FINIXA
paint processing products

TDS

TECHNICAL DATA SHEET

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PLI 01 – Finixa plastic repair 'fast' (25sec.) black - 50ml

Description

PLI 01 two-part systems are high-strength, structural adhesives which are resistant to exposure to elevated temperatures, moisture, fuel, most solvents and chemicals. The adhesive systems are tested using stringent performance specifications of all major automotive manufacturers and heavy truck producers.

PLI 01 is a fastest curing 2-part urethane known to be on the market. It is composed of the single components Polymer and curative. The product's dispense must be managed. The product will quickly set up and needs replacement after any interruption in dispense. This urethane product can often replace cyanoacrylate "tacking" adhesives. When tacking bumpers and parts made of TPO an adhesion promoter is recommended.

Features and benefits

- Excellent adhesion to thermoset composites (SMC, BMC, RTM), carbon fiber composites (CFRP), engineered thermoplastics (PUR-RIM, ABS-PC, PE/PA, PBT/PC, etc), coated metals, wood, concrete and many other materials.
- Structural bonding, sealing or repairing with one product
- Superior ambient cure response (heat acceleration optional)
- Cure response is NOT depending on the thickness of the applied adhesive bead as with most other Polyurethane systems
- Well balanced mechanical properties, proven fatigue performance and impact toughness
- No VOCs, no oder, contains no chlorinated compounds
- Robust and easy application. Gravity feed possible with meter mix dispense

Nominal component properties

	Polymer	Curative
Chemistry	Isocyanate Prepolymer	Polyol Curative
Color	Tan	Colored
Viscosity, cps or mPa s	15.000	20.000
Specific Gravity, g/ml	1,28	1,23
Ratio by Weight	1,06	1,00
Ratio by Volume	1,00	1,00
Odor	none	slight amine

Typical cure characteristics of the mixed adhesive

	Temperature	Time
Open Time	@ 23°C	30 sec
Handling time	@ 23°C	2,5min
Sanding Time	@ 23°C	5 min

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Open Time - also "wet time" or "pot life". The time the adhesive is wet enough to bond to a second substrate being mated in the bed of adhesive. The open time is temperature depending. All data given was measured at 23°C. Increasing the ambient temperature by 10°C will result in a reaction twice as fast (open time is cut into half).

Handling Time - Time when the adhesive is hard enough to hold on its own. The handling strength of freshly bonded parts depends on type and height of outside forces, that impact the bond. Typically 0.75 to 1MPa is needed. In all cases peel forces, that effect the bond need to be reduced as far as possible.

Physical properties of the cured adhesive

	Value	Test Method
Tensile strength, MPa @ 23°C	24,8	ASTM D-638
Young's Modulus, MPa @ 23ºC	1775	ASTM D-638
Elongation, %	46	ASTM D-638
Water Absorption, %	<1,0	ASTM D-570
Shrinkage, %	<1,0	ASTM C-733

Physical properties are values, based on material tested in our laboratories, but are subject to a standard deviation from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot.

Application Guide

Cure	Ambient or heat accelerated cure (max 120°C)
Optimum Bondline Thickness	0,5mm to 1,5mm
Maximum Bondline Thickness	app 5mm
Paint Bake	max 150°C
Gap Filling	Very Good
Sag Resistance	For vertical applications
Consumption, 1/4'' Diameter Round Bead	app 40g / m
Consumption, 1/2'' Diameter Round Bead	app 160g / m

Bonding Guide

Substrate	Surface preparation - Ambient Cure	Surface preparation - Heat Cure	General Adhesion*	Expected failure mode*
SMC, BMC, RTM, Gel Coat, Wood, HPL, PUR-RIM	Sanding	None	Excellent	Substrate failure
Carbon Fiber Reinforced Plastics (CFRP)	Sanding or peel ply	None	Excellent	Substrate failure
Coated or primed Metals And Matelalloys**	None	None	Excellent	Coating failure
HLU (Hand lay up) , HSU (Hand spray up)	Sanding	Mostly Sanding	Good	Mixed failures
Thermoplastics A (ABS, PA, PC/PBT, PPO/PA, PET)	Sanding or solvent wipe	Mostly none	Very Good	Substrate failure
Thermoplastics B (PPO,	Solvent, detergent or	Solvent, detergent or	Good / Fair	Mixed failures

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PC/ABS, PP/EPDM)	primer	primer		
Thermoplastics C (PTFE, PP, PE, PVC, PPS, POM)	Physical pretreatment (flame, plasma, corona)	Physical pretreatment (flame, plasma, corona)	Limited	Adhesive failure

* General adhesion and expected failure mode WITHOUT adhesion enhancing surface preparation
** Metal surfaces should be protected with a primer or coating prior bonding with polyurethane adhesives. Even though the initial adhesion is very good, water migration can cause "bond line corrosion" and failure with progressing time

Handling

PLI 01 Adhesive System contains ingredients which could be harmful if improperly handled. Contact with skin and eyes should be avoided and necessary protective equipment and clothing should be worn. Material Safety Data Sheets contain health and safety information for your development of appropriate product handling procedures to protect your employees and customers.

Packaging

PLI 01 adhesive system is supplied in cartridges (50ml, 220ml)

Shelf Life and Storage

Stored indoors between 15° to 32°. After dispense the used mixer should be left attached to the cartridge to ensure sealing from humidity.
Shelf life: 2 years

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