

A-K015

2-component fast-curing, clear structural adhesive

Product Description

A-K015 is a two-component toughened structural adhesive based on methyl methacrylate and provides primerless adhesion to most metals, thermoplastics, composites and other substrates common to the commercial vehicle industry¹. Formulated to be completely transparent, it is fast-curing, high-strength, and impact resistant; it is intended for use in structural bonding applications for vehicle assembly. Available in 400 mL coaxial cartridges, 20L [5 GAL.] pails and 200L [50 GAL.] drums.

Technical Data

| TYPICAL PROPERTIES | | | |
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| | | A-K015 | Test Method |
| Physical Properties | Appearance | Transparent gel | - |
| | Mix Ratio | 1:1 (by vol. & wt.) | - |
| | Working Time ² | 1 - 2 min. | - |
| | Fixture Time ³ | 3 - 4 min. | - |
| | Viscosity (TE spindle, 2.5 rpm) | A – 35,000 cPs B – 7,500 cPs | - |
| | Shore D Hardness | - | - |
| | Mixed Density | 1.0 kg/L, [8.35 lb/gal] | - |
| | Service Temperature ⁴ | -40 to 90°C, [-40 to 194°F] | - |
| Mechanical Properties | Tensile Strength | 14.5 MPa, [2,100 psi] | ASTM D638 |
| | Modulus | 800 MPa, [116,000 psi] | ASTM D638 |
| | Strain-to-Failure | 1 - 5% | ASTM D638 |
| | Peel Strength | > 3N/mm, [17 pli] | ASTM D1876 |
| | Impact Strength | - | - |

Chemical Resistance⁶ Good resistance to common industrial chemicals. Should be tested against specific customer conditions and exposures. Not resistant to fuels, polar solvents, strong acids & bases.

Environmental Resistance Resistant to weathering, salt spray (500h), and ultraviolet (QUV) radiation.

Shelf Life & Storage Conditions

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| Shelf Life | Best results within 6* months – stored at < 25°C in original packaging. Long-term exposure to elevated temperature can cause the material to lose performance characteristics. |
| Special Handling | Material must NOT be frozen, keep away from direct sunlight and all sources of heat and ignition. |

Surface Preparation

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| General | The following recommendations are for informational purposes only. Before attempting any bonding application, users should test the adhesion to the surface using their specific material and application. Any applications involving critical or serial production should consult L&L Products Technical Service & Support Staff. |
| Metals | Must be clean, dry; and free of dust, debris and any loose oxides or coatings. Heavy oils and grease must be removed. Clean surfaces thoroughly using a general purpose industrial organic solvent. It may be necessary to use an additional surface preparation product. Consult L&L Products Technical Service & Support Staff. |
| Thermoplastics | Must be clean, dry; and free of dust, debris and any loose oxides or coatings. Excessive oily residue must be removed. Clean surfaces thoroughly. |
| Composites | Must be clean, dry; and free of dust, debris and any loose coatings, including heavy layers of release agent. Abrasion may be required. Composites using small amounts or no release agent should be cleaned as described. |
| Other | Consult L&L Products Technical Service & Support Staff. |

Application

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| Cartridge Application | Check each cartridge to ensure that the openings are free of obstruction or debris that would prevent flow. A-K015 is applied through a 8mm x 24-element square-type static mixer (except 50ml ctgs.). Before bonding, dispense a small amount of material through the static mixer (purge) until the product is uniformly mixed. |
| Bulk Application | A-K015 can be applied using several types of meter-mix equipment. The material is applied through a 8mm x 24-element square-type static mixer. Pumping equipment should be austenitic (300's grade) stainless-steel in construction. Seals and gaskets should be EPR or Teflon. Any components based on elastomers such as nitriles and Viton should be avoided. Hoses should be Teflon-lined. Consult L&L Products Technical Service & Support Staff and the equipment supplier to ensure compatibility. |
| Bonding Process | <p>Parts should be mated and in final position before the expiration of the working time and should remain in position, unstressed & undisturbed until the end of the fixture time has passed. Note that working and fixture times are heavily influenced by temperature. Warm temperatures shorten working times, and cooler temperatures lengthen fixture times. The application temperature for the adhesive and parts should be between 15-30°C [60-85°F].</p> <p>Use enough adhesive to completely fill the desired bond area, and avoid entrapping air within the joint. Avoid over-squeezing the joint causing insufficient material to remain in the bond area once the clamps or jig is removed.</p> <p>A-K015 cures by exothermic reaction. Large masses of material can result in overheating of the adhesive and substrate. Consult with L&L Products Technical Service & Support Staff.</p> |
| Clean-Up | Excess material should be removed before curing using a general purpose organic solvent or soap & water. Avoid disturbing the bond area during clean-up. After curing, the material must be removed mechanically, followed by a light solvent wipe to remove any residue. |

Health & Safety

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| Safety Precautions | Avoid contact with skin and eyes. Consult product-specific Safety Data Sheet for all safety and environmental information concerning use and disposal of this product. |
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| Notes | <ol style="list-style-type: none">1. Test all applications according to anticipated production and service conditions.2. The time period after mixing the components before the materials must be mated and positioned.3. Varies with ambient conditions, bond size and substrate. Must be tested with customer parts.4. Adhesive performance changes depending on service temperature. Evaluate adhesive performance at anticipated service conditions. Consult L&L Products Technical Service & Support staff.5. Ultimate lap-shear strength on metals may require shot-blasting or special surface preparation.6. Chemical resistance heavily influenced by concentration, temperature, frequency and duration of exposure. Consult L&L Products Technical Service & Support Staff. <p>* Provisional</p> |
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