



Product Description

Modified epoxy | 1 part | solvent-free | heat-curing

- Magnet bonding
- Stator bonding
- Structural bonding

- Very good adhesion to metal
- ▶ High glass transition temperature
- ▶ High temperature resistance

Curing Properties

This adhesive must be cured with heat. The typical curing temperature is listed in the table below.

Ten	nperature	Time
120	D°C	25 min
150	D°C	15 min

The heat cure times are only provided as a guideline. They are derived from curing a 2g adhesive sample without affixed substrates in a laboratory environment. Actual cure times can vary based on part size, configuration, adhesive volume, temperature control, and the time required for the component substrates to attain oven temperature.

The final bond strength of the adhesive is achieved no sooner than 24 h after the bonded components are removed from the oven.



Structalit® X-1611702 (prospective Structalit® 5859)

Technical Data	
Γ= .	
Resin	Ероху
Appearance	Opaque, white
Filler	Polymer
Filler - weight [%]	2
Particle size D50 [μm]	110
Uncured Material	
Viscosity [mPas] (Kinexus Rheometer, 25 °C, 10s ⁻¹)	
PE-Standard 064	400,000
Thixotropic index [1/10]	1.0
PE-Standard 064	1.0
Density [g/cm³]	1.17
PE-Standard 004	1.17
Working life [days]	7
@ room temperature	,
Cured Material	
Hardness shore D	
150°C, 15min	80
PE-Standard 006	
Temperature resistance [°C]	-40 – 200
Water absorption [wt%]	
150°C, 15min	0.9
PE-Standard 016	
Glass transition temperature - DMA [°C]	
150°C, 15min	145
PE-Standard 022	
Coefficient of thermal expansion [ppm/K] below Tg	
100°C, 1h	62
PE-Standard 017	
Coefficient of thermal expansion [ppm/K] above Tg	
100°C, 1h	200
PE-Standard 017	
Thermal conductivity [W/m*K]	
100°C, 1h	0.2
PE-Standard 062	
Young's modulus – Tensile test [MPa]	
150°C, 15min	3,000
PE-Standard 056	
Tensile strength [MPa]	
150°C, 15min	50
PE-Standard 014	



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Elongation at break [%]	
150°C, 15min	2
PE-Standard 014	
Lap shear strength (steel/steel) [MPa]	
150°C, 15min	18
PE-Standard 013	
Lap shear strength at 100°C (steel/steel) [MPa]	
150°C, 15min	18
PE-Standard 013	
Lap shear strength at 150°C (steel/steel) [MPa]	
150°C, 15min	15
PE-Standard 013	
Lap shear strength (AlMg3/AlMg3) [MPa]	
150°C, 15min	14
PE-Standard 013	
Lap shear strength at 100°C (AIMg3/AIMg3) [MPa]	
150°C, 15min	16
PE-Standard 013	
Lap shear strength at 150°C (AIMg3/AIMg3) [MPa]	
150°C, 15min	16
PE-Standard 013	

After storage at 150°C (steel/steel)	
Lap shear strength [MPa]	
500h	19
PE-Standard 013	
Lap shear strength [MPa]	
1000h	21
PE-Standard 013	

After storage at 85°C/85% rel. humidity (steel/steel)	
Lap shear strength [MPa]	
500h	7
PE-Standard 013	
Lap shear strength [MPa]	
1000h	8
PF-Standard 013	

After storage at 25°C in motor oil 5W-30 (steel/steel)	
Lap shear strength [MPa]	
500h	13
PE-Standard 013	
Lap shear strength [MPa]	
1000h	13
PE-Standard 013	

After storage at 25°C in gear oil ATF 1100 (steel/steel)	
Lap shear strength [MPa]	
500h	17
PE-Standard 013	



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Lap shear strength [MPa]	
1000h	16
PE-Standard 013	

After storage at 25°C in salt water (7.5%) (steel/steel)	
Lap shear strength [MPa]	
500h	9
PE-Standard 013	
Lap shear strength [MPa]	
1000h	9
PE-Standard 013	

After storage at 85°C in water (steel/steel)	
Lap shear strength [MPa]	
500h	18
PE-Standard 013	
Lap shear strength [MPa]	
1000h	9
PE-Standard 013	

After storage at 25°C in water/glycol (1:1) (steel/steel)	
Lap shear strength [MPa]	
500h	15
PE-Standard 013	
Lap shear strength [MPa]	
1000h	15
PE-Standard 013	

Transport/Storage/Shelf Life

Package type	Transport	Storage	Shelf life*
Syringe/Cartridge	0°C 10°C	O°C – 10°C At delivery min. 3 months max. 6 months	,
Other packages	0°C – 10°C		

^{*}Store in original, unopened containers!

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Instructions for use

Surface preparation

The surfaces to be bonded should be free of dust, oil, grease, mold release, or other contaminants in order to obtain an optimal and reproducible bond. For cleaning we recommend the cleaner IP® from Panacol, or a solution of Isopropyl Alcohol at 90% or higher concentration. Substrates with low surface energy (e.g. polyethylene, polypropylene) must be pretreated in order to achieve sufficient adhesion.

Application

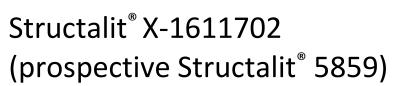
Our products are supplied ready to use. Depending on packaging they can be applied by hand directly from the container or by using compatible dispensing systems and automation. Many commercially available valve and controller options are available to ensure accurate and consistent adhesive dispensing. For assistance with dispensing and curing questions, please contact our Applications Engineering department. To obtain best results, the adhesive and substrates to be bonded may not be cold and should be allowed to warm to room temperature prior to processing. For safety information refer to our Material Safety Data Sheet (MSDS).

Storage

Store uncured product in its original, closed container in a dry location. Any material removed from the original container must not be returned to the container as it could be contaminated. Panacol cannot assume responsibility for products that were improperly stored, contaminated, or repackaged into other containers.

Handling and Clean-up

For safe handling information, consult this product's Material Safety Data Sheet (MSDS) prior to use. Uncured material may be wiped away from surfaces with organic solvents. Do not use solvents to remove material from eyes or skin!





Disclaimer

The product is free of heavy metals, PFOS and Phthalates and is conform to the current EU-Directive RoHS.

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