

Data sheet: RENSIL silicone rubber

Description	RENSIL is a two-component, addition cured liquid silicone rubber designed for mould making. RENSIL cures to a translucent high strength elastic silicone rubber.		
Features	Excellent moulding durability with the Renishaw range of vacuum casting polyurethane resins. Excellent release characteristics. Excellent tear and tensile strength. Low viscosity.		
Suitable for	Vacuum casting silicone moulds for prototyping and low volume production using polyurethane resins. Silicone moulds for vacuum wax casting.		
Cured properties			Test / ISO standard where applicable
Colour	Colourless		
Transparency	Translucent		
Tensile strength	6.0 MPa		
Elongation break	400 %		
Tear strength - crescent	20 N/mm ²		
Tear strength - angle	26 N/mm ²		
Specific gravity	1.08 g/cm ³		
Shore hardness	37 A		
Processing information			Notes
Unmixed viscosity	RENSIL A	55 000 MPa.s	At 23 °C
	RENSIL B	5 000 MPa.s	At 23 °C
Mixed viscosity A:B	35 000 MPa.s		At 23 °C
Mix ratio A:B	100:10		Parts by weight
Pot life	RENSIL A:B	2 hr	At 23 °C
Curing time in mould	RENSIL A:B	24 hrs	At 23 °C

The information in this data sheet is provided for general guidance only and must not be relied upon as a definitive statement of the product's properties or suitability. Renishaw will not be liable for the consequences of any decision by you to use the product and you must conduct your own testing to determine whether or not the product is suitable for your needs.

Handling procedure

Casting procedure

- Weigh the silicone and catalyst in the ratio indicated overleaf.
- Combine the silicone and catalyst, and mix well, scraping the sides and bottom of the mixing container to ensure that there are no unmixed pockets of material.
- Start the vacuum process to extract all air out of the mixed silicone, this usually takes around 10 mins to 15 mins.
- Ensure that enough volume remains in the mixing container to accommodate the action of the material as the air is extracted out of the mix. Silicone rubber can expand up to 7 times its original volume during the degassing process.
- Pour the mixed silicone and catalyst into the mould frame in a slow and steady stream to allow the silicone to flow freely around and over the model.
- For full instructions on casting procedures refer to Vacuum casting techniques user guide, H-5800-0660, available at www.renishaw.com

Special notes

- Certain materials containing water, sulphur, amine, organometallic compounds or phosphorus compounds, such as condensation cure silicone rubbers, clays, wood resins, synthetic rubbers, adhesive tapes, waxes and paints can cause cure inhibition. It is recommended that a preliminary test be performed to determine the compatibility.
- It is recommended to use a Renishaw vacuum mixer for this work.
- It is important that a clean dry container and mixing paddle is used to avoid adding dirt or contaminants to the mix.

- If a Renishaw vacuum mixer is not available then the mixed material should be left in the container and placed into a Renishaw vacuum casting machine.
- Patch testing is advisable prior to use to avoid inhibition

Product information

- **Storage**
Store in a cool, dry and dark place.
Keep out of the reach of children.
- **Secondary degassing**
Secondary degassing is recommended once pouring of the mould is completed. This is to eliminate voids around or under the model if air has been trapped while pouring. It is important to ensure that the whole degassing process is carried out well within the working time of the mixed silicone.



Please follow the correct procedure for use in your vacuum casting system, as set out in its operating instructions.



Always follow the instructions in the Product Safety Data Sheets and always work in accordance with the safety instructions of the materials manufacturer. Safety Data Sheets can be found at www.renishaw.com.



Wear suitable respiratory protection, safety gloves and safety goggles during the entire filling procedure in accordance with the Product Safety Data Sheets.

