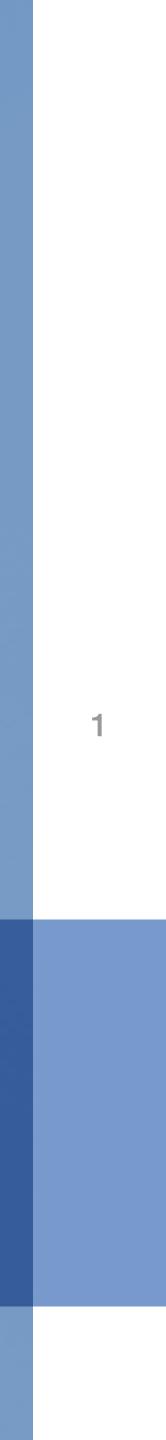
# SILICONE RUBBER FOR MOLDMAKING, PROTOTYPE CASTING AND PAD PRINTING

MOLDMAKING



### CREATING TOMORROW'S SOLUTIONS



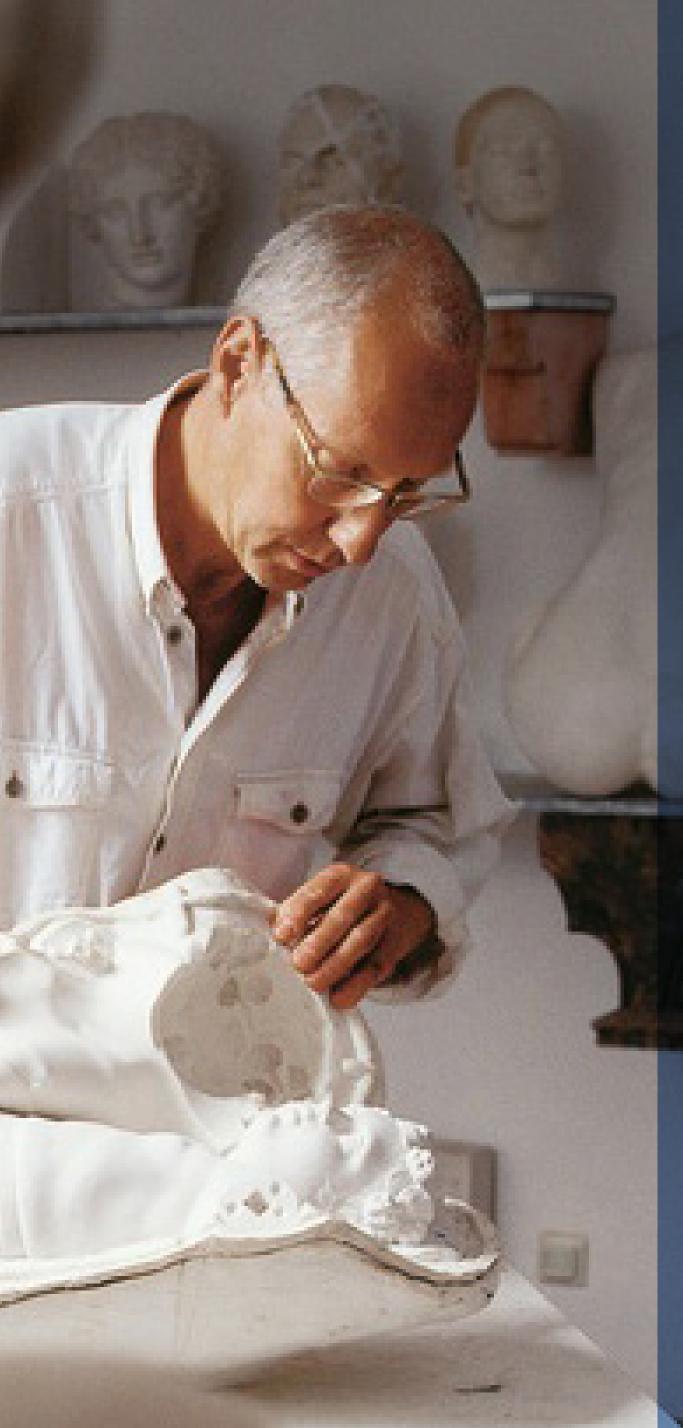
# SIMPLY FLEXIBLE MOLDMAKING WITH SILICONES

Making a boat hull, a chocolate, a bronze sculpture or a prototype? Silicone rubber is the material of choice for moldmaking in many different situations.

The following pages will show you how to use silicones to make your project a reality.

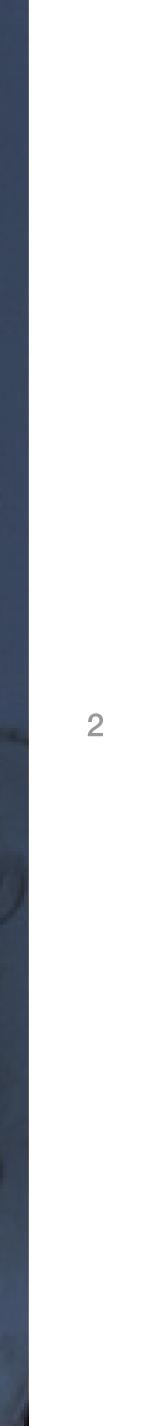
Rigid vs. flexible molds

ELASTOSIL<sup>®</sup> and WACKER<sup>®</sup> are registered trade marks of Wacker Chemie AG.



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# WHY SILICONE ELASTOMERS?

ELASTOSIL® M silicone rubber products have unique properties that pay off especially in moldmaking and prototyping. The diverse product range means you can find the right moldmaking compound to meet your special requirements no matter what the task.





"I've used different materials at other locations. But with silicone, it was love at first sight. It's easy to mix, easy to use, feels good and accurately reproduces the details on the original."

Prof. Annamaria Baciu, restorer for the Old Casino, Arad, Romania



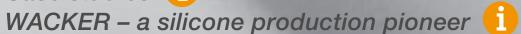
ELASTOSIL® M products are two-part, roomtemperature-vulcanizing (RTV-2) silicone molding compounds. ELASTOSIL<sup>®</sup> M silicone rubber grades are known for their quality and are used in an extraordinarily wide range of applications.

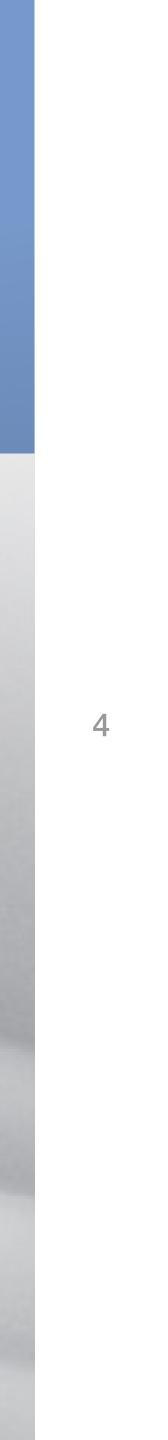
"Silicone gives us a chance to create something hyperrealistic for the first time."

Brigitte Frank, head of the makeup and hairstyling team, Munich Kammerspiele

Case studies (1)

# WHY ELASTOSIL® M?





# ELASTOSIL® MOLDMAKING AND PAD PRINTING APPLICATIONS



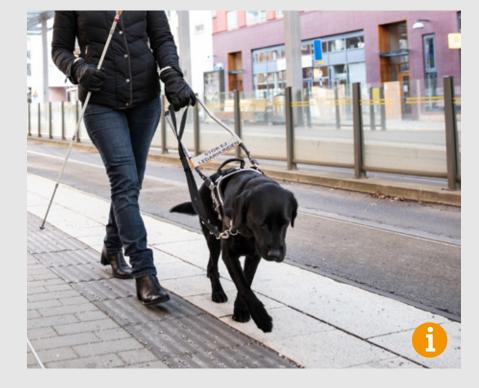
Pads for pad printing on keyboards, toys, athletic gear and automobile components



Reproduction of artworks for restoration and for museums



Prototyping (visualization, working and preseries models) and small-scale production



Molds for concrete and artificial stone in facade elements, face brick, tiles and plumbing fixtures



Molds for jewelery / the lost wax process



Molds for cakes, cake decoration, chocolates, desserts, etc.



