Technical Data Sheet

RK-1300 Two-Part, No-Mix, High Strength Acrylic Glue is a high strength construction adhesive based on methyl methacrylate (MMA). It has a party consistency and is used to create very high strength bonds that have high impact, peel and shear strength.

View This Product

RK-1300 is particularly well suited for joining larger surface areas. It works very well with metal (including both passive and active styles) and is also compatible with many types of rigid plastics (such as acrylic, polycarbonate and fibreglass) as well as ceramics and ferrites.

This industrial grade acrylic glue is very easy to use (the video below shows this). Though it is a two-part adhesive, there's no mixing or measuring involved. For close fitting joins (i.e. those with a bonding gap of 0.4mm or below), simply apply the pasty glue to one side and spread. Once done, apply the activator to the other and join the two parts (for larger bonding gaps up to 0.8mm, apply the activator to both sides).

Once the two bonding surfaces have been joined, the adhesive will set fast. At a room temperature of 20°C, RK-1300 Acrylic Glue achieves 35% cure in just 5 minutes and hits 50% of its final strength after 9 minutes. It will be fully cured within 24 hours.

One additional benefit of the adhesive + activator "No Mix" process used with this glue is time. Parts coated with just the adhesive can be stored for up to 30 days (at room temperature) without loosing effectiveness. This could be a real benefit for anyone with multiple parts to bond as they can prep multiple items with just the adhesive before proceeding to apply the activator and join sequentially.

Manufactured in Germany by Weicon, this high strength acrylic glue is able to withstand permanent exposure to temperatures up to 130°C (and as low as -50°C) once fully cured. It will also tolerate short-term spikes to +180°C. It has a beige colour after it is cured.

Applications

- Vehicle construction and repairs.
- Tool and mould making.
- Furniture making and assembly.
- Building and construction.
- In the marine and boating industry.
- Engineering and plant maintenance.
- In the DIY and renovation sector.

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General Material Compatibility

- Metals (such as coated metal, steel, aluminium, copper, zinc alloys and ferrites)
- Plastics* (such as ABS, polystyrene, hard PVC, polycarbonate, Polyphenylene oxide and polyester moulding compounds)
- Fibre Composite Materials (including GRP, CRP and fibreglass)
- Wood and cellulose materials (e.g. MDF)
- Glass, Ceramics and Stone

*Please note Polyamide, PTFE and polyolefin may only be bonded after special treatment of the surface (e.g. low-pressure plasma, corona, flame impingement).

Properties

Basis	Methyl Methacrylate (MMA)
Colour After Curing	Beige
Density of the Mixture	1.2 g/cm³
Viscosity of the Mixture	21,000 MPa
Application Procedure	No Mix
Composition	Pasty
Handing Strength (35% of Final)	6 Minutes
Capable of Bearing Mechanical Loads (50% of Final)	9 Minutes
Processing Temperature	+10°C to +40°C
Curing Temperature	+18°C
Fully Cured (100%)	24 Hours
Adhesive Gap Bridging	0.4mm – 0.8mm
Temperature Resistance (After Curing)	-50°C to +130°C (+180° Short-Term)
IMPA Code	81 29 91
ISSA Code	75.629.52

Shear Strength (According to DIN 53281)

Aluminium	20 N/mm²
Sand Blasted Steel	25 N/mm²
Stainless Steel	25 N/mm²
Polycarbonate	10 N/mm²
PMMA	9 N/mm²
ABS	6 N/mm²
Hard PVC	7 N/mm²
Fibreglass Reinforced Polyester	16 N/mm²
Fibreglass Reinforced Epoxy	24 N/mm²
Polyamide 6.6	2 N/mm²

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RK-1300 Acrylic Adhesive Chemical Resistance After Curing

