

Epoxy Minute Adhesive is a strong, versatile epoxy adhesive able to be used on a variety of materials. It effectively bonds metal, plastic and fibre reinforced materials like fibreglass or epoxy glass sheet. It also adhesive very well to ceramics, glass and wood and even more porous surfaces like stone, bricks and masonry.

This grade of high quality epoxy adhesive is fast curing. It will achieve handling strength after about 35 minutes and reach 50% of final strength after 1 hour. From there, curing will continue until it reaches final strength after about 24 hours. Like all epoxy adhesives, these times will differ a little depending on cure conditions (measured at 20°C, warmer will equate to faster cure times).

Once Epoxy Minute Adhesive has been dispensed and the two parts are mixed, pot life begins. This will be very short and is expected to be around 3-4 minutes (again, depending on bonding conditions).

Epoxy Minute Adhesive is a transparent epoxy that is based on unfilled epoxy resin. It is quite viscid (thick) in nature which makes it ideal for applying to vertical surfaces. It is also self-levelling which can be useful for filling work.

Joins created with Epoxy Minute Adhesive will exhibit very good shear strength, shock resistance and impact strength. Being an unfilled epoxy adhesive, Epoxy Minute also exhibits good dielectric properties (1 kV/mm dielectric strength) which makes it ideal for repairs to electrical enclosures and devices. Once it is cured, it will withstand temperatures between -50°C and +80°C.

Applications

- High strength bonding of metal sheets
- Mounting and securing glass panels
- Bonding of ceramic components fixtures
- Securing stone, masonry and brick
- Bonding Wooden panelling, sheet and parts
- High strength plastic bonding
- Insulating and securing electrical connections
- Securing casings for electrical devices
- Bonding plastic sheet and parts
- Securing and fixing fibreglass sheet and panel
- Bonding epoxy glass and polyester glass sheets and parts
- Various types of construction, repair and assembly work in the marine, engineering, DIY, hobby, construction and plant maintenance sectors. Especially useful for smaller jobs where the use of a manual-mix, or dispensing gun based epoxy adhesive (such as our Easy-Mix Epoxies) would be inefficient.



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Important

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Properties

Basis	Epoxy Resin (Unfilled)
Colour After Curing	Transparent (Glass Clear)
Mix Ratio	1:1
Pack Size	24ml
Nature	Viscid
Density of the Mixture	1.14 g/cm ³
Viscosity of the Mixture	32,000 MPa (@ 20°C)
Pot Life (10ml @ 20°C)	3-4 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	35 Minutes
Mechanical Strength (50%) When Curing at 20°C	1 Hour
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	19 N/mm ²
Aluminium, Sand-Blasted	18 N/mm ²
Rigid PVC, Roughened	12 N/mm ²
Shore Hardness	65 Shore D
Linear Shrinkage	20mm / Metre (2% Approx.)
Thermal conductivity (ASTM D 257)	0.2 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
IMPA Reference Number	81 29 80
ISSA Reference Number	75.629.50

Epoxy Minute Adhesive 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.

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Epoxy Minute Adhesive Chemical Resistance After Curing

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

+ = Resistant

O = Resistant for a Limited Time

- = Not Resistant

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Preparation of the Surface

To ensure that Epoxy Minutes Adhesive bonds to the surface you want it to, it is very important to ensure the surface is clean and dry (Cleaner S Spray, Surface Cleaner or Plastic Cleaner may be ideal). If possible, smooth surfaces should be roughened as this will increase adhesive power.

Processing

Epoxy Minute Adhesive can be processed directly from the double cartridge. Reject the first centimetre of the dosed bead. Mix the product thoroughly. Apply adhesive mixture quickly to only one of the surfaces to be bonded. Join both surfaces immediately afterwards.

If you would prefer, Epoxy Minute Adhesive can also be applied through the use of a Weicon Quadro Mixing Nozzle. These are available separately and will mix the two parts as they travel through the nozzle so they arrive at the surface already mixed. Even with the nozzle though, the first centimetre of the bead should be rejected.

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

Epoxy Minute Adhesive is available from Swift Supplies in 24ml Double Cartridge Packs.

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