

MK 50-05

Two-component methacrylate adhesive suitable for high strength bonding of composites, thermoplastics and metals. Specific primeless product for structural bonding, highly qualified.



| TECHNOLOGY | METHYL-METHACRYLATE |
|------------------|---------------------|
| OPEN TIME | 04 ÷ 07 MIN. |
| FIXTURE TIME | 12 ÷ 15 MIN. |
| TENSILE STRENGTH | 30 ÷ 35 MPA |

LIQUID PROPERTIES

PART A

PART B

| | | |
|---------------------|----------------------|----------------------|
| Technology | Methyl Methacrylate | Activator |
| Colour | Off-White Black | Off-White Black |
| Density @ 23°C | 0.99 ± 0,02 g/ml | 0.96 ± 0,02 g/ml |
| Viscosity @ 23°C | 60.000 ÷ 130.000 cps | 80.000 ÷ 200.000 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] | 04 ÷ 07 minutes |
| Fixture Time [According Lap Joint Shear Strength Test MK-ZP2-01.25] [T° @ 23°C bond-line Thickness @ 0,254 mm Target ≥ 1.40 MPa] | 12 ÷ 15 minutes |
| Polymerization Time @ 23°C | 18 ÷ 24 hours |
| Density @ 23°C | 1,00 ± 0,02 g/ml |
| Minimum functional Gap Fill | 0,75 ± 0,50 mm |
| Maximum functional Gap Fill | 8,00 ± 0,50 mm |
| Tensile Strength | 30 ÷ 35 MPa |
| Lap Shear Strength (MK-ZP2-01.25) [MK Climatic Aging Cycle → 40 steps] [8 h @ -45°C U.R. 55% + 8 h @ 40°C U.R. 98% + 8 h @ 95°C] [T° @ 23°C bond-line Thickness @ 0,254 mm] | Al Al → 20 ÷ 27 N/mm ² (Cohesive Failure mode) ABS ABS → 6 ÷ 12 N/mm ² (Substrate Failure mode) GRP GRP → 6 ÷ 12 N/mm ² (Fibre Failure) CF CF → 9 ÷ 16 N/mm ² (Fibre Failure) Al CF → 10 ÷ 12 N/mm ² (Substrate Failure mode) AISI 316 AISI 316 → 20 ÷ 25 N/mm ² (Cohesive Failure mode) |
| Tensile Elongation | 2 ÷ 6 % |
| Tensile Modulus | 1200 ÷ 1700 MPa |
| Operating Temperature | - 40 ÷ + 120 °C |
| Application Temperature | + 18 ÷ + 25 °C |

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PROFESSIONAL BONDING SOLUTION



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 ≥ 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 metal fasteners bonding on composite parts
- Suitable for bonding metals with no specific surface primers
- Used in the Automotive OEM for carbon-fibre fixing panels, components and for thermoplastics bonding
- Suitable for bonding GRP in the Marine industry
- Also suitable for bonding dissimilar metals in the Truck and Van manufacturing
- Used for repair and filling of cracks
- Fast curing
- 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
- Excellent adhesion on different types of substrates, even with very low glue thickness

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 | 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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