

MK EP 500 R

Two-component structural adhesive based on epoxy resin (resin + hardener), designed for bonding a wide variety of metals, thermoplastics, thermosets and composites.



TECHNOLOGY	EPOXY
OPEN TIME	03 ÷ 04 MIN.
FIXTURE TIME	05 ÷ 10 MIN.
TENSILE STRENGTH	18 ÷ 20 MPA

LIQUID PROPERTIES

	PART A	PART B
Technology	Epoxy Resin	Mercaptan
Colour	Translucid Amber	Translucid Amber
Density @ 23°C	1.14 ± 0,02 g/ml	1.11 ± 0,02 g/ml
Viscosity @ 23°C	5.000 ÷ 10.000 cps	10.000 ÷ 18.000 cps
Mix Ratio by Volume	1	1

MIXED PROPERTIES | MECHANICAL PERFORMANCE

Open Time [T° @ 23°C adhesive mass @ 10 grams Volume mix ratio @ 1:1]	03 ÷ 04 minutes
Fixture Time [According Lap Joint Shear Strength Test ASTM D1002] [T° @ 23°C bond-line Thickness @ 0,254 mm Target ≥ 1.40 MPa]	05 ÷ 10 minutes
Polymerization Time @ 23°C	18 ÷ 24 hours
Density @ 23°C	1,13 ± 0,02 g/ml
Minimum functional Gap Fill	1,00 ± 0,50 mm
Maximum functional Gap Fill	4,00 ± 0,50 mm
Tensile Strength	18 ÷ 20 MPa
Lap Shear Strength (ASTM D1002) [MK Climatic Aging Cycle → 40 steps] [8 h @ -45°C U.R. 55% + 8 h @ 40°C U.R. 98% + 8 h @ 95°C]	Al Al → 12 ÷ 14 N/mm ² AISI 316 AISI 316 → 16 ÷ 18 N/mm ² STEEL C 75 STEEL C 75 → 16 ÷ 18 N/mm ²
Tensile Elongation	2 ÷ 6 %
Viscosity mix A + B	10.000 cps
Hardness Shore @ 23°C	75 ÷ 80 D
Operating Temperature	- 40 ÷ + 80 °C
Application Temperature	+ 18 ÷ + 25 °C



APPLICATION

- Before proceeding with bonding, prepare the substrates (see "recommendations" section)
- Remove the bi-cartridge cap and purge-out a small amount of product to ensure that the same volume of product is extruded from both part A and part B sides
- Connect the mixing nozzle to the bi-cartridge and dispense a sufficient amount of adhesive to ensure equal mixing between parts A and B through the mixer
- Apply the adhesive onto one of the two surfaces to be bonded and assemble the components carefully
- Remove any excess adhesive before its polymerization
- Leave-on the adhesive the time required to developments sufficient handling strength.
- Notes for the user: the open time is the period for the positioning of the parts to be assembled after applying the adhesive and which guarantees good surface wettability. The fixing time is instead the minimum time required to reach an overlap shear strength ≥ 1.40 MPa. The volume of the adhesive and the application temperature have a direct effect on the open time by speed-up or slowing-down the exothermic reaction. High temperatures and high volumes speed-up the fixing time; low temperatures and thin thickness of adhesive slow-down the process

PROPERTIES AND USES

- Used for bonding metal fasteners for composite moulded parts.
- Suitable for bonding metals without the use of specific surface primers.
- Used in the automotive sector for fixing carbon fibre panels and for bonding thermoplastics.
- Suitable for fixing GRP in the nautical sector.
- It is also suitable for bonding dissimilar metals in the trailer sector
- Used for crack repair and fill.
- Fast curing.
- Excellent resistance to fatigue, shocks and shock loads.
- Its high thixotropy facilitates application on uneven surfaces (it does not run).
- Good resistance to acids and bases and hydrocarbon solvents
- Excellent adhesion on different substrates, even with very low glue thicknesses

RECOMMENDATIONS

Substrate preparation

The substrates must be thoroughly clean, dry and free of oil, grease and dust which can certainly affect the quality of the bonding. Best cleaning by use of isopropyl alcohol MK-WIPES, MK Sol-Neo or MK Sol-13 in accordance with local regulations. Degrease the PVC and metal surfaces with a non-greasy solvent. Always check the compatibility of your solvents with the substrate to be bonded. If necessary, slightly sand or strongly abrade the surfaces to be bonded.

PRECAUTIONS FOR USE

Mastikol® products should be used following the normally precautions adopted during chemical substances handling. It is recommended to wear rubber or latex gloves and to protect the eyes adequately. Thoroughly clean the skin at the end of the work shift with warm soapy water. The use of solvents is not recommended. Dry yourself with paper wipes. It is recommended to ventilate the work area well. These precautions are detailed in the Safety Data Sheets relating to the individual products and should be referred to for a complete information.

STORAGE AND PACKAGING

It can be stored for nine months in the original and sealed containers kept in a cool and dry environment.

Storage temperatures must be between 11°C and 23°C. Prolonged storage at a temperature above 23°C will reduce shelf life and the expiration date. Avoid direct contact with sunlight.

Bi - Cartridges of 50 ml | 400 ml + mixer

20 Lt pails | 200 Lt drums for industrial dispenser

NOTES

The information, in particular, the recommendations relating to the applications and use of Mastikol® products, are given in good faith and are based on current knowledge and experience of the products, when properly stored, handled and applied under normal conditions. Mastikol® assumes no responsibility for the results obtained by third parties for which there is no control over the method.

It is the customer's responsibility to confirm the suitability of the product for the application. As it is not possible to control the application, use or processing of the products; no liability is assumed in this regard. The customer must ensure that the use of the products does not infringe any third-party intellectual property rights. Specifically, Mastikol® disclaims all express or implied warranties, including warranties of merchantability or fitness for specific purposes, arising from the sale or use of Mastikol® products. No liability is accepted for consequential or incidental damages of any kind, including loss of profit.

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PROFESSIONAL BONDING SOLUTION