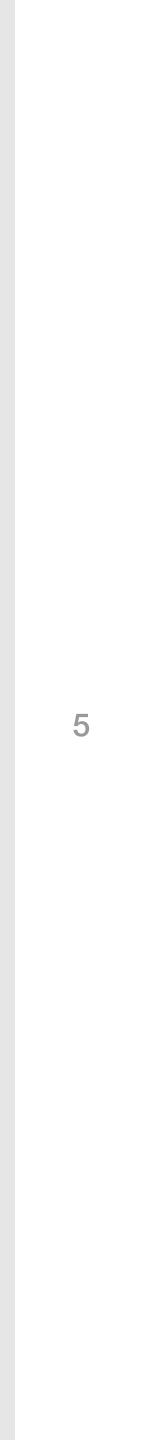
Vacuum bags for infusion and prepreg processes in composite molding



Lifecasting, masks, prosthetics and moldmaking for theater and film

Molds for manufacturing tire production molds and for developing new tires

Creative moldmaking: molds for candles and soap, crafting and DIY



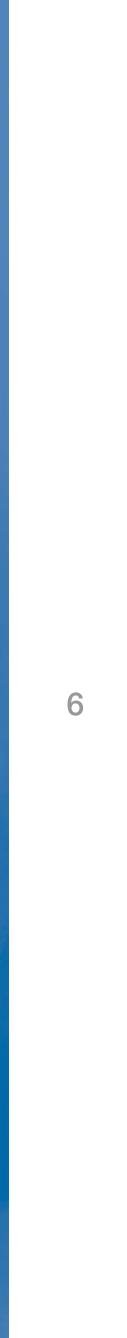
# WHAT MOLDMAKING TECHNIQUES ARE THERE?

Silicone moldmaking compounds are suitable for reproducing surface details or entire objects with outstanding accuracy.

Uses range from single and multi-part block and skin molds to casting, impression and spreading techniques.

This versatility makes it exceptionally easy to find the right moldmaking technique for every need.



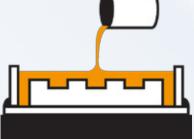


# MOLDMAKING TECHNIQUE 1: BLOCK MOLDS

### ADVANTAGES: Molds are highly stable and ready for immediate casting

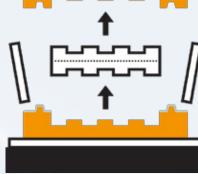
**1. Casting Technique** 





Place the model in a molding box and fill it with silicone rubber





Demolding

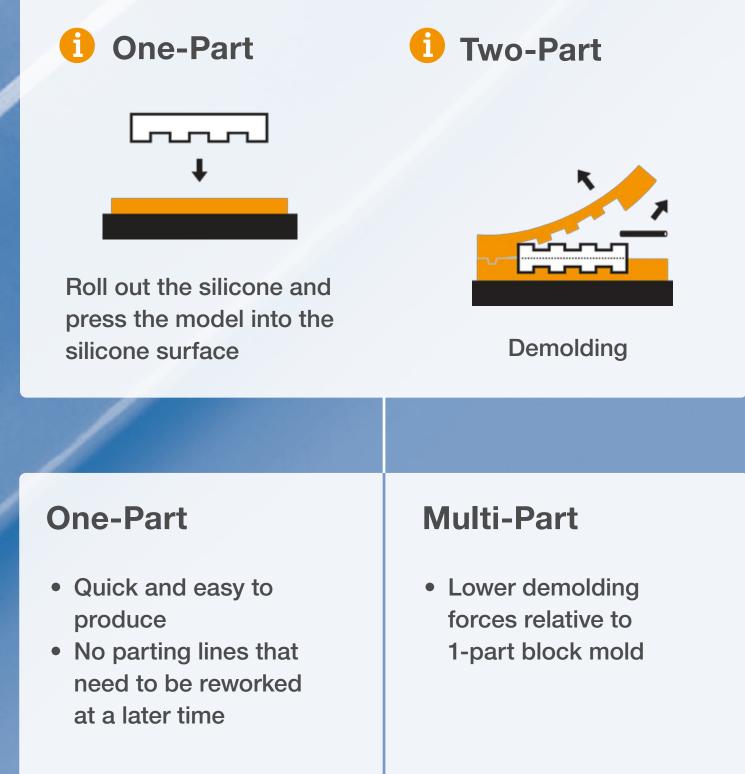
#### **One-Part**

- Quick and easy to produce
- No parting lines that need to be reworked at a later time

### **Multi-Part**

 Lower demolding forces relative to 1-part block mold





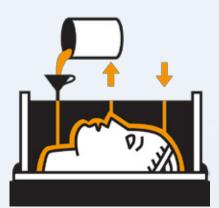


# MOLDMAKING TECHNIQUE 2: SKIN MOLD

ADVANTAGES: Low demolding forces, suitable even for extreme undercuts and cavities







Pour silicone rubber into mold





Demold casting

#### **One-Part**

• No parting lines that need to be reworked at a later time

### **Multi-Part**

• Lower demolding forces than for a 1-part mold



- 2. Brush Application

**1** One-Part

Apply silicone rubber

1 Two-Part



Demold casting

### **One-Part**

• No parting lines that need to be reworked at a later time

### **Multi-Part**

• Lower demolding forces than for a 1-part mold



# MOLDMAKING TECHNIQUE 3: SPECIALTY TECHNIQUES

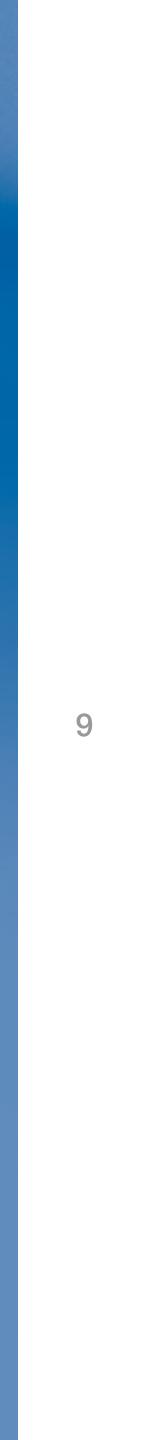
ENDLESS POSSIBILITIES: Silicone rubber can be used for developing an extraordinarily wide range of methods and techniques

1. Electroplating 3. Printing pads for pad printing

2. Vacuum bags for composite molding

5. Silicone molds for metal and glass casting

4. Silicone molds for vacuum casting



# WHICH SILICONE RUBBER PRODUCT IS RIGHT FOR ME?

ELASTOSIL<sup>®</sup> M offers optimum solutions to a variety of applications. The following pages will help you find them.

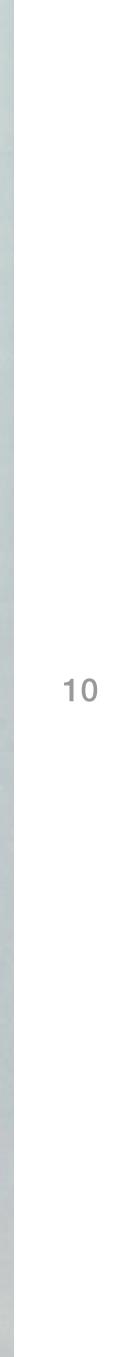
#### **Key Considerations**

A few basic questions will help you find the right silicone rubber product. The crosslinking mechanism is one of the most important ones. Other important factors that will help you select a product, however, include pot life, reproduction material and desired number of copies.

### **Quick Selection Guide**

The quick selection guide will give you some initial recommendations for the product that's right for your application.





# WHICH CURING METHOD IS MOST SUITABLE?

## Addition-curing ELASTOSIL® M products are characterized by the following:

- Maximum reproduction accuracy
- Dimensional stability (no shrinkage)
- Multiple copies can be made from a single mold
- Suitable for rapid curing, which can be further accelerated through the application of heat (crosslinking between 15 °C and 200 °C)
- No volatile reaction products
- Ready for use immediately after demolding
- Curing can be disrupted by substances that block the platinum catalyst (inhibition).

### 6



Mixing for addition: A + B (1:1, 9:1 or 10:1) Like all silicone moldmaking compounds, ELASTOSIL<sup>®</sup> M silicone rubber products are two-part compounds. Mixing the two components initiates the crosslinking process. Our portfolio contains two product groups that differ in terms of their crosslinking mechanism and specific advantages.

## Condensation-curing ELASTOSIL<sup>®</sup> M products are characterized by the following:

- A cost-effective option for making highly faithful reproductions
- No risk of inhibition
- Crosslinking occurs at temperatures ranging between 15 °C and 70 °C; relative humidity needs to be above 40%.
- Shrinkage of the cured rubber is between 0.4-0.8%, depending on the grade and amount of catalyst.



Mixing for condensation:

Base + hardening agent

100 + 2-5% (standard)

+ 1-2% (specials)



# KEY CONSIDERATIONS

In order to find the right ELASTOSIL<sup>®</sup> silicone rubber, it helps to consider the following questions:

Do the dimensions of the replica need to be faithful? What material will the replica be made of? • How quickly does the mold need to be ready? Will I be working on vertical surfaces or overhead? Is good flowability important? • How hard or soft does the finished mold need to be? • Will the mold be subject to strong forces? • Are there special requirements?

