

PERMACOL[®] 5450 A/B**Clear PU-casting resin**

Diedenweg 94
NL-6717 KV EDE
The Netherlands

Tel. +31 (0)318 640740
Fax +31 (0)318 635099
E-mail: adhesives@permacol.nl
<http://www.permacol.nl>

General information

PERMACOL[®] 5450 A/B is a crystal clear 2-component polyurethane casting resin. After reaction with the liquid hardener, it forms a soft (rubbery), transparent, weatherproof and UV stable product. Therefore, this finished product is suitable for outdoor encapsulation applications. Both A and B component are solvent free.

Special features

PERMACOL[®] 5450 A/B is specially developed for flexible applications. The finished encapsulant has a high resistance against mechanical impacts, it remains colourless and intact after prolonged exposure to UV radiation, it is waterproof and it is inert to a variety of chemicals. Under proper processing conditions, the finished product is very homogeneous and highly transparent, which makes it ideally suited for the transmission and refraction of light in electronic devices and LED applications.

Key features

- Crystal clear
- UV stable
- Easy mixing

Product properties

| | |
|------------------------|---|
| Mixing ratio | : A : B = 100 : 100 (by weight and volume) |
| Pot-life | : 30 min./23°C, depending on volume |
| Setting time | : 2 hrs/23°C, depending on volume |
| Curing time | : 24 hrs/23°C |
| Colour | : clear, transparent (both components) |
| Density, mixture | : 1,12 gr/cm ³ |
| Viscosity | : resin 350, hardener 800, mixture 600 mPa.sec/20°C |
| Refractive index | : 1,48 |
| Hardness | : 25 ° Shore D |
| Thermal conductivity | : 0,16 W/m.K |
| Temperature resistance | : -30°C +100°C |

Precautions

Surface treatment: all surfaces have to be completely dry, clean and grease free. Sand metals and remove oxide film. Clean with eg. ethanol or acetone.

Preparation

In order to avoid air bubbles in the final product, it is advisable to process under vacuum. When using mixing/metering equipment, place the supply barrel under vacuum after (re)filling.

Mixing and casting

Always use the fixed mixing ratio indicated in the above table. During mixing, the product can become cloudy. This is a normal effect. In due time, this effect disappears, and the product becomes fully clear and transparent.

Good mixing is very important! When mixing is done by hand, placing the product under vacuum for a short period of time, after mixing improves the end result. Do not exceed the potlife. Once gelation takes place, the viscosity increases, and further processing (casting, potting, coating etc.) is severely hindered. Therefore, do not mix more material than can be processed. The reaction rate is influenced by the parameters of the casting process. At higher content to surface ratios of the casted product, the reaction is accelerated more. Thus, bulky devices take less time to fully react, than thin layers do. If processed within the gelation time, the product is free flowing and can be easily processed further, e.g. by pouring into a mould. After ca. 24 days, the reaction is complete, rendering the product its final strength. Only the complete reacted product complies with the table of finished product properties above. Do not expose incompletely reacted product to exterior or damaging conditions.

Storage stability

Keep the containers closed and store preferably at room temperature. The shelf life is 6 months. Opened containers of hardener should be used asap. Under influence of moisture in the air, the product's reactivity will gradually decrease.

Packaging

- tins 1, 2,5 or 5 kg
- Jerry can 5, 10 or 25 kg

Legal Disclaimer

The products of Permacol (the "Supplier"), are sold subject to the supplier's standard conditions of sale, which are included in applicable sales agreements, printed on the back side of invoices, or available upon request. Although the information, recommendations or advice contained herein is given in good faith, supplier makes no warranty or guarantee, express or implied, (I) that the results described herein will be obtained under end-use conditions, or (II) as to the effectiveness or safety of any design incorporating supplier's products, recommendations or advice. Nothing in this or any other document shall alter, vary, supersede or operate as a waiver of any of the supplier's standard conditions of sale.

Each user bears the full responsibility for making its own determination as to the suitability of Supplier's products, recommendations or advice for its own particular purpose. Each user must identify and perform tests and analyses sufficient to assure it that its finished parts will be safe and suitable for use under end-use conditions. Because actual use of products by the user is beyond the control of Supplier, such use is within the exclusive responsibility of the user, and Supplier cannot be held responsible for any loss incurred through incorrect or faulty use of the products. Further, no statement contained herein concerning a possible or suggested use of any product is intended or should be construed to grant any license under any patent or other intellectual property right of Supplier, or as a recommendation for the use of such material in the infringement of any patent or other intellectual property right.