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Polyurethane Resin PUR 435 in Combination with PUR N

Provisional Technical Datasheet

General information

PUR 435 is the liquid A-component of a 2-component polyurethane potting system. After reaction with the liquid B- component, **PUR N**, it forms a tough-flexible, transparent, weatherproof and UV stable product. Therefore, this finished product is ideal for outdoor encapsulation applications. Both A and B component are solvent-free.

Special features

PUR 435 is specially developed for outdoor, heavy duty applications. The finished encapsulation has a high resistance against mechanical impacts, it remains colourless and intact after prolonged exposure to UV radiation, it is waterproof,and it is highly inert to a variety of chemicals. Under proper processing conditions, the finished product is very homogenous and highly transparent, which makes it ideally suited for the transmission and refraction of light in electronic devices.

Technical characteristics

A and B component, before mixing:

	PUR 435	**PUR N**
Density @ 20°C [g/cm³]	1.10	1.15
Viscosity @ 20°C [mPas], Brookfield HAT, spindle 3, 50 rpm	ca 700	ca. 800
Refractive index	1.48	1.50
Appearance	colourless transparent	colourless transparent

Freshly mixed A and B component:

	PUR 435 / PUR N
Mixing ratio (parts by weight)	**100 : 150**
Mix viscosity @ 20°[mPas], Brookfield HAT, spindle 3, 50 rpm	ca. 400
Appearance	cloudy
Reactivity of 200 g mixture at ca. 20 °C starting temperature Gel time Hardening time	 ca. 30 min. ca. 2 hours

Finished product after 3 days or more:

	PUR 435 / PUR N
Shore hardness	ca. D 40
Thermal conductivity @ 20 °C	0.16 W/mK
Lin. Thermal expansion coefficient	170 ppm/K
Refractive index	1.48
Appearance	colourless, transparent

Recommendations in this bulletin related to technical application are given in good faith and to the best of our knowledge.They must be considered as indication without guarantee as the application of the product take place beyond our control.
Safety data according to EC Regulation (REACH) 1907/2006 art.31.

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Directions for processing (mixing/ metering equipment recommended)

Precautions

All parts of equipment and the final product, which come into contact with the mixed product, should be **dry**, **clean** and **fat- free**. The **A** component, **PUR 435**, is harmless. Be aware of safety instructions for working with the **B** component, **PUR N** (see Safety data sheet PUR N).

Preparation

In order to avoid air bubbles in the final product, both A component and B component should be processed under vacuumand dry conditions. 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. The ratio is given as weight to weight. During mixing, the product will become cloudy. This is a normal effect, due to a slight incompatibility of components. In due time, this effectdisappears, and the product becomes fully clear and transparent. However, make sure to avoid any bubbles in the product during mixing! When mixing is done by hand, place the product under vacuum for a short period of time, after mixing. Make sure not to exceed the gelation time of ca. 1 hour. Once gelation takes place, the viscosity increases, and furtherprocessing (casting, potting etc.) is severely hindered. Therefore, do not mix more material than can be processed. The gelation time is indicated for processing at ca 20 °C. The evolving reaction heat speeds up the reaction further. 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 more accelerated. 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 intoa mould. After ca. 2 hours, the product can be gently moved and handled, provided special care is taken to avoid damage.After ca. 3 days, the reaction is complete, rendering the product its final strength. Only the completely reacted product complies with the table of finished product properties above. Do not expose incompletely reacted product to exterior or damaging conditions.

Cleaning of parts:

Liquid residues can be removed using PD 100, special detergent product.

Storage

Keep the containers closed and store preferably at room temperature. The shelf life is 6 months. Opened containers of PUR G should be used as soon as possible. Under influence of moisture in the air, the product's reactivity will graduallydecrease.

Packaging

A component PUR 435:	5 l jerry can, 10 l drums, 225 l barrel
B component PUR N:	5 l jerry can, 10 l drums, 225 l barrel

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