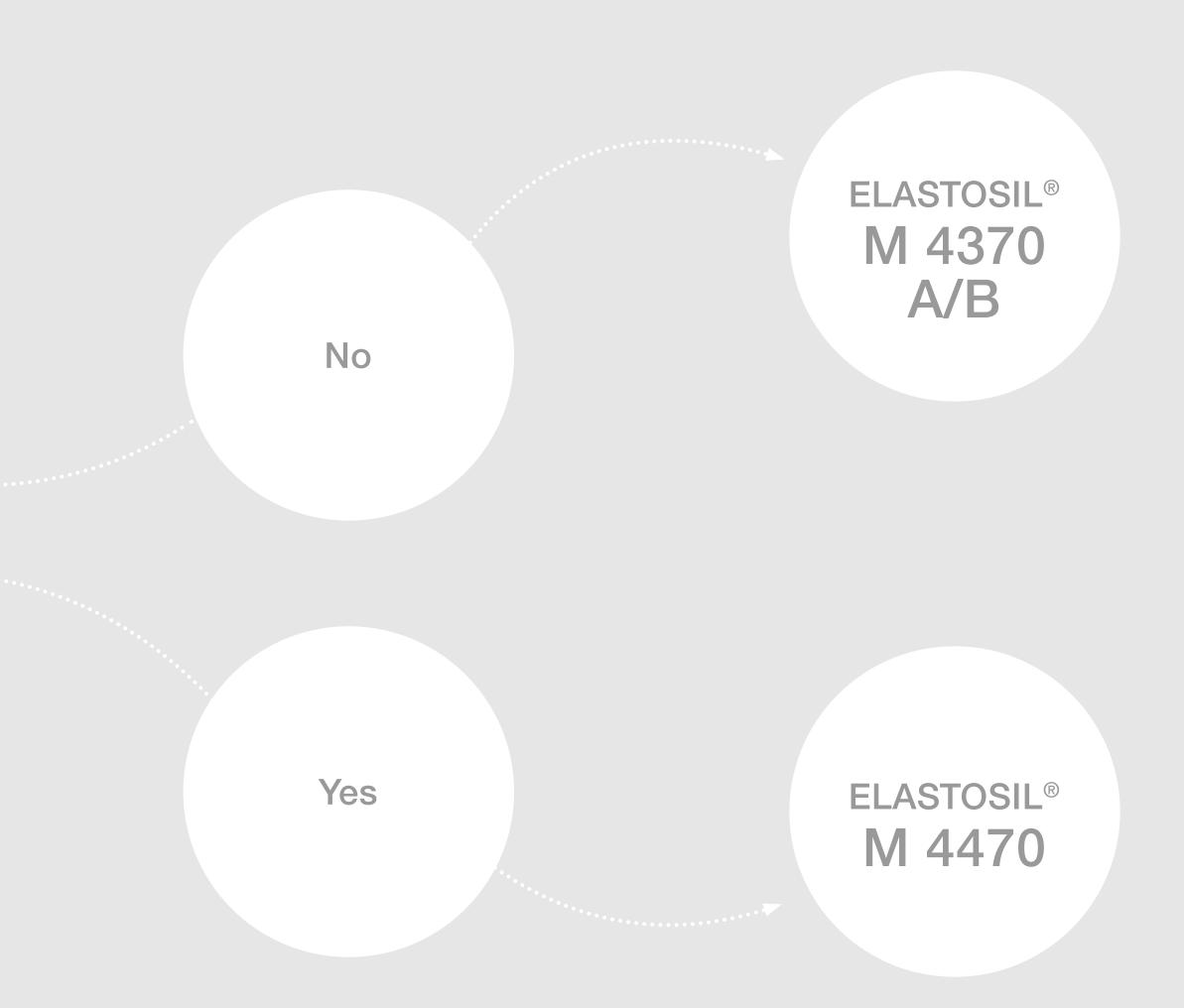


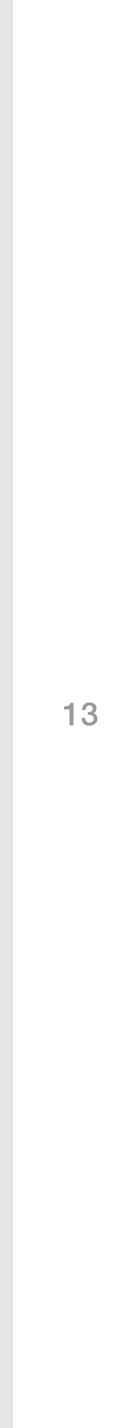
# REPRODUCTION MOLDING

**Quick Selection Guide** 



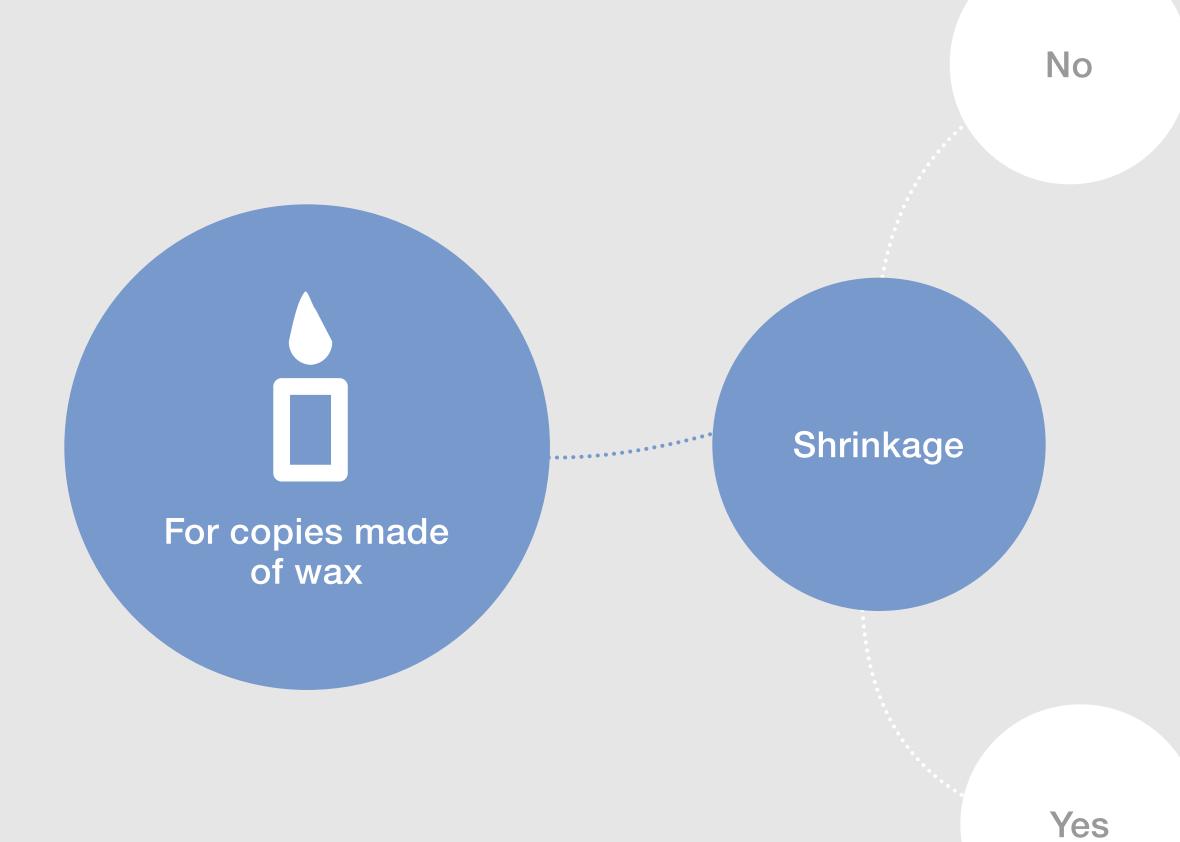
Shrinkage



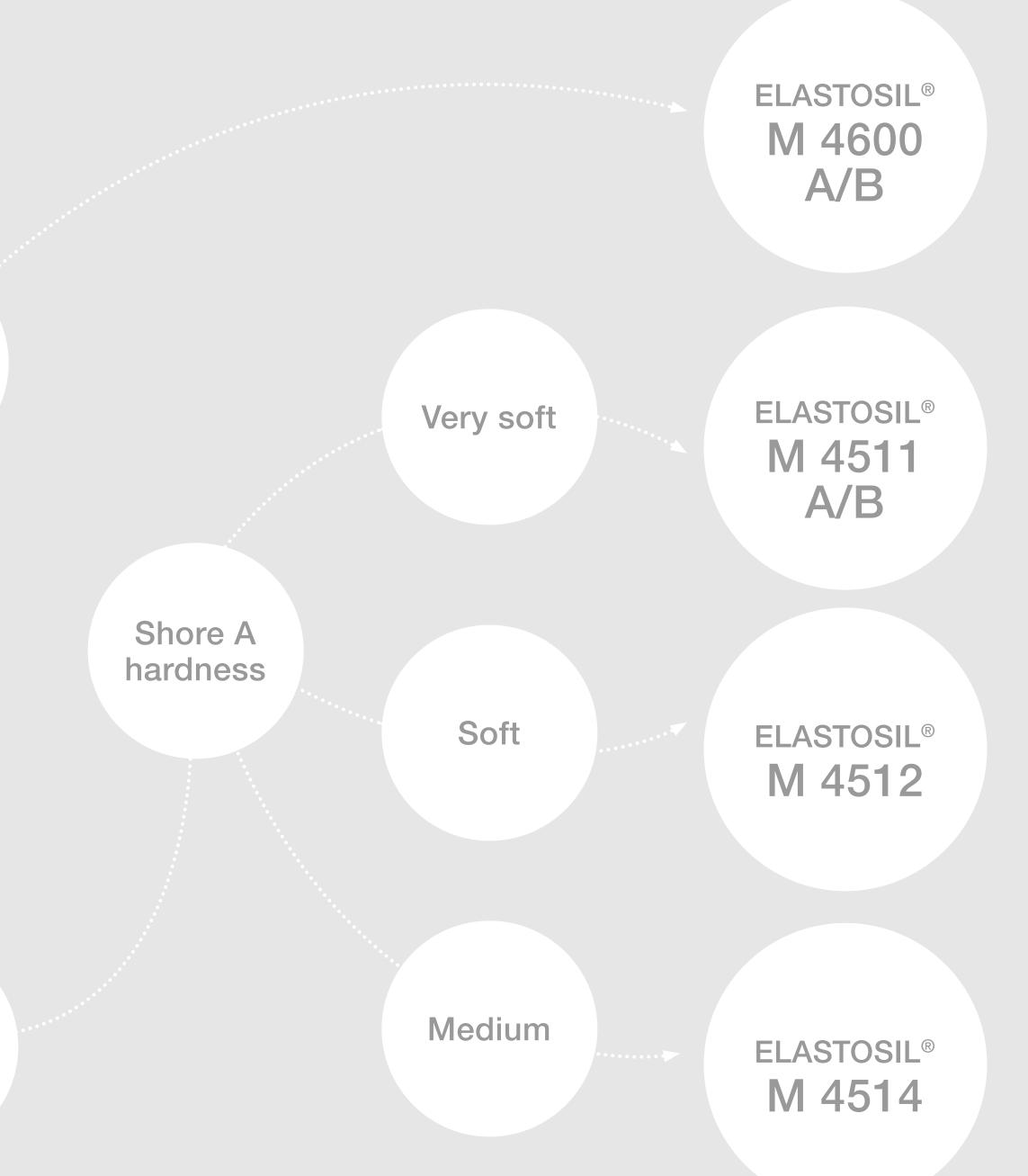


# REPRODUCTION MOLDING

#### **Quick Selection Guide**



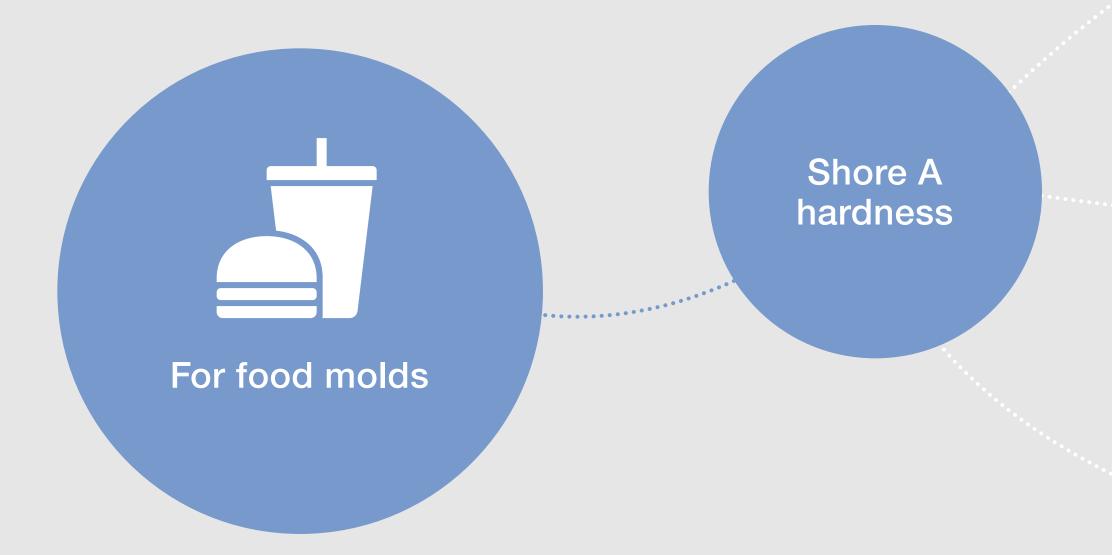
**Reset selection** 





# REPRODUCTION MOLDING

#### **Quick Selection Guide**



ELASTOSIL® M 4600 A/B

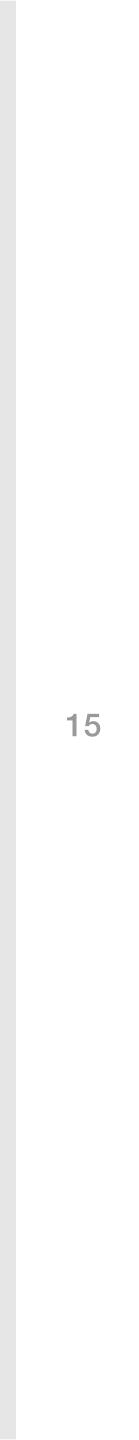
> ELASTOSIL® M 4601 A/B

