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SILICONE ASSYST FOR PU WITH HARDENER FOR PU

Description
Silicone ASSYST for PU is a silicone elastomer that hardens at room temperature by a polycondensation reaction after the addition of hardener for silicone for PU, resulting in a flexible and elastic material.

Examples of applications
This silicone is specially designed for the production of moulds for casting polyurethane resins, for serial production. The use of the products can also be suggested for moulds in which other replicating materials are cast (such as wax, plaster, etc.).

Benefits
- ✓ Very high resistance to polyurethane resins, even those with a strong exothermic reaction
- ✓ Easy to process due to good flow behaviour.
- ✓ High mechanical resistance.
- ✓ Excellent reproduction fidelity of every detail.
- ✓ Easy to remove thanks to the intrinsic self-dissolving properties of silicone elastomers.
- ✓ Possibility to choose between three different hardness levels: 18 - 30 - 35 Shore A.

Characteristics of the uncured product silicone for PU

Viscosity (at 23°C, mPa.s, approx.)	35.000
Colour	white
Density	1.25

Curing:
100 parts by weight of silicone ASSYST for PU with 5 parts by weight of hardener for PU

Properties hardener for PU

Pot life (23°C, 50% rel. humidity, min.)	150
De-formation time (23°C, 50% rel. humidity, hours)	24

Characteristics of the cured product
Measures taken after 96 hours at 23°C and 50% relative humidity

Properties hardener	**24h**
Shore Hardness (Shore A)	30
Elongation to fracture (%, approx.)	350
Tensile strength (MPa, approx.)	3.0
Tear resistance (KN/m, approx.)	15

Processing
It is recommended to remix both base and catalyst before mixing them together.
1. Mixing the two components
To 100 parts silicone ASSYST for PU, add 5 parts of catalyst. Mix the two components thoroughly by means of an electric or pneumatic mixer at low speed in order to limit the inclusion of air in the mixture and the rise of temperature.
2. Degassing
After mixing base and catalyst, degassing is recommended to remove entrapped air. If processing is done by machine, both components are degassed before mixing.
The silicone ASSYST for PU is degassed under vacuum pressure of 30 to 50 mbar. Under vacuum pressure, the product expands 3 to 4 times its original volume and forms a bubble on the surface. This bubble disappears gradually and the mixture sinks back to its original volume within a few minutes. Release the vacuum and repeat the operation a few minutes later.

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Note: Release the vacuum several times to improve degassing. For easier degassing, fill a receiver only to 1/3 of its height.

3. Curing

The best curing conditions are at 23°C and 50% relative humidity. Using products at higher temperatures and/or relative humidity levels will shorten the application time and increase the cure rate. In contrast, lower temperatures and relative humidity levels will increase the application time and decrease the curing time. It is recommended not to use the product at temperatures below 20°C; under these conditions it is difficult to achieve the performance levels of the finished product. At 23°C and 50% relative humidity, the moulds can be removed after 24 hours, regardless of the thickness of the mould. To achieve the best possible performance levels of the moulds, you should preferably wait 4 days before using them.

How to use:

Apply silicone ASSYST for PU mixed with its hardener directly to the model by pouring and try to avoid air bubbles and voids. Models can be made from different materials, stones, concrete, metal, etc. Even though silicone does not naturally adhere to most materials, it is always advisable to prepare the model to avoid any risk of the silicone sticking and thus damaging the model. Remove dust and apply a pore-filler such as soapy water, wax diluted in xylene, etc. Partially used vessels should be resealed after each use.

Storage and shelf life:

When stored in the original, unopened packaging at a temperature between -5°C and +40°C:
- silicone ASSYST for PU can be stored for up to months12,
- Catalysts may be stored for a maximum of 12 months,

from the date of manufacture clearly indicated on the packaging.
After this date, ASSYST no longer guarantees that the products comply with the sales specifications.
Partially used drums must be resealed after each use.