

MOLDMAKING | CONDENSATION-CURING GRADES

ELASTOSIL® M 45XX CONDENSATION-CURING GRADES

ELASTOSIL® M 4511, M 4512, M 4514 and M 4541 are silicone mold-making compounds that for years have been used in all kinds of applications. But even now, these all-rounders are often not being used to their full potential. Fact is, with these two-component condensation-curing silicone rubber compounds, a wide range of base product / catalyst combinations is possible, allowing you to readily tailor key properties to your specific needs.

Proven Quality from Shore A 12 to Shore A 35

Whether you are making small molds or undertaking a major restoration project: when it comes to maximum reproduction fidelity combined with resistance to the casting materials, the condensation-curing ELASTOSIL® M grades make an excellent choice. The same applies to industrial settings, where time and costs matter in production. And, if you need to tweak the outstanding general properties even further, you can often achieve this by varying your choice of catalyst.



Four Base Products, Countless Possibilities

The following properties, for example, can be achieved by combinations of the base products ELASTOSIL® M 4511, M 4512, M 4514 and M 4541 and WACKER® Catalysts T 51, T 21, and T 47:

- Faster curing at room temperature
- Enhanced resistance to polyester and polyurethane casting resins for even more reproductions.

The use of WACKER® Thixotropic Additive C allows skin molds just 10 mm thick to be made by the spreading technique.

The table overleaf illustrates the range of possibilities for typical combinations. For more information, please visit: www.wacker.com/moldmaking

Reproduction of
The Little Mermaid Statue, Copenhagen

ELASTOSIL® Grade	Color	Density at 23°C	Basic Viscosity [mPa s]
ELASTOSIL® M 4511	White	1.22	25,000
ELASTOSIL® M 4512	White	1.20	30,000
ELASTOSIL® M 4514	White	1.26	35,000
ELASTOSIL® M 4541	White	1.18	40,000

ELASTOSIL® Grade	Catalyst / Curing Agent					
	5 % T 51	5 % T 21	1 % T 47	1.5 % T 47	2 % T 47	5 % T 51 / T 47 5 % T 21 / T 47 90:10 parts by weight Fast cure Resin-resistant
	Standard Polyester-resistant	Standard PUR-resistant	Fast cure	Fast cure	Fast cure	
	Pot life at 23°C / 50% RH [min]					
ELASTOSIL® M 4511	90	90	20	10	5	30
ELASTOSIL® M 4512	90	90	20	10	5	25
ELASTOSIL® M 4514	90	90	20	10	5	25
ELASTOSIL® M 4541	90	90	15	8	3	20
	Mixing viscosity [mPa s]					
ELASTOSIL® M 4511	20,000	16,000	30,000	42,000	60,000	26,000
ELASTOSIL® M 4512	22,000	18,000	30,000	45,000	60,000	30,000
ELASTOSIL® M 4514	24,000	17,000	34,000	48,000	70,000	30,000
ELASTOSIL® M 4541	32,000	26,000	45,000	65,000	90,000	40,000
	Mold Characteristics after Curing for 4 Days at 23 °C / 50% RH					
	Hardness [Shore A]					
ELASTOSIL® M 4511	12	12	14	15	17	14
ELASTOSIL® M 4512	20	20	22	23	23	22
ELASTOSIL® M 4514	25	25	27	29	30	27
ELASTOSIL® M 4541	32	32	33	34	35	33
	Tensile strength [N/mm ²]					
ELASTOSIL® M 4511	3.5	3.5	>3.5	>3.5	>3.5	>3.5
ELASTOSIL® M 4512	3.5	3.5	3.5	>3.5	>3.5	>3.5
ELASTOSIL® M 4514	>4	>4	>4	>4	>4	>4
ELASTOSIL® M 4541	5	5	6	6	5.5	5
	Elongation at break [%]					
ELASTOSIL® M 4511	600	600	500	400	300	450
ELASTOSIL® M 4512	500	500	400	350	300	400
ELASTOSIL® M 4514	450	450	400	350	300	400
ELASTOSIL® M 4541	400	400	400	350	250	350
	Tear strength [N/mm]					
ELASTOSIL® M 4511	18	18	18	15	15	16
ELASTOSIL® M 4512	24	24	22	20	18	>20
ELASTOSIL® M 4514	25	25	23	20	18	>20
ELASTOSIL® M 4541	>30	>30	30	>25	>20	25
	Linear shrinkage [%]					
ELASTOSIL® M 45xx	~0.4	~0.4	<0.4	<0.4	<0.4	~0.4
	De-molding time at RT [hours]					
ELASTOSIL® M 4511	8 – 10	8 – 10	4	2.5	1 – 2	2 – 4
ELASTOSIL® M 4512	8 – 10	8 – 10	3 – 4	2	1 – 2	2 – 4
ELASTOSIL® M 4514	8 – 10	8 – 10	3 – 4	1 – 2	1	2 – 4
ELASTOSIL® M 4541	8 – 10	8 – 10	3 – 4	1 – 2	1	2 – 4
	Thixotropic Additive C for skin molding					
ELASTOSIL® M 45xx	Yes / 1 – 2 % parts by weight					