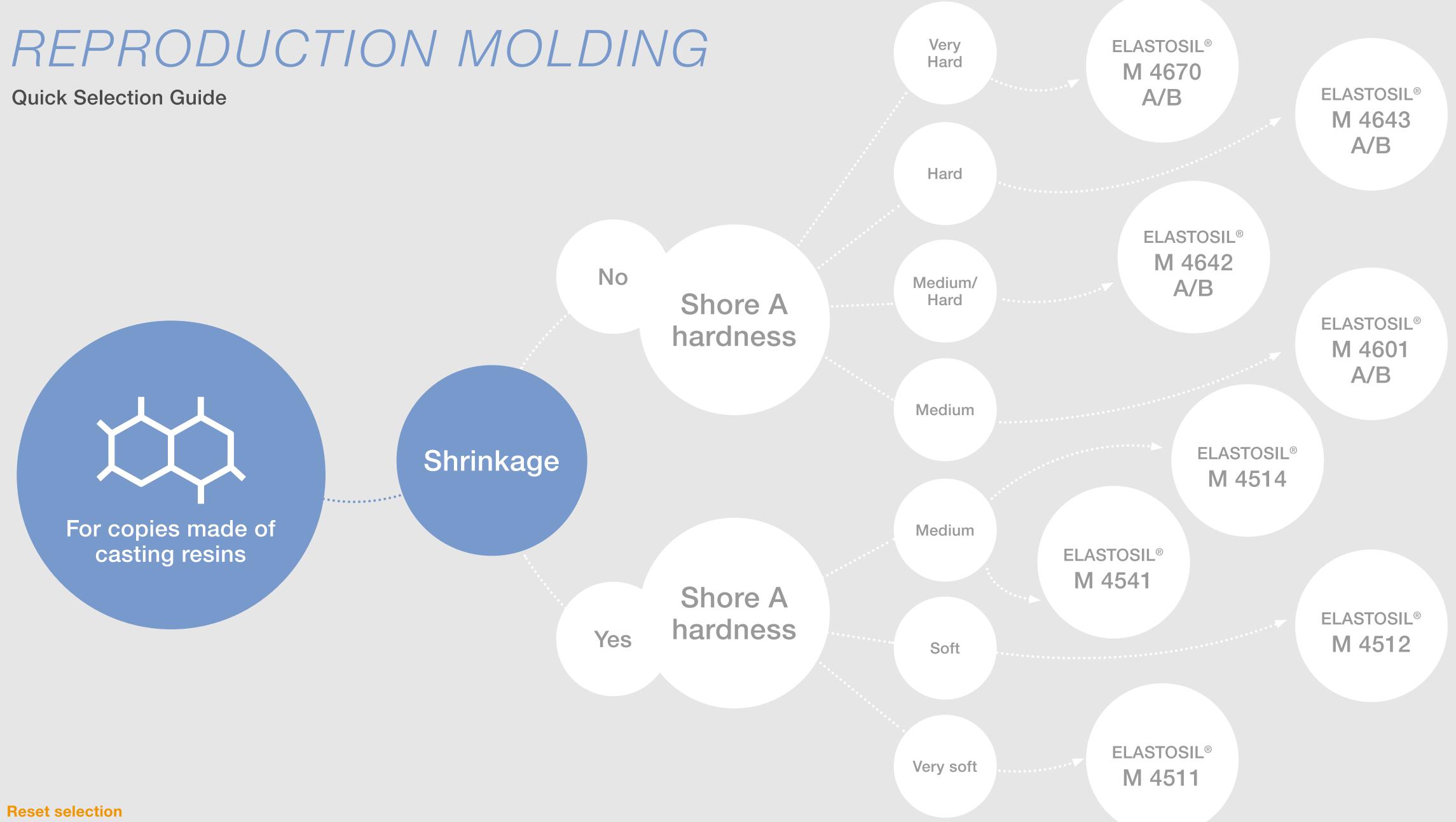
Hard

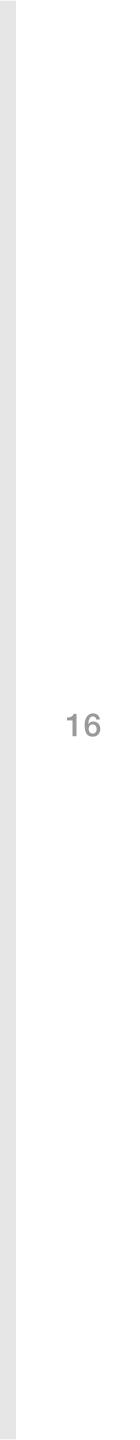
ELASTOSIL® M 4643 A/B

Soft

Medium







# CONSTRUCTION MOLDING (Concrete and Gypsum Casting)

**Quick Selection Guide** 

### Shore A hardness

Medium/hard

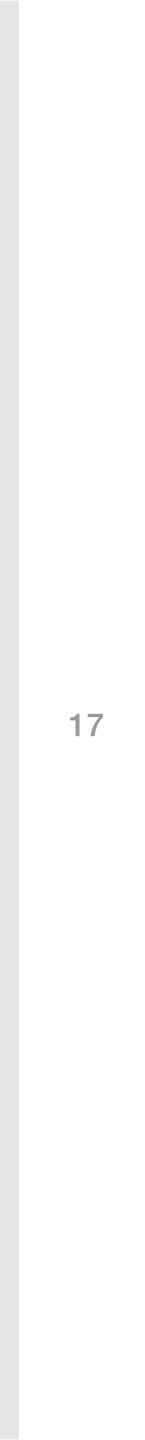
Soft

**ELASTOSIL**<sup>®</sup> M 4600

Medium

**ELASTOSIL**<sup>®</sup> M 4630 A/B

**ELASTOSIL**<sup>®</sup> M 4635 A/B



# COMPOSITE MOLDING

#### **Quick Selection Guide**



Shore A hardness



(pressure intensifiers, spacers, bellows, shaft keys)