Acetone	+	Isopropyl Acetate	+
Acidic Vapours	+	Isopropyl Alcohol	+
Alcohol	+	Isopropyl Ether	+
Aliphatic Hydrocarbons	+	Kerosene	+
Alkaline Vapours	+	Ketone	+
Ammonia, Ammonium Chloride	+	Lubricating Oils & Greases	+
Aromatic Hydrocarbons	O	Mercury	+
Benzoyl	O	Methanol (Methyl Alcohol)	+
Benzoyl Acid	+	Methyl Benzoyl	+
Bile Medium (Bilge Water)	+	Methyl Chloride	O
Brake Fluid	+	Methyl Ethyl Ketone	+
Bromide Solution	O	Methyl Isobutyl Ketone	+
Butyl Alcohol (Isobutanol)	+	Methylene Dichloride	+
Calcium Chloride (Sea Salt)	+	Mineral Oil	+
Calcium Sulphate	+	Mineral Turpentine	+
Calcium Sulphite	+	Nitric Acid (5%)	+
Chlorinated Hydrocarbons	+	Nitric Acid (Fuming)	-
Chlorinated Salt Water	+	Oxygen	-
Chlorinated Solvents	-	Ozone	-
Chlorinated Water	+	Paraffin oil (Kerosene)	+
Chlorine Alcohol	+	Perchlomethylmercaptan	+
Chlorine Bleach	-	Persulfuric Acid (5%)	+
Chlorine Gas (Liquid & Dry)	-	Petrol	+
Chlorine Sulphuric Acid	-	Phenol (Carbolic Acid)	+
Chlorine (Liquid & Dry)	-	Phenol Resin	+
Chloroform	+	Phosphoric Acid (5%)	+
Chromatic Acid (5%)	+	Phthalic Acid	+
Cooling Lubricants	+	Polyphosphoric Acid (5%)	+
Corrosive Ammonium, Ammonium Hydroxide	O	Potassium Carbonate (Potash)	+
		Propyl Alchol	+
Cylinder Oil	+	Selenium Chloride	+
Dichloroethylene Ether	+	Silicon Oils	+
Epichlorohydrin	+	Sulphur Dioxide (Wet & Dry)	+
Freon	O	Sulphur Trioxide Gas	-
Fuel (Jet or Turbine)	+	Sulphuric Acid	O
Glycocol, Glycine	+	Sulphuric Acid (Fuming)	-
Heating Oil (Diesel)	+	Tannic Acid	O
Heptane	+	Toulene	O
Hydrochloric Acid	O	Toulene Sulphuric Acid	O
Hydrocyanic Acid (Prussic Acid 5%)	+	Trichloroethylene	+
Hydrogen Bromide (5%)	+	Turpentine, Turpentine Oil	+
Hydrogen Chloride	+	Waste Water	+
Hydrogen Fluoride (Hydrofluoric Acid)	-	Water	+
Hydrogen Peroxide	O	Water (Boiling)	O
Hydrogen Sulphide (Wet & Dry)	+	Water (Distilled)	+
Isobutyl Alcohol (Isobutene)	+	Xylene (Dimethylbenzoyl)	O

+ = Resistant O = Resistant for a Limited Time - = Not Resistant

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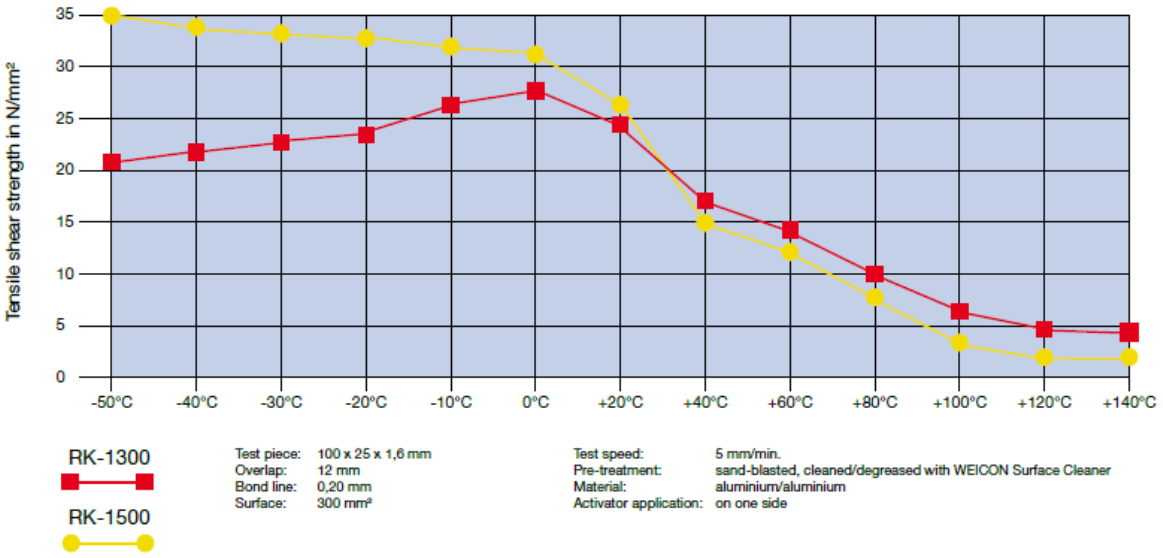
Tensile shear strength according to DIN 53283 depending on the test temperature



