ASSYST sprl / A.S.O.W. sprl
Hellegatstraat 13a - 2590 Berlaar - Belgium
Tel: +32 495 50 61 14 / +32 496 83 70 27
Website: www.assyst.org / www.artsuppliesonweb.com
Email: ao@assyst.org / vera.opsommer@assyst.org

SILICONE ASSYST 181 WITH HARDENER 6H / 24H / HARDENER THIXO

Description
The silicone ASSYST 181 is a silicone elastomer that, after the addition of a catalyst, hardens at room temperature to form a flexible and elastic material.

Examples of applications
Moulds for the production of parts made of various materials, such as plaster, wax, acrylic resin, polyester resin, epoxy resin and silicone elastomers, with the following application examples:
- Decorative articles: cornices, ornaments, statues,
- Figurines: toys, candles, statues, gift items
- Furnishing: Furniture and decorative parts
- Construction: decorative items, paving stones, columns
- Artistic foundries: moulds for the lost wax casting technique

Benefits
- Good fluidity.
- Excellent mechanical properties, especially tear strength.
- Excellent flexibility and low modulus facilitate the release from the mould.
- Range of catalysts allowing the silicone ASSYST 181 to meet the requirements of different applications:
- hardener 24h: standard kinetics (24 hour curing)
- hardener 6h: fast kinetics (6 hours curing)
- harder/thixo: thixotropic catalyst
These catalysts have the advantage of being odourless.

Characteristics of the uncured product silicone ASSYST 181

Viscosity (at 23°C, mPa.s, ISO 3219, approx.)	35.000
Colour	white
Density	1.2

Curing:
100 parts by weight of ASSYST 181 silicone with 5 parts by weight of hardener (6h / 24h / hardener-thixo)

Properties hardener 24h	**hardener 6h**	**hardener/thixo**	
Specificity	Standard	Fast	Thixotropic
Colour	Colourless	Colourless	Blue
Pot life (23°C, 50% rel. humidity, min.)	90 - 150	20 - 60	90 - 150
De-formation time (23°C, 50% rel. humidity, hours)	24	6	24

Characteristics of the cured product
Measures taken after 96 hours at 23°C

Properties hardener	**24h**	**hardener 6h**	**hardener/thixo**
Shore Hardness (Shore A)	25	28	24
Elongation to fracture (%, approx.)	450	440	450
Tensile strength (MPa, approx.)	4.0	4.2	3.0
Tear resistance (KN/m, approx.)	21	26	21
Linear shrinkage (%)	<0.7	<0.7	<0.7

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Processing

It is recommended to remix both base and catalyst before mixing them together.

1. Mixing the two components

To 100 parts silicone ASSYST 181, add 5 parts of the selected catalyst. Mix the two components thoroughly using an electric or pneumatic mixer at low speed in order to limit the inclusion of air in the mixture and the rise in 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 181 is degassed under vacuum pressure of 30 to 50 mbar. Under vacuum pressure, the product expands to 3 to 4 times its original volume and forms a bubble on the surface. This bubble gradually disappears and the mixture returns to its original volume within 5 to 10 minutes. Release the vacuum and repeat the operation a few minutes later.

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 membranes can be removed after 16 to 24 hours. To achieve the best possible performance levels of the membranes, you should preferably wait 24 hours before using them. The final properties are acquired after 3 days.

Storage and shelf life:

When stored in the original, unopened packaging at a temperature between -5°C and +30°C:
- silicone ASSYST 181 can be stored for up to 24 months,
- 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.