ELASTOSIL® M 4601 A/B

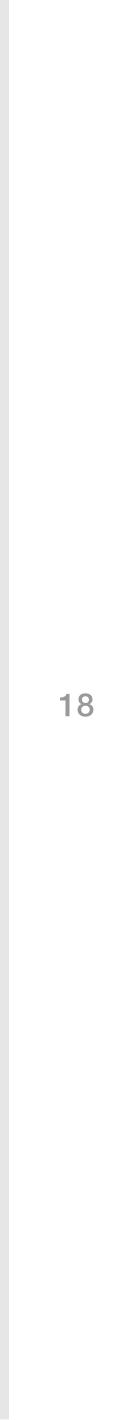
Medium/hard

ELASTOSIL® M 4642 A/B

Very hard

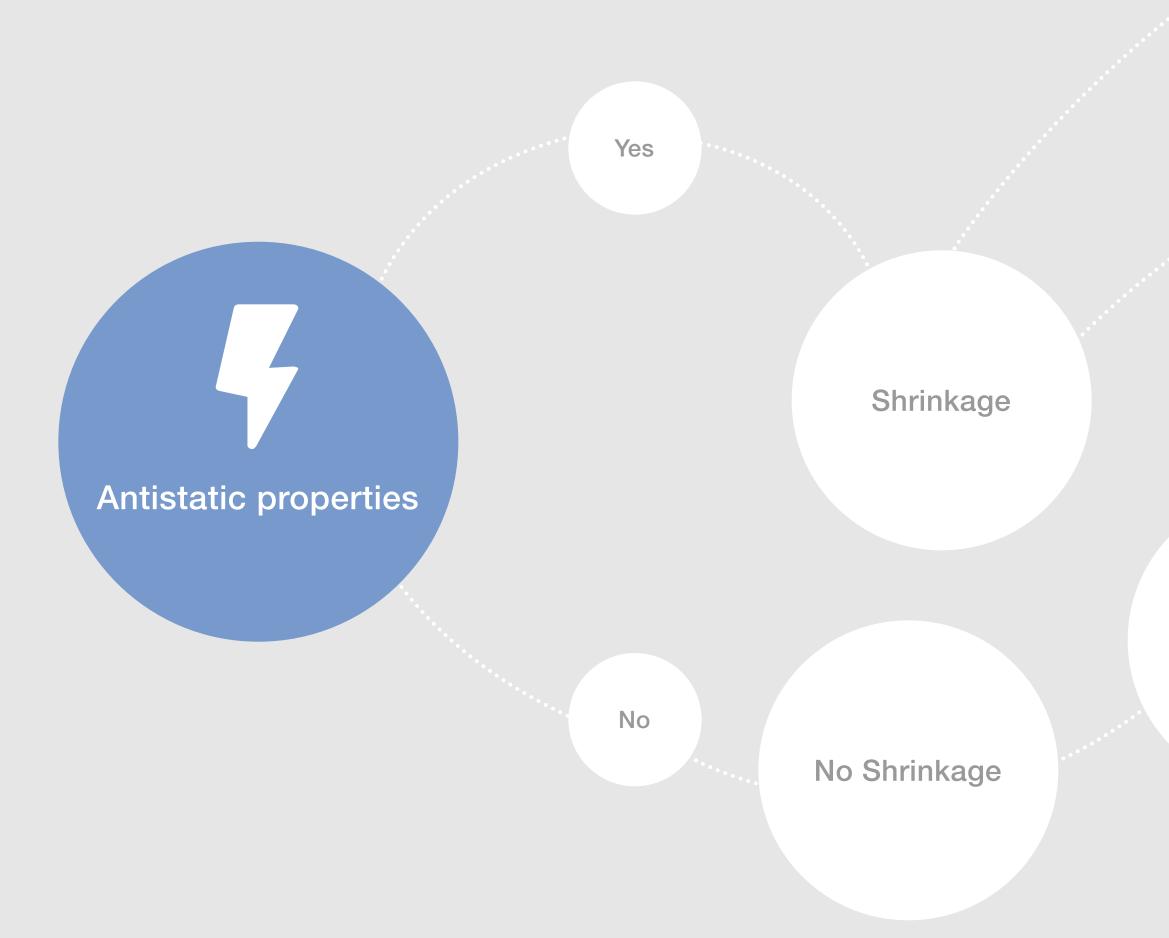
Medium

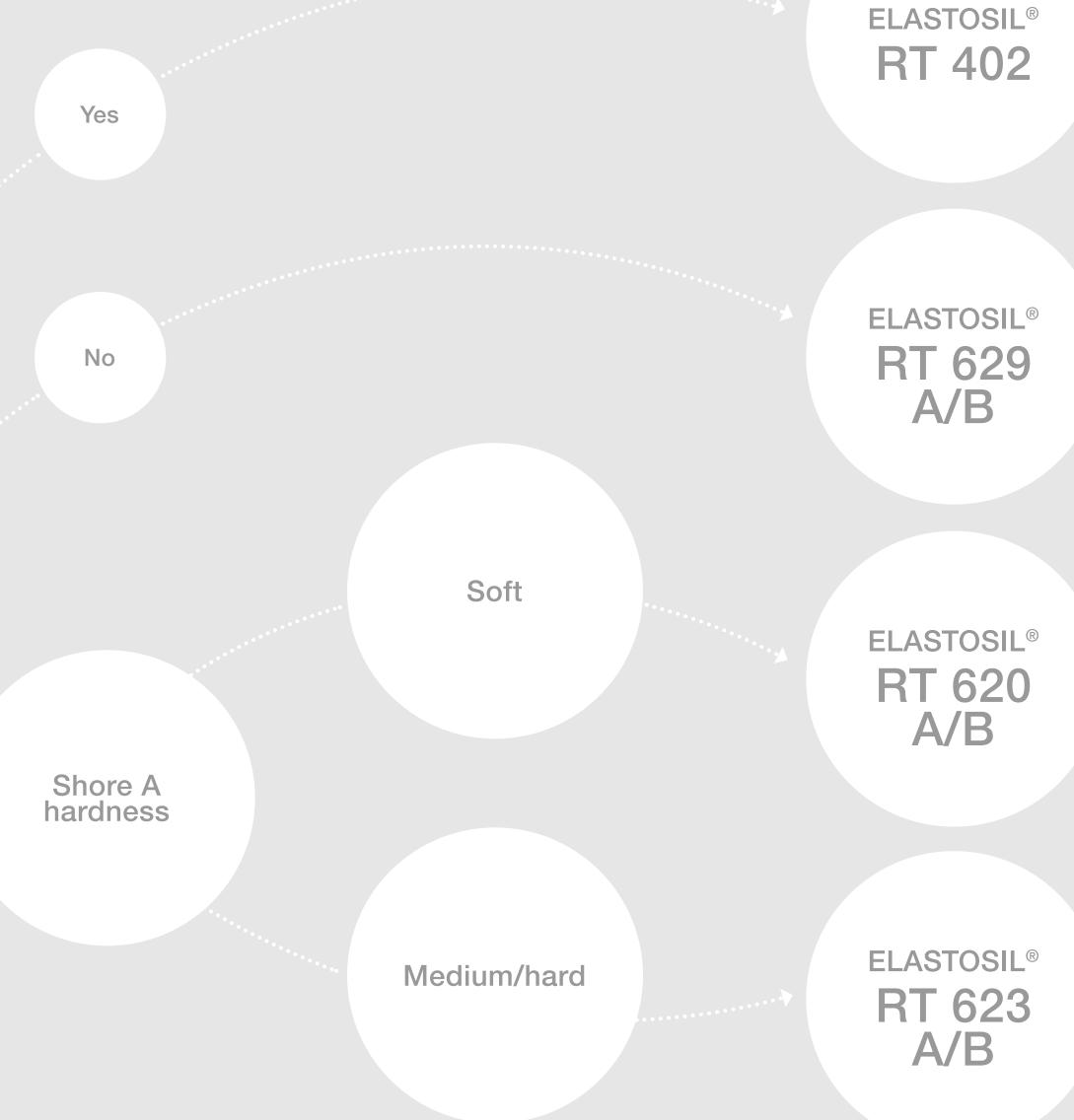
ELASTOSIL® M 4670 A/B

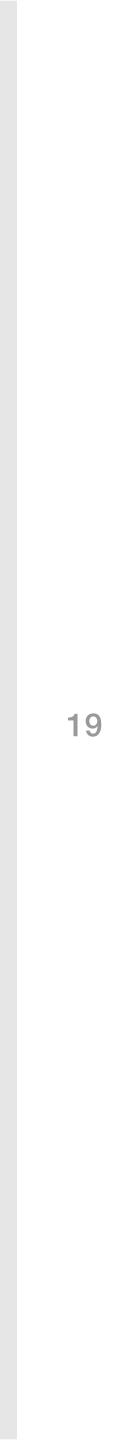


# PAD PRINTING

### **Quick Selection Guide**







# PROTOTYPE MOLDING

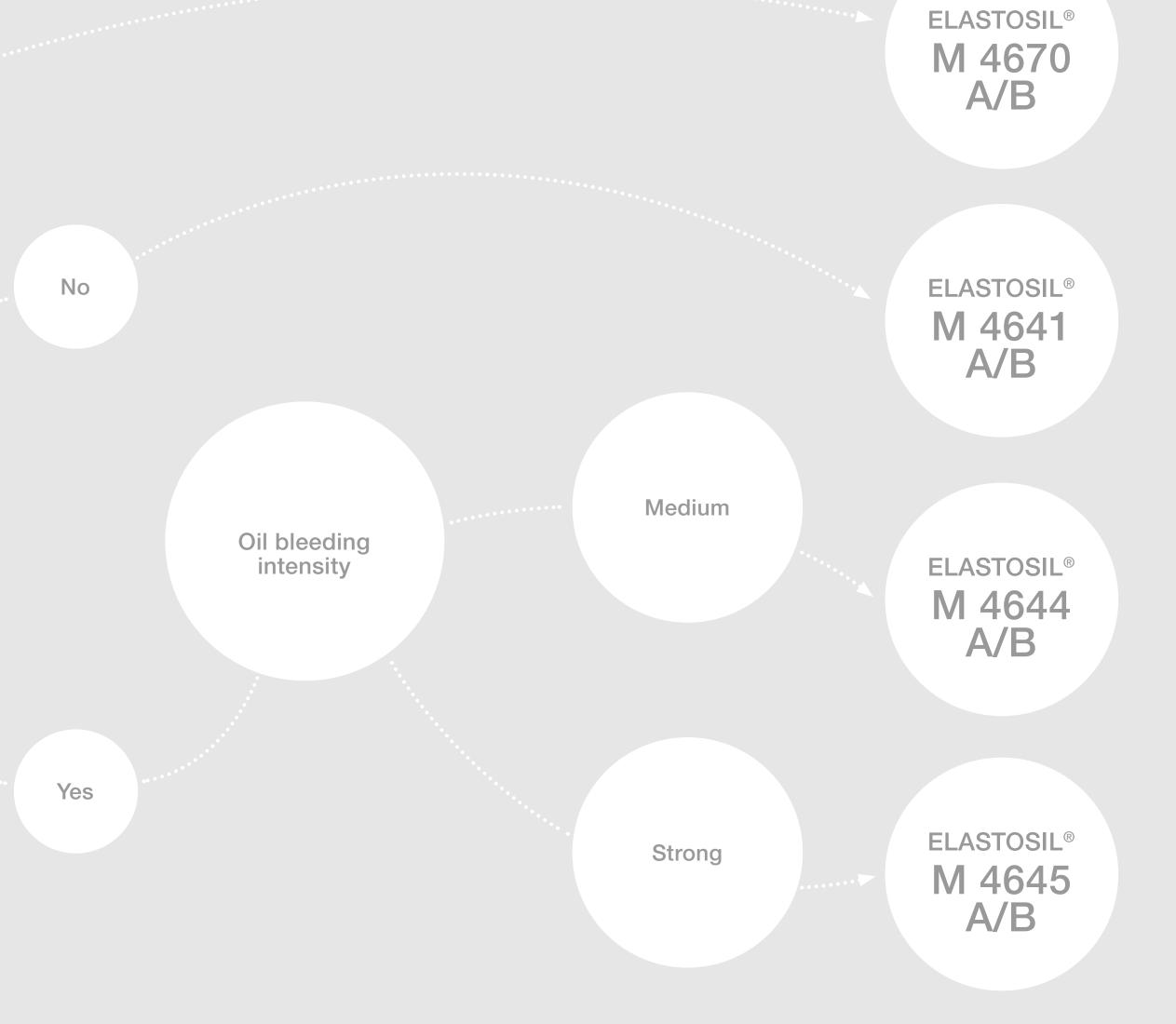
#### **Quick Selection Guide**

Polyamide

Repro material (material from which the prototype is to be made)

Oil bleed

PU / EP and other





# PRODUCT OVERVIEW CONDENSATION-CURING MOLDMAKING COMPOUNDS

									Large Number	of Copies Poss	ible With
	Typical Application and Special Properties	Shore A Hardness*	Color	Standard Catalyst	Mixing Viscosity [mPa•s]	Vulcanization Time [h]	Pot Life [min]	Tear Resistance [N/mm]	Plaster/Wax	Resin Resistance: Polyester	Resin Resistance: Polyurethan
	Skin mold										
ELASTOSIL <sup>®</sup> M 1470	Kneadable	Hard	Pink	Paste T40	Kneadable	4 – 5	70	>10	•		
	All-purpose										
LASTOSIL <sup>®</sup> M 4400	Pourable, all-purpose	Medium	Yellow	T 37/T 40	25,000	9 – 12 / 5 – 7	90/40	>3	•		
