



## PU 2KR 12

Two-component, thixotropic, odourless polyurethane adhesive that cures at room temperature, used for structural bonding of thermoplastics, ceramic materials, aluminium, concrete, wood and glass.

TECHNOLOGY	POLYURETHANE
OPEN TIME	45 SEC.
FIXTURE TIME	3 MIN.
TENSILE STRENGTH	17 ÷ 20 MPA

### LIQUID PROPERTIES

	PART A	PART B
Technology	Polyol	MDI
Colour	Black   Translucid	Amber
Density @ 23°C	1.04 ± 0,02 g/ml	1.20 ± 0,02 g/ml
Viscosity @ 23°C	1.000 ± 500 cps	800 ± 50 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 ]	45 seconds
Fixture Time [According Lap Joint Shear Strength Test ASTM D1002] [ T° @ 23°C   bond-line Thickness @ 0,254 mm   Target ≥ 0.50 MPa ]	3 minutes
Polymerization Time @ 23°C	18 ÷ 24 hours
Hardness Shore @ 23°C	60 ± 2 D
Minimum functional Gap Fill	0,50 ± 0,25 mm
Maximum functional Gap Fill	6,00 ± 0,25 mm
Tensile Strength	20 ÷ 22 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 <sup>2</sup> (Adhesive Failure mode) ABS   ABS → 8 ÷ 12 N/mm <sup>2</sup> (Substrate Failure mode) SMC   SMC → 8 ÷ 12 N/mm <sup>2</sup> (Fibre Failure) LEGNO   LEGNO → 16 ÷ 18 N/mm <sup>2</sup> (Substrate Failure mode) CEMENTO   CEMENTO → 15 ÷ 17 N/mm <sup>2</sup> (Substrate Failure mode)
Tensile Elongation	30 ± 5 %
Viscosity mix A + B	50.000 ± 500 cps
Operating Temperature	- 40 ÷ + 100 °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 of time 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  $\geq 0.40$  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 and/or assembling galvanized and/or painted metal plates
- Used in the Automotive OEM for carbon-fibre fixing panels, components and for thermoplastics bonding
- It can be used in various industrial sectors for bonding reinforced polyesters, ABS, polycarbonates and composite materials in general
- Also suitable for bonding dissimilar metals in the Truck and Van manufacturing
- Used for repair and filling of cracks
- Low exothermic level during hardening
- Fatigue, shocks and high loads excellent resistance
- High rheology for vertical application on all surfaces (it does not sag)
- Good resistance to acids and bases and hydrocarbon solvents and lubricants
- Over-paintable

## 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