

EUROBOND Penloc GTI-Clear

Product Description

The methacrylic-based high-performance structural adhesives of the Penloc GTx series are two-component adhesives. They are ideal for bonding materials such as metal, glass, ceramics, wood and many plastics (except PE and PP). The Penloc GTx adhesives are easy to handle and versatile in use.

Penloc GTIClear is characterized by high transparency, excellent flexibility, high power transmission and good temperature resistance. Penloc GTI-Clear is a 2K high-performance methacrylic-based structural adhesive. Penloc GTI-Clear should be processed with a micro-static mixer, otherwise colour differences may occur in the edge area of the bonding.

Curing Properties

This product is a two-component adhesive. The adhesive can be cured at room temperature or thermally with the addition of heat after mixing the two components in the ratio indicated. Possible curing temperatures are listed in the table below.

The adhesive can be applied after mixing the components within the pot life. To determine the pot life, the time it takes to double the increase in viscosity after mixing of the two components is used.

Curing	Time
Pot life	3 min 20 sec
Mixing ratio	1:1
Handling strength	5 - 7 min
Full strength	4 - 6 Stunden

Technical Data

Resin	methacrylate
Appearance	transparent

Uncured material

Viscosity [mPas] (Brookfield LVT, 25°C, Sp 4, 30rpm) PE-Norm 001	5 000 - 6 000
Density [g/cm ³] PE- Norm 004	1,2
Flash point [°C] PE-Norm 050	>15

Contact Details

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Cured material

Hardness shore D PE-Norm 006	45 - 55
Temperature resistance [°C]	-40 - 120
Water absorption [mass %] PE-Norm 016	<8
Glass transition temperature DSC [°C] PE-Norm 009	50 - 55
Coefficient of thermal expansion [ppm/K] below Tg PE-Norm 017	22
Coefficient of thermal expansion [ppm/K] above Tg PE-Norm 017	253

Young's modulus E [MPa] PE-Norm 056	462
Tensile strength [MPa] PE-Norm 014	8
Elongation at break [%] PE-Norm 014	25
Lap shear strength (steel/steel) [MPa]	20
Lap shear strength (Al/Al) [MPa]	18
Lap shear strength (PC/PC) [MPa]	*5
Lap shear strength (PMMA/PMMA) [MPa]	*3
Lap shear strength (FR4/FR4) [MPa]	19

*substrate failure

Transport/Storage/Shelf Life

Trading unit	Transport	Storage	Shelf-life*
Cartridge	At room temperature max. 25°C	At room temperature max. 25°C	At delivery min. 4,5 months max. 9 months
Other packages			

*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 or other dirt in order to obtain an optimal and reproducible bond.

For cleaning we recommend the cleaner IPA 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 semi or fully automatically. With automated application from the cartridge the adhesive is conveyed by a compressed air-operated displacement plunger via a valve in the needle.

The cartridge must be raised 2 minutes vertically (tip up) before opening, to allow trapped air to rise. The cap should be kept for reclosure. In the case of black cartridges, the shutter must be pitched vertically and firmly on a hard surface. Two pins are drilled into the dosing channels.

With the dosage "bead on bead", both components are dosed separately by uniform pressure on the die. When dosing with a "Microstatic Mixer", both components are premixed.

Adhesive and substrate may not be cold and must be warmed up to room temperature prior to processing. After application, bonding of the parts should be done quickly.

For safety information refer to our safety data sheet.

DISCLAIMER

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any other process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy themselves as to the suitability of such information for their particular use.

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