Barnes **Technical Data Sheet**

## Product Name

# ELASTOSIL® M4503 & T51 (New Catalyst Formula) Wacker RTV-2 Silicone Rubber

## Product Description

Pourable, condensation-curing, two component silicone rubber that cures at room temperature and features:

- Good Flow
- Low Shore A Hardness (approx 25)
- High Tear Strength
- Great extensibility and elasticity
- Excellent long-term stability of the mechanical properties of the cured rubber
- High resistance to most casting resins & related products

## Typical Applications

Due to the excellent mechanical properties of the cured rubber as well as its high resistance to casting resin, ELASTOSIL® M4503 is especially suitable for reproducing models with pronounced undercuts in casting resins.

Other materials, such as wax and plaster, may be cast without any problems in moulds made from M4503.

## Physical Properties

**Product Data / Uncured**

| | | | |
|---|---|---|---|
| Colour | | | White |
| Density @ 23ºC | | [g/cm³] | 1.17 |
| Viscosity @ 23ºC, after stirring | Brookfield | [mPa s] | 40 000 |
| With 7.5% wt Catalyst T51 | | | |
| Viscosity @ 23ºC | Brookfield | [mPa s] | 38 000 |

**Product Data / Cured** – with 7.5% wt T51, after 7 days @ 23ºC / 50% relative humidity

| | | | |
|---|---|---|---|
| Density at 23ºC, in water | ISO 2781 | [g/cm³] | 1.16 |
| Hardness, Shore A | ISO 867 | | 25 +/-3 |
| Tensile Strength | ISO 37 | [N/mm²] | 5.0 |
| Elongation at Break | ISO 37 | [%] | 350 |
| Tear Strength | ASTM D 624, B | [N/mm²] | > 20 |
| Linear Shrinkage | | [%] | 0.5 |

## Handling Properties

**Processing**

| | | |
|---|---|---|
| With 7.5% wt Catalyst T51 | 30 [min] Pot life | 10-20 [hr] Curing Time (tack free) |

The pot life figure indicates the average time at 23ºC / 50% RH required for the catalyzed mix to remain pourable. Tests have shown that a longer Pot Life has been achieved with varying temperature and humidity

## THIXOTROPIC ADDITIVE C

Thixotropic C is a colourless, cloudy, medium viscosity liquid that is exclusively used in M4503 which is flowable as supplied.

The more additive that is added to the rubber mass, the thicker the mass becomes. Thus, a wide range of thixotropic states can be achieved, including a fully non-sag state. This is ideal for creating skin moulds and for applying the material evenly to inclined or vertical surfaces using a brush, spatula, or trowel.

**Processing**

| | | |
|---|---|---|
| Thixotropic Additive C | [wt %] total mix | 0.5 – 2.0 |

- Ensure that the Thixo C bottle is well shaken prior to use to avoid any potential separation that has occurred during storage.
- Adding 0.5% the mix will still be thin enough to flow into fine details, making it ideal for the proof coat or first layer of a brush up mould
- Adding 2% the mix will fast become very thick and achieve a buttery consistency, making it ideal for subsequent backing / build up layers
- The ability to vary the addition levels between 0.5-2% allows the user to create their preferred consistency.
- We always suggest using the Barnes Products range of Silicone Pigments for varying layers. This enables you to easily determine the thickness and application of multiple layers
- Note that Thixotropic Additive C will also reduce the worktime of the mix as it acts as a slight accelerant

## Storage

Elastosil® M4503 has a shelf life of at least 12 months in the sealed container between 5ºC and 30ºC. If the material is kept beyond 12 months it is not necessarily unusable, but a test should be performed on the product to check suitability to the application.

## Notes

Further information on processing silicone can be found in the Wacker leaflet “Processing RTV-2 Silicone Rubbers”. Check with your Barnes Representative for a copy of this leaflet.

## Issue Date

20th October 2025

## Revision Number

6

## Disclaimer