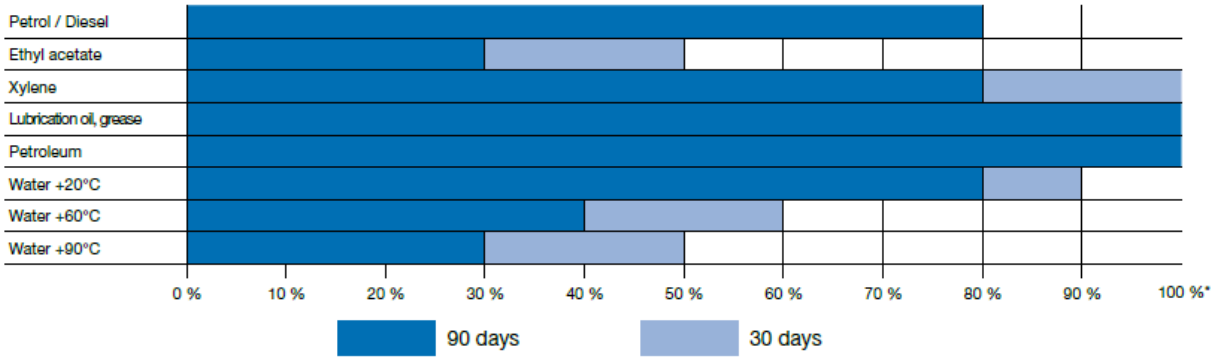
RK-1300

RK-1500

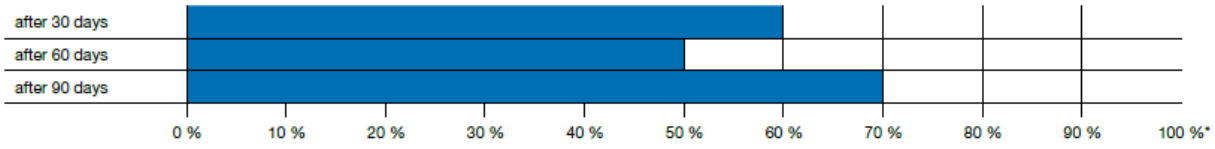
Test piece: 100 x 25 x 1,6 mm
Overlap: 12 mm
Bond line: 0,20 mm
Surface: 300 mm²

Test speed: 5 mm/min.
Pre-treatment: sand-blasted, cleaned/degreased with WEICON Surface Cleaner
Material: aluminium/aluminium
Activator application: on one side

Tensile shear strength in % after storage in different media



Tensile shear strength in % after storage in tropical climate in accordance with DIN 50015 (+40°C and 92% humidity)



* Average tensile strength after 7 days at +20°C and one-sided Activator application in accordance with the stability.

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 of the RK Activator
The RK Activator is applied, depending on the size of the bonding gap, on either one side or both sides of the surfaces to be bonded (brush, spray, dip). In case of bond lines with a max. of 0.4 mm in width, the Activator only needs to be applied on one side, for bond lines of up to a max. of 0.8 mm in width and/or rough, porous or passive surfaces (chrome, nickel etc) the Activator must be applied on both sides. For smooth plastic and metal surfaces, approx. 30 g/m² is necessary, for rough and porous surfaces up to 150 g/m² of Activator may be necessary. The evaporation time at room temperature (+20°C) is at least 5 minutes. A significant advantage to other adhesive systems is that the coated components can be stored up to 30 days at room temperature (+20°C) without losing effectiveness.

Processing of the RK Adhesive
The Adhesive is applied only on one side and normally on the surface which is not coated with Activator. The size of the bonding gap can be up to 0.80 mm (only if the Activator is applied on both sides). Bonding gaps of 0.15 mm to 0.25 mm in width always have the highest tensile shear strength.

The parts should be left separate for at least 5 minutes before they are joined.

Processing Temperature
The processing should take place at room temperature (approx. +20°C). Higher temperatures, e.g. +40°C shorten the positioning and curing times by approx. 30%, lower temperatures of approx. +10°C increase the respective times by approx. 50% and at down +5°C almost no reaction occurs anymore.

Storage
Weicon RK Construction Adhesives have a shelf life of at least 12 months if stored in a dry room at a constant temperature of approx. +20°C. At temperatures between +1°C and +7°C the shelf life can be extended up to 24 months. This applies for closed original units which have not been directly or indirectly exposed to sunlight. In case of storage temperatures exceeding +40°C and high humidity, the shelf-life is shortened to 6 months.

Availability

RK-1300 Acrylic Adhesive is available in a selection of sizes and configurations. Some are kits that include both adhesive and activator while others allow you to buy the two parts separately. These are listed below:

- 60gm Kit – Adhesive & Activator
- 330gm Cartridge – Adhesive Only
- 1kg Kit – Adhesive & 2 x 100gm Activator Spray
- 6kg Tin – Adhesive Only

The **Activator** is also available separately in 100gm Spray Bottles or 1 Litre Bottles

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