

Fast Metal Minute Adhesive is a versatile grade of epoxy adhesive with a variety of uses. It is perfect for bonding metal, plastic, wood, stone, ceramics, glass and fibre reinforced materials. It is a high strength adhesive with a pasty consistency and the ability to bridge larger bonding gaps and fill holes.

Manufactured by Weicon in Germany, Fast Metal Minute Adhesive is produced from epoxy resin with steel fillers. It can be applied directly to vertical surfaces and cures with excellent residual elasticity to absorb some movement in the joined pieces once it's cured.

[View This Product](#)

This two-part epoxy is supplied in the special hand-operated double cartridge system. This ensures that you get the correct quantities of both part A & B without having to measure. It can be dispensed without the need for any special equipment.

True to its name, Fast Metal Minute Adhesive cures very quickly (especially by epoxy adhesive standards). Pot life is just 4 minutes and it will achieve handling strength (35%) after around 40 minutes. Mechanical strength (50%) will be reached after approximately 2 hours (depending on curing conditions). Final strength will take about 24 hours.

Once it has cured, Fast Metal Minute Adhesive will be grey in colour. It can be used to cover gaps up to 4mm. It also has good temperature resistance and withstands environments between -50°C to and +145°C.

This epoxy adhesive creates very high strength bonds and joins between a variety of materials. On sand-blasted average tensile shear strength was measured to be 20 N/mm<sup>2</sup>, 19 N/mm<sup>2</sup> for aluminium and 11 N/mm<sup>2</sup> for roughened, rigid PVC sheet.

### Applications

- Bonding and joining metal sheets, parts and components with high strength.
- Bonding metal to stone, plastic, fibre reinforced materials, glass, ceramic or wood.
- Filling gaps in a range of different materials and parts.
- Making repairs to epoxy glass parts and components.
- Joining and bonding of components for electrical applications.
- Quick repairs to reattached loose or broken metal joins and parts.
- A wide range of repair, production and maintenance applications in the marine, transport, facilities management, agricultural, mining and power generation sectors.

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#### Important

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**Properties**

Basis	Epoxy Resin with Steel Fillers
Colour After Curing	Dark Grey
Mix Ratio	1:1
Pack Size	24ml
Nature	Pasty Consistency
Density of the Mixture	1.8 g/cm <sup>3</sup>
Viscosity of the Mixture	300,000 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	4mm
Handling Strength (35%) When Curing at 20°C	40 Minutes
Mechanical Strength (50%) When Curing at 20°C	2 Hours
Final Strength (100%) When Curing at 20°C	24 Hours
Temperature Resistance	-50°C to +145°C
Average Strength (25°C) acc. To DIN 53281-83	
Pressure	10 MPa
Tensile	24 MPa
Torsion	58 MPa
Average Tensile Shear Strength acc. To DIN 53281-83	
Steel, Sand-Blasted	20 N/mm <sup>2</sup>
Aluminium, Sand-Blasted	19 N/mm <sup>2</sup>
Rigid PVC, Roughened	11 N/mm <sup>2</sup>
Shore Hardness	70 Shore D
Linear Shrinkage	3mm / Metre (0.3% Approx.)
Thermal conductivity (ASTM D 257)	1.11 W/m·K
Electrical resistance (ASTM D 257)	10 <sup>13</sup> Ω/cm
Dielectric strength (ASTM D 149)	1.2 kV/mm
Thermal expansion coefficient (ISO 11359)	50 x 10 <sup>-6</sup> k <sup>-1</sup>
IMPA Reference Number	81 29 81
ISSA Reference Number	75.629.51

**Epoxy Minute Adhesive Bonding 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.

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**Fast Metal Minute 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	+
Crude Oil	+	(Caustic Potash, 0-20%)	+
Crude Oil Products	+	Soda Lye	+
Diesel Fuel Oil	+	Sodium Bicarbonate	+
Ethanol < 85% (Ethyl Alcohol)	+	(Sodium Hydrogen Carbonate)	+
Ethyl Alcohol	O	Sodium Carbonate (Soda)	+
Ethyl Benzole	O	Sodium Chloride (Cooking Salt)	+
Ethyl Ether	-	Sodium Hydroxide	O
Exhaust Gases	+	(Caustic Soda, <20%)	+
Formic Acid (>10%)	+	Sulphur Dioxide	+
Glycerine	-	Sulphuric Acid (<5%)	O
Glycol	+	Tannic Acid Dilute (<7%)	+
Grease, Oils and Waxes	O	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

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## Preparation of the Surface

To ensure that Fast Metal 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

Fast Metal 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.

## 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

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

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