

Construction Adhesive RK-1500 liquid - No-Mix

Technical Datasheet

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Introduction

WEICON RK Construction Adhesives are 2-component systems based on methacrylate, which cure fast at room temperature. Both systems are processed in the "no mix" procedure, i.e. a mix of both components (adhesive and activator) is not necessary. Polymerization starts as soon as the adhesive- and activator-wetted components are joined together.



Fast-curing construction adhesive for high-strength bonding with high impact resistance, high peel and shear strength. Temperature resistant from -50°C up to +130°C, briefly (30 minutes) up to +180°C. Consists of adhesive and activator. Type with higher strength and lower viscosity (liquid). To be processed in the easy no-mix procedure.

Technical data

Basis	Methyl methacrylate
Properties	liquid
Viscosity Adhesive	4.500 mPa.s
Viscosity Activator	very thin liquid mPa.s
Specific weight Adhesive	1,00 g/cm ³
Specific weight Activator	0,87 g/cm ³
Colour adhesive	yellow, transparent
Colour activator	Colourless, transparent
Consumption adhesive (depending on surface structure)	180 - 300 g/m ²
Consumption activator (depending on surface structure)	30 - 150 g/m ²
Evaporation time activator at +20°C	5 min.
Effectiveness activator after application at +20°C	max. 30 days
Processing temperature	+ 10 to + 30 °C
Curing temperature	+ 6 to + 40 °C
Gap covering power	max. 0,8 mm
Handling strength (35% strength) after	5 min.
Mechanical durability (50% strength) after	8 min.
Final hardness (100%) strength after	24 h
Aluminium, sand-blasted	26 N/mm ²
Steel, sand-blasted	25 N/mm ²
Stainless steel, sand-blasted	25 N/mm ²
Copper, sand-blasted	19 N/mm ²
Brass, sand-blasted	26 N/mm ²
ABS, roughened	6 N/mm ²
Hard PVC, roughened	11 N/mm ²
GRP, roughened	20 N/mm ²
Temperature resistance	-50 to +130, short-term up to +180 °C
Peel resistance on aluminium	6 N/mm

Thermal conductivity	0,2 W/m.K
Dielectric strength	10 kV/mm

Pretreatment of the surface

To ensure perfect bonding, the surfaces to be joined must be clean and dry (to clean and degrease use Cleaner S or Plastic 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. are only to be bonded after special surface treatment, for example using fluoridation, low-pressure plasma, corona, flame impingement etc.

Processing

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 width of the bond line can be up to 0.80 mm (only if the Activator is applied on both sides). Bond lines of 0.15 mm to 0.25 mm in width always have the highest tensile shear strength.

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 up to +5°C almost no reaction occurs anymore.

Physiological properties / health and safety at work

WEICON RK Construction Adhesives, when properly handled and completely cured, are toxicologically essentially harmless. When using these adhesives, the physical, safety technical, toxicological and ecological data and regulations in our EC safety data sheets (www.weicon.de) must be observed.

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 sunrays. In case of storage temperatures exceeding +40°C and high humidity, the shelf-life is shortened to 6 months.

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Note

Any product specifications and recommendations given herein must not be seen as guaranteed product characteristics. They are based on our laboratory tests and on practical experience. Since individual application conditions are beyond our knowledge, control and responsibility, this information is provided without any obligation. We do warrant the continuously high quality of our products being free from defects in accordance with and subject to our General Sales Conditions. However, own adequate laboratory and practical tests to find out if the product in question meets the requested properties are recommended. A claim cannot be derived from them. The user bears the only responsibility for non-appropriate or other than specified applications.

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