LASTOSIL <sup>®</sup> M 4440	Resin-resistant, all-purpose	Medium/hard	White	T 37/T 40	25,000	8 – 10 / 6 – 7	60/50	4.5	•	•	•
ELASTOSIL <sup>®</sup> M 4503	Highly elastic, excellent mechanical strength	Medium	White	Т 35	40,000	15 – 20	90	>20	•		
	All-purpose / casting resins										
ELASTOSIL <sup>®</sup> M 4511	Excellent flowability with low viscosity, casting resin resistance and excellent mechanical properties in a broad	Very soft	White	T 21/T 51	25,000	8 – 10	60/90	>18	•	•	•
LASTOSIL <sup>®</sup> M 4512		' Soft	White	T 21/T 51	30,000	8 – 10	60/90	>24	•	•	•
ELASTOSIL <sup>®</sup> M 4514		Medium	White	T 21/T 51	35,000	8 – 10	60/90	>25	•	•	•
LASTOSIL <sup>®</sup> M 4541	Shore hardness range	Medium/hard	White	T 21/T 51	40,000	8 – 10	60/90	> 30	•	•	•
	Pad printing										
ELASTOSIL <sup>®</sup> RT 402	Antistatic, ink-resistant	Soft	Gray	T 12	15,000	5	75	>3	•		
	Low melting metal alloys										
LASTOSIL <sup>®</sup> M 4470	Excellent thermal stability and thermal conductivity	Hard	Reddish brown	T 37/T 40	15,000	20 – 24 / 3 – 4	90/40	>4	•		

