Technical Data Sheet
Rev Date: 22.01.2024

EUROBOND Penloc 1:1R

Product Description

The methacrylic-based high-performance structural adhesives of the Penloc ® 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 ® 1:1R adhesive is easy to handle and versatile in use.

Penloc 1:1R is a structural adhesive based on methacrylate. Penloc ® 1:1R is characterized by excellent flexibility, high power transmission and good temperature resistance. Penloc ® 1:1R has a high flame point and a low odour. Penloc ® 1:1R is suitable for hard, non-porous materials such as metal, glass, ceramic, hardwood and many plastics.

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
Mixing ratio	1:1
Handling strength	5 min
Full strength	4 h

Technical Data

Resin	methacrylate
Appearance	white, blue

Uncured material

Viscosity [mPas]	4 000
Density [g/cm³] PE-Norm 004	1,0
Flash point [°C] PE-Norm 050	>80

Contact Details
TECHSiL Limited
Unit 34, Bidavon Industrial Estate, Waterloo Road, Bidford on Avon, Warwickshire, B50 4JN
+44(0)1789 773232 | sales@techsil.co.uk | www.eurobond-adhesives.co.uk

Cured material

Hardness shore D PE-Norm 006	65 - 75
Temperature resistance [°C]	-40 - 120
Shrinkage [%] PE-Norm 031	<8
Water absorption [mass %] PE-Norm 016	<10
Glass transition temperature DSC [°C] PE-Norm 009	79

Young's modulus E [MPa] PE-Norm 056	678
Tensile strength [MPa] PE-Norm 014	18
Elongation at break [%] PE-Norm 014	7
Lap shear strength (steel/steel) [MPa]	21
Lap shear strength (steel/steel) [MPa]	20
Lap shear strength (Al/Al) [MPa]	20
Lap shear strength (PC/PC) [MPa]	4
Lap shear strength (PA/PA) [MPa]	6
Lap shear strength (PVC/PVC) [MPa]	3
Lap shear strength (glass/glass) [MPa]	*6

* substrate failure

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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!

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 re-closure.

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

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