Barnes **Technical Data Sheet**

Product Name

ELASTOSIL® M4503
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 casting resins, particularly polyester

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]	45 000
With 5% wt Catalyst T35			
Viscosity @ 23ºC	Brookfield	[mPa s]	40 000

Product Data / Cured – with 5% wt T35, after 7 days @ 23ºC / 50% relative humidity

Density at 23ºC, in water	ISO 2781	[g/cm³]	1.16
Hardness, Shore A	ISO 867		25
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
Coefficient of Linear Expansion	0-150ºC	[m/m K]	2.0 x 10(-4)

Handling Properties

Processing

With 5% wt Catalyst T35	90 [min] Pot life	15-20 [hr] Curing Time (tack free)

The pot life figure indicates the time at 23ºC / 50% RH required for the catalysed mix to attain a viscosity of 100 000 mPa s and still be just pourable.

Handling Properties 2

ELASTOSIL® M4503 curing times can be adjusted by the addition and variation of T47 Catalyst. The figures given are an indication only and testing should always be performed prior to pouring your mould. Note that the increase in T47 will greatly reduce pot life and curing times. Accelerated catalysts will also reduce the life expectancy of the mould.

Catalyst T47 is not supplied with the standard kit.

Processing

Catalyst	Parts by Weight	Pot Life [min]	Curing Time [hr]
T35	5%	90	15-20
T35 (90) : T47 (10)	5%	20-40	6-8
T35 (80) : T47 (20)	5%	10-20	2-4
T47	5%	3-10	1-2

( ) = this is a blended mix of the T35 and T47 Catalysts

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 added to the rubber mass, the thicker the mass becomes. Thus, the whole range of thixotropic states can be attained, including the fully non-sag state. This is most ideal for creating skin moulds and applying evenly to inclined or vertical surfaces by brush, spatula or trowel.

Processing

Thixotropic Additive C	[wt %]	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.

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.

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