Moldmaking Product Overview

www.wacker.com/h/en-de/distributor-and-sales Please select product group Silicone Rubber

Very soft: < 15, soft: 15 – 20, medium: 21 – 30, medium/hard: 31 – 40, hard: > 40



# PRODUCT OVERVIEW ADDITION-CURING MOLDMAKING COMPOUNDS – ALL-PURPOSE

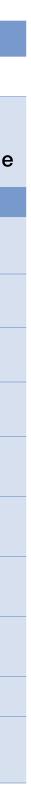
#### Linear shrinkage < 0.1 %

										Large Numbe	er of Copies P	ossible With.	
	Typical Application and Special Properties	Shore A Hardness*	Color	Mixing Ratio	Mixing Viscosity [mPa•s]	Vulcanization Time [h]	Pot Life [min]	Tear Resistance [N/mm]	Food (FDA)**	Plaster/Wax	Resin Resistance: Epoxy	Resin Resistance: Polyester	Resin Resistance: Polyurethane
	All-purpose												
CENUSIL <sup>®</sup> M 810	All-purpose molding grade, very low hardness	Very soft	White	1:1	3,000	4	40	15		•			
CENUSIL <sup>®</sup> M 820	All-purpose molding grade, low hardness	Soft	White	1:1	6,000	4	40	20		•			
ELASTOSIL <sup>®</sup> M 4115 A/B	Low viscosity, 1:1	Medium	Translucent	1:1	2,500	1	12	5		•			
ELASTOSIL <sup>®</sup> M 4125 F A/B	Low viscosity, fast cure, 1:1	Medium	White	1:1	6,000	2	15	25	•	•			
ELASTOSIL <sup>®</sup> M 4600 A/B	Low hardness and high mechanical strength	Soft	Translucent	10:1	15,000	12	90	>20	•	•			
ELASTOSIL <sup>®</sup> M 4601 A/B	Good flowability and high mechanical strength	Medium	Reddish brown	9:1	10,000	12	90	>30	•	•	•	•	•
ELASTOSIL <sup>®</sup> M 4642 A/B	Excellent resin resistance, low viscosity and very high mechanical strength	Medium/hard	Dark red	10:1	15,000	12	90	>30		•	•	•	•
ELASTOSIL <sup>®</sup> M 4643 A/B	Good resin resistance, high Shore hard- ness and very high mechanical strength	Medium/hard	Gray	9:1	25,000	12	90	>10		•	•	•	•
VARIO <sup>®</sup> 15	All-purpose tool box system: blend desired	Soft	Translucent	10:1	3,000	6/0.25	150/2	15	•	•			
VARIO <sup>®</sup> 40	<ul> <li>hardness with 2 bases, adjust desired</li> <li>reactivity with 2 catalysts: CAT Vario and</li> <li>CAT VARIO F = fast</li> </ul>	Hard	Translucent	10:1	10,000	6/0.25	150/2	15	•	•			

Additional product data can be found in the **Moldmaking Product Overview** 

Find your representative: www.wacker.com/h/en-de/distributor-and-sales Please select product group Silicone Rubber  \* Shore A hardness:
 Very soft: < 15, soft: 15 – 20, medium: 21 – 30, medium/hard: 31 – 40, hard: > 40 \*\* Compliant with relevant FDA regulations

if processed correctly



# PRODUCT OVERVIEW ADDITION-CURING MOLDMAKING COMPOUNDS – THE SPECIALISTS 1

#### Linear shrinkage < 0.1 %

Linear shrinkage < 0	<b>J.I</b> %												
										Large Num	ber of Copies	Possible Wit	th
	Typical Application and Special Properties	Shore A Hardness*	Color	Mixing Ratio	Mixing Viscosity [mPa•s]	Vulcanization Time [h]	Pot Life [min]	Tear Resistance [N/mm]	Food (FDA)**	Plaster/ Wax	Resin Resistance: Epoxy	Resin Resistance: Polyester	Resin Resistance: Polyurethane
	Concrete Casting												
CENUSIL M 830	Low viscosity, translucent, fast curing	Medium	Translucent	1:1	8,000	14	60	>20	•	•			
ELASTOSIL <sup>®</sup> M 4630 A/B	Low viscosity and high mechanical strength	Medium	White	10:1	10,000	12	90	> 30	•	•	•	•	•
ELASTOSIL® M 4635 A/B	Low viscosity, medium hardness and high mechanical strength	Medium/hard	White	10:1	15,000	12	90	> 30	•	•	•	•	•
	Rapid prototyping												
ELASTOSIL <sup>®</sup> M 4641 A/B	High mechanical strength, "dry" system	Hard	Translucent	10:1	30,000	12	90	>25	•	•			•
ELASTOSIL <sup>®</sup> M 4644 A/B	High mechanical strength, slight oil bleeding	Medium/hard	Translucent	10:1	50,000	12	80	>25		•			•
ELASTOSIL® M 4645 A/B	High mechanical strength, considerable oil bleeding	Medium/hard	Translucent	10:1	35,000	12	80	>28		•			•
ELASTOSIL <sup>®</sup> M 4670 A/B	Rapid prototyping, high mechanical strength, excellent polyamide casting resin stability	Hard	Beige	10:1	80,000	12	90	>12	•	•	•	•	•
	Pad printing												
ELASTOSIL <sup>®</sup> RT 620 A/B	Ink resistance, low base hardness, very high mechanical strength	Soft	Translucent	10:1	6,000	4	35	>12	•	•			
ELASTOSIL <sup>®</sup> RT 623 A/B	Ink resistance, very high mechanical strength	Medium/hard	Reddish brown	9:1	10,000	5	30	>30		•			
ELASTOSIL <sup>®</sup> RT 629 A/B	Antistatic, ink resistance, high mechanical strength	Medium/hard	Turquoise	10:1	8,000	3	40	25		•			

Additional product data can be found in the **Moldmaking Product Overview** 

Find your representative: www.wacker.com/h/en-de/distributor-and-sales Please select product group Silicone Rubber

 \* Shore A hardness:
 Very soft: < 15, soft: 15 – 20, medium: 21 – 30, medium/hard: 31 – 40, hard: > 40 \*\* Compliant with relevant FDA regulations

if processed correctly



# PRODUCT OVERVIEW ADDITION-CURING MOLDMAKING COMPOUNDS -THE SPECIALISTS 2

#### Linear shrinkage < 0.1 %

el-like Translucent ry soft Translucent ft Translucent	1:1	Mixing Viscosity [mPa•s] 4,000 5,000	Vulcanization Time [h] 0.75 0.75	[min] 8-12	Tear Resistance [N/mm] 5.5 20	Food (FDA)**	Plaster/ Wax	Resin Resistance: Epoxy	Resin Resistance: Polyester	Resin Resistance: Polyurethan
ry soft Translucen	1:1					•	•			
ry soft Translucen	1:1					•	•			
		5,000	0.75	8-12	20					
ft Translucen	1:1					•	•			
		5,000	0.75	8-12	25	•	•	•	•	•
edium Translucen	1:1	10,000	<1h	10-15	28	•	•	•	•	•
edium Blue/ transluscer	1:1 t	25,000	1	20	25		•	● For prepreg use	•	
rd Reddish brown	9:1	8,000	6	80	>4	•	•	•	•	•
ır	brown	brown * Shore A hard	brown * Shore A hardness:	brown	brown * Shore A hardness: ** Complia	brown * Shore A hardness: ** Compliant with relevant	brown * Shore A hardness: ** Compliant with relevant FDA regulation	brown       *       Shore A hardness:       ** Compliant with relevant FDA regulations         /distributor-and-sales       * Shore A hardness:       ** Compliant with relevant FDA regulations if processed correctly	brown       * Shore A hardness:       ** Compliant with relevant FDA regulations         /distributor-and-sales       Very soft: < 15, soft: 15 – 20, medium: 21 – 30,	brown * Shore A hardness: ** Compliant with relevant FDA regulations

Please select product group Silicone Rubber

medium/hard: 31 - 40, hard: > 40



# PRODUCT OVERVIEW ADDITIVES

We also offer specialty additives that complement our ELASTOSIL<sup>®</sup> M product line.

#### **Generating Adhesion to Substrates**

WACKER<sup>®</sup> primers allow you to bond ELASTOSIL<sup>®</sup> M elastomers with each other or with other materials, such as wood, metal or thermoplastics.

