicon Easy-Mix S 50 can be applied using the Weicon Easy-Mix Hand Dispenser D 50. This adhesive should only be applied to one of the surfaces being bonded. Easy-Mix S 50 will bridge a gap between 0.2mm and 2mm. 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.

Physiological properties / health and safety at work

Weicon Easy-Mix S 50, when properly handled and completely cured, is toxicologically harmless. When using this product, the physical, safety, technical, toxicological and ecological data and regulations in the SDS must be observed.

Storage

When kept at a constant room temperature of about +20°C and unopened, Weicon Epoxy Adhesives have a minimum shelf-life of 18 months. Avoid direct sunlight. If these storage instructions are disregarded shelf-life will be reduced to about 6 months.

Epoxy resins are fundamentally liable to crystallise at temperatures of less than +5°C. This effect is accentuated by wide variations in temperature. This has a negative effect on working qualities, curing and technical details although these effects can be reversed by warming the adhesive to a maximum of 50°C (do not use naked flame). The base resins (bisphenol A and F) used in Weicon Epoxy Adhesives ensures a reduction in the potential for crystallisation.

Availability

Easy-Mix S 50 is available in 50ml double syringe packs.

Extra Quadro Mixing Nozzles and the Weicon Easy-Mix Hand Dispenser D 50 are also available separately.

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