A-K322

Two-component, low odour, toughened structural adhesive

Based on methyl methacrylate and provides primer-less adhesion to most metals, thermoplastics, composites and other substrates common to the commercial vehicle industry[1].

This product is dedicated for bonding applications where high peel strength is desired. The ratio between working time and fixture time is optimised versus other methyl methacrylate systems to minimize cycle times.

This product does not boil at higher bonding gaps and therefore is an ideal solution for repair or backfill of large composite structures.

Due to its low odour, this product can be accepted in metal working workshops and other places where the typical distinctive MMA odour is restricted.

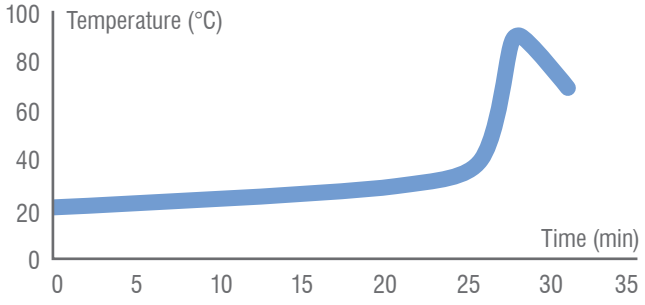
Available in 490 ml cartridges, 20 L [5 GAL.] pails and 200 L [50 GAL.] drums.

Technical Data

TYPICAL PROPERTIES			
	XP-A-K322		Test Method
Physical Properties	Appearance	Part A: off White Part B: off white / Black Mixed product: Tan / Black	-
	Mix Ratio	10:1 (by vol &wt.)	
	Open Time[2]	12 - 16min	
	Fixture Time[3]	25-30min	
	Viscosity part A-Brookfield - 25°C-spindle 7-20rpm (cps)	100 000 - 200 000	
	Viscosity part B-Brookfield - 25°C-spindle 7-10rpm (cps)	To be defined	
	Density part A (g/cc)	0.97 - 1.01	
	Density part B (g/cc)	1.3 -1.4	
	Shore D Hardness	50-60	
	Mixed Density	1.1	
	Service Temperature[4]	-40 to 90°C [-40 to 194°F]	
Mechanical Properties	Tensile Strength	16 - 18 MPa	ASTM D638
	Modulus	800-900 MPa	ASTM D638
	Strain-to-Failure	70 - 90%	ASTM D638
	Peel Strength	14N/mm	ASTM D1876

RECOMMENDED SUBSTRATES		
Composites	Metals	Thermoplastics
GRP Epoxy	Aluminium[5]	ABS
GRP Polyester	Stainless Steel[5]	ABS/PC
CFRP	Cold Rolled Steel[5]	
Gelcoats		
DCPD		
SMC		

Exothermic Curve-10g



Chemical Resistance[6] Good resistance to common industrial chemicals. Should be tested against specific customer conditions and exposures.Not resistant to fuels, polar solvents, strong acids & bases.

Shelf Life & Storage Conditions

Shelf life: Best results within 12 months – stored at < 25°C in original packaging. Long-term exposure to elevated temperature can cause the material to lose performance characteristics. Prolonged exposure above 37°C quickly diminishes the reactivity of the product and should be avoided.

Special Handling Material must NOT be frozen, keep away from direct sunlight and all sources of heat and ignition.

Surface Preparation

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

Cartridge Application: Check each cartridge to ensure that the openings are free of obstruction or debris that would prevent flow. A-K322 is applied through a 10mmx18-element helical-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-K322 can be applied using several types of meter-mix equipment. The material is applied through a 10mmx18-element helical-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 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].

Use enough adhesive to completely fill the desired bond area, and avoid entrapping air within the joint. Avoid oversqueezing the joint causing insufficient material to remain in the bond area once the clamps or jig is removed.

A-K322 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.

Clean-Up Any clean-up of the bonded assembly using industrial solvent is not recommended as it could affect the cure.

Health & Safety

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.

Notes:

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. Good resistance to common industrial chemicals. Should be tested against specific customer conditions and exposures. Not resistant to fuels, polar solvents, strong acids & bases. Consult L&L Products Technical Service & Support Staff.