Bonding		
Primer	ELASTOSIL <sup>®</sup> M Grades	Bonds To:
WACKER <sup>®</sup> Primer G 790	Addition-curing	Absorbent surfaces and metal
WACKER <sup>®</sup> Primer G 795	Addition-curing	Absorbent surfaces and metal
WACKER <sup>®</sup> Primer FD	Condensation-curing	Absorbent surfaces and metal
WACKER <sup>®</sup> Primer AV A/B (two-part, exceptionally long processing window)	Addition-curing	Absorbent surfaces, wood or metal

### **Repairing and Bonding** cracked molds.

Repairing			
Adhesive	Curing System	Consistency	Self-Leveling?
ELASTOSIL <sup>®</sup> E4	Acetic-acid-curing	Paste-like	No
ELASTOSIL® E41	Acetic-acid-curing	Spreadable	Yes
ELASTOSIL® E43	Acetic-acid-curing	Spreadable	Yes
ELASTOSIL® E43 N	Neutral-curing	Spreadable	Yes
ELASTOSIL® A07	Amine-curing	Paste-like	No

ELASTOSIL<sup>®</sup> RTV-1 can be used for repairing

#### Color

Transparent ELASTOSIL<sup>®</sup> M grades can be formulated in different colors through the addition of ELASTOSIL® FL pigments.

ELASTOSIL<sup>®</sup> Red color concentrate is often used for modifying the color of the tin catalyst of condensationcuring grades. Doing so gives the user a clear means of judging when the catalyst has been uniformly distributed during the mixing process.

#### Dilution

ELASTOSIL<sup>®</sup> M grades can be diluted through the addition of WACKER<sup>®</sup> AK 35 or WACKER<sup>®</sup> AK 100 silicone fluids, thereby making them softer.

#### Thickening

Condensation-curing ELASTOSIL<sup>®</sup> M grades become more paste-like through the addition of WACKER Thickening Agent C. For additioncuring ELASTOSIL<sup>®</sup> M grades, we recommend adding WACKER Stabilizer 43.

Modifying Pot Life and Curing Time Addition of WACKER Inhibitor PT 88 extends the pot life of addition-curing ELASTOSIL<sup>®</sup> M grades. WACKER Catalyst EP accelerates crosslinking.

# TIPS AND TRICKS

Advice on handling, storage and processing

#### 1. Safety

Always read the safety data sheet for each of our products. This document contains relevant information on how to stay safe and healthy when working with our products. You will receive a safety data sheet (MSDS) with the product, but you can also download it from www.wacker.com.





#### 2. Storage

In order to avoid compromising quality, please note the following: • The optimum storage temperature lies between 5 °C and 30 °C. • Seal opened containers as tightly as possible immediately after

- taking out your material.
- Use up the material remaining in the containers as quickly as possible.
- Make a note of the use by date indicated on the label.
- The product is not necessarily unusable once the use by date of the material have not changed.



has passed; simply check to make sure the desired properties

#### 3. Pretreating Models

Silicone rubber does not stick to many materials. Nevertheless, we recommend pretreating the surface of the model:

- Remove any dust, dirt or oil.
- Secure or remove any loose parts.
- Seal any cracks, gaps or other damage to the surface using model putty or mastic.
- Seal any porous or highly absorbent surfaces.
- Protect sensitive surfaces that could discolor or be stained, or that could be destroyed during the demolding process. Please contact us if needed.
- Silicone rubber forms chemical bonds with models made of glass, porcelain, ceramic, silicone rubber, etc. In these cases, apply a release layer such as a soap solution, Vaseline, paraffin or a liquid or diluted wax (freshly cured).





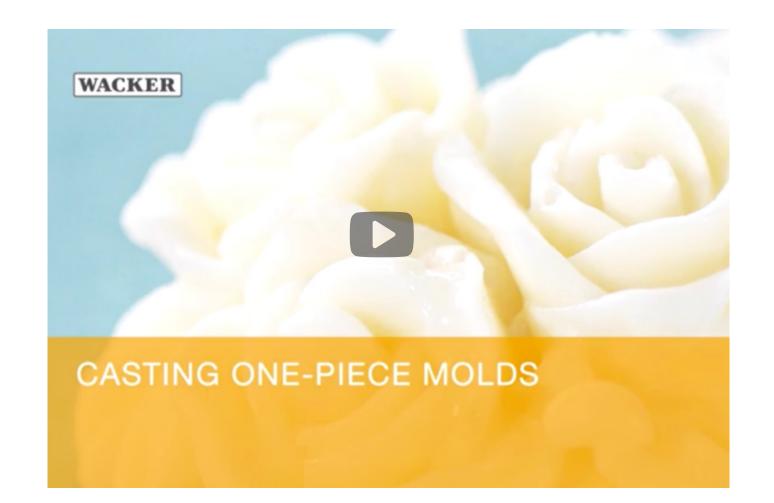
# TIPS AND TRICKS

Advice on handling, storage and processing

#### 4. Prep the Material

- For addition-curing ELASTOSIL<sup>®</sup> M grades only: check if the batch numbers are identical for A and B component.
- For all colored ELASTOSIL<sup>®</sup> M grades: in order to ensure even distribution of the pigments, mix each individual grade in its container prior to use. This step does not apply to transparent grades.
- Weigh out the components using different mixing tools:
- For addition-curing products: A + B components
- For condensation-curing products: base product + hardening agent
- Weigh out all additives used (pigment pastes, silicone fluid, thickening agents, etc.). Seal all containers immediately after removing the required amount product.





#### 5. Mixing and Dearating

- If you would like to deaerate the blended silicone rubber in a vacuum container, prepare this container prior to mixing.
- Deaeration should be performed under reduced pressure (10 to 20 mbar) in a vacuum chamber.
- Carefully mix the components, making sure no materials remain in the corners and along the bottom; scrape the interior walls of your mixing vessel.
- Crosslinking starts now, as well as the processing window.

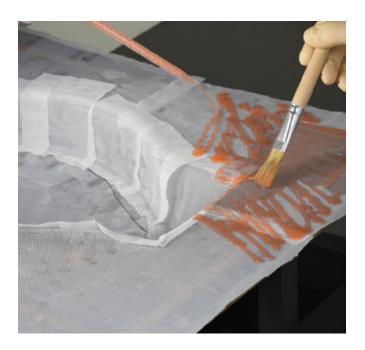


#### 6. Applying the Silicone Rubber

- Pour the liquid, deaerated silicone rubber into the mold in a thin stream from the lowest possible height. If the material has not been deaerated, pour it into the mold from as high up as possible. Keep the position of the stream as constant as possible.
- For spreadable silicone rubber, first apply a thin, bubble-free oating using a stiff, short-bristled brush; apply the actual layer after this.
- Kneadable silicone rubber is usually applied by hand.

#### 7. Curing

- Wait until the specified curing time has elapsed before demolding.
- For addition-curing ELASTOSIL<sup>®</sup> M grades, curing can be accelerated with heat.









# TIPS AND TRICKS

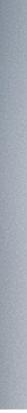
Troubleshooting

Troubleshooting							
Material	Problem	Frequent Cause					
All ELASTOSIL <sup>®</sup> M grades	Curing takes too long	<ul> <li>Processing temperature too low or incorrect dosing</li> </ul>					
	Entrapped air, bubbles, holes	<ul> <li>Material insufficiently deaerated; crosslinked too fast</li> </ul>					
	Cured rubber is not homogeneous	<ul> <li>Material not mixed adequately</li> </ul>					
Condensation-curing ELASTOSIL <sup>®</sup> M grades	Curing takes too long	<ul><li>Incorrect mixing ratio</li><li>Too little moisture in the base component</li></ul>					
	Cured rubber is too soft and sticky	<ul> <li>Byproducts cannot escape/evaporate</li> <li>Incorrect mixing ratio</li> <li>Temperature too high during crosslinking</li> <li>Too little moisture in the base component</li> </ul>					
	Entrapped air, bubbles, holes	<ul> <li>Temperature too high during crosslinking (over 90°C) / cured too quickly</li> </ul>					
	Surface is sticky, insufficiently cured	Ambient humidity is too low					
Addition-curing ELASTOSIL <sup>®</sup> M grades	Curing takes too long	<ul> <li>Incorrect mixing ratio</li> <li>Presence of inhibiting substances* or temperature too low</li> </ul>					
	Properties of the cured rubber (hardness, mechanical characteristics, etc.) are not suitable	<ul> <li>Incorrect mixing ratio</li> <li>Presence of inhibiting substances*</li> <li>Failure to stir material carefully enough before taking it from the container</li> </ul>					
	Material cures too fast	<ul><li>Incorrect mixing ratio</li><li>Temperature too high</li></ul>					
	Cured rubber is sticky	<ul> <li>Presence of inhibiting substances*</li> </ul>					
	Uncured material on the surface of the model	<ul> <li>Presence of inhibiting substances* (contact inhibition)</li> </ul>					
	Entrapped air, bubbles, holes	<ul> <li>Model surface was damp</li> <li>Water contamination</li> <li>Curing was too fast</li> </ul>					



### Didn't get the results you expected? Check this list of common causes.

\* These include sulfur and sulfur-containing compounds such as EPDM, amine-cured epoxy resins, organometallic or organotin compounds or substances that contain these compounds (such as tin catalysts for condensation-curing silicone rubber).







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