



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

SILASTIC™ RTV-3481 WITH HARDENER 3081 / 3081-R / 3081-F / 3081-VF and Thixo 3011

Description

High-strength silicone rubber

Features & Benefits

- Excellent release properties
- High fluidity and long working time
- Average hardness
- High tear resistance
- High elasticity, for easy removal of complex replica parts
- Can be made thixotropic (non-liquid) for vertical surface replication
- Choice of hardeners for special applications

Applications

- SILASTIC™ RTV-3481 is suitable for detailed reproduction of figures, art objects and similar items.

Typical characteristics

Ratio of silicone to hardener:

100 parts by weight of silicone with 5 parts by weight of hardener

Silicone colour:

white

Relative density at 25°C of the cured product:

1.21

Processing with hardener:

Type of mullet	Hardener 3081	Hardener 3081-F	Hardener 3081-VF	Hardener 3081-R
Characteristics	Standard	Fast	Very Fast	Resistant
Potlife of mixture at 23°C (min)	90-120	30-45	8-10	90-120
Mixed viscosity (mPas)	20.000	22.100	36.400	20.000

Characteristics after 48h curing

Type of Hardener	Hardener 3081	Hardener 3081-F	Hardener 3081-VF	Hardener 3081-R
Shore A hardness	24	23	25	19
Tensile strength, MPa	4.7	4.6	4.1	4.6
Elongation to fracture, %	544	543	438	622
Tensile strength, kN/m	26	24	25	26
Linear shrinkage, %	0.2-0.4	0.2-0.4	0.2-0.4	0.2-0.4
Max. curing time, hours	24	6	2	24

Description

SILASTIC™ RTV-3481 Mold-Making Rubber is a two-part material consisting of SILASTIC™ RTV-3481 Base which, when mixed with a SILASTIC™ RTV-3081 Mold-Making Curing Agent, cures at room temperature by a condensation reaction. A range of materials can be poured into the cured silicone mould: plaster, polyurethane and polyester resins are typical.

How to use

Substrate preparation

The surface of the original must be clean and free of loose material. If necessary, and especially for porous surfaces, use a suitable release agent such as Vaseline or soap solution.



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

Mixing

Stir SILASTIC™ RTV-3481 Base thoroughly before use as prolonged storage may cause the filling to separate. Weigh 100 parts SILASTIC™ RTV-3481 Base and 5 parts SILASTIC™ RTV-3081 Curing Agent into a clean container. Mix until the curing agent is completely dispersed in the base. Manual or mechanical mixing may be used, but do not mix for extended periods or allow the temperature to exceed 35°C (95°F). Mix in small enough quantities to ensure thorough mixing of base and hardener. It is strongly recommended to remove trapped air in a vacuum chamber to allow the mixture to expand completely and then to collapse. After another 1-2 minutes under vacuum the mixture should be inspected and can be used if it is free from air bubbles. A volume increase of 3-5 times will occur when vacuum venting the mixture, so a suitable large container should be chosen.

Note that prolonged vacuum removes volatile components from the mixture and can result in poor curing of thick sections and non-typical properties.

Note: If vacuum de-aeration equipment is not available, air entrapment can be minimised by mixing a small amount of SILASTIC™ RTV-3481 Base and SILASTIC™ RTV-3081 Curing Agent and then using a brush to paint the original with a 1- 2 mm layer. Leave at room temperature until the surface is bubble-free and the layer begins to harden. Mix another amount of base and curing agent and proceed as follows to make a final mould.

Pouring and curing the mixture

Pour the mixed SILASTIC™ RTV-3481 Base and SILASTIC™ RTV-3081 Curing Agent onto the original as soon as possible to avoid air inclusion. The catalysed material will cure to a flexible rubber within 24 hours (or faster when SILASTIC™ RTV-3081 Curing Agent or SILASTIC™ RTV-3081-VF Mold-Curing Agent is used) at room temperature (22-24°C / 71.6-75.2°F) and the mould can then be separated from the material. If the working temperature is considerably lower, the curing time will be longer. If the room temperature or humidity is very high, the working time of the catalysed mixture will be shortened. The final mechanical properties of the mould are achieved within 7 days.

Additional Information

Reproduction of vertical surfaces If a skin shape is required from a vertical object or surface and cannot be made with normal casting techniques, the catalysed mixture can be made spatulable by adding XIAMETER™ RTV-3011 Thixo Additive.

1. Prepare the original as previously described.
2. Coat the original with a thin layer of catalysed mixture. When the first layer has cured, repeat the operation to achieve a layer thickness of > 2 mm. Allow to cure at room temperature until the material is tacky.
3. Prepare a new catalysed mixture of SILASTIC™ RTV-3481 Base and add 3 parts by weight of XIAMETER™ RTV-3011 Thixo Additive and mix thoroughly until a paste consistency is achieved. De-aeration of the mixture is not required.
4. Using a spatula, cover the coated original with the thixotropic coating until the desired thickness is obtained; allow to cure for 24 hours, or less if SILASTIC™ RTV-3081 Curing Agent or SILASTIC™ RTV-3081-VF Curing Agent is used, at room temperature.
5. Build a support mould with polyester resin or plaster and allow it to come into contact with the silicone coating. Carefully remove the support mould. Pull the rubber off the original and place it in the support mould.

Other hardeners

The standard hardener for SILASTIC™ RTV-3481 Base is SILASTIC™ RTV-3081 Curing Agent. For special requirements, we offer a range of additional hardeners:

- SILASTIC™ RTV-3081: hardener for demoulding after 6 hours.
- SILASTIC™ RTV-3081-VF: Hardener to deform after 2 hours.
- SILASTIC™ RTV-3081-R: Hardener for improved mould life with polyester casting resins.
- SILASTIC™ RTV-3081-F: Hardener for moulds and SILASTIC™ RTV-3081-VF hardener are fast curing agents and give a shorter processing time.



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

Use at high temperatures

Some moulds made of condensation-curing silicone rubbers may degrade when exposed to temperatures above 150°C (302°F) for a period of time or when stored at high ambient temperatures. This can result in softening and loss of elastic properties.

Resistance to casting materials

The chemical resistance of fully cured SILASTIC™ RTV-3481 Base is excellent and comparable to all condensation-curing silicone elastomers. However, it should be noted that resins and other aggressive moulding materials will eventually corrode silicone moulds, altering physical properties, surface emissivity and possibly mould dimensions. Moulds should be checked periodically during long production runs.

Note: SILASTIC™ RTV-3481 Base is an industrial product and should not be used in food, dental or human skin moulding applications.

Usable life and storage

Product should be stored at or below 32°C (89.6°F) in original unopened containers.

Restrictions

This product has not been tested or suggested as suitable for medical or pharmaceutical use.