

MOT Silicone Overview

2 component liquid silicone rubber has a wide range of uses in prosthetics and orthotics. Applications may include custom silicone liners, distal end pads, spot pads, custom insoles, and high definition prosthetic appliances.

It is also a superb material for mold making due to its natural release properties. In most cases you will not require a release agent (silicone will generally bond only to porous surfaces, glass surfaces, or another silicone). Most liquid urethane, plastics, and resins release effortlessly when poured into a silicone mold which makes it an ideal material for creating durable, long lasting molds. Platinum cure silicone also has a much longer library life than tin cure silicones.

Replicator, Body Double, and Quicksil silicones are safe for direct to skin application in their liquid state.

*For applications where there is potential contact with hair, replicator release cream is recommended.

All of our platinum cure silicones are completely skin safe when cured fully.

Silicone will not cure against anything that has come into contact with latex or sulfur. Do not use latex gloves when working with silicone. Assure all plaster and modelling clay used with silicone is free of sulfur and latex. For the best results we suggest using a high end gypsum plaster with no fillers, and/or high end modelling clays. Please see our line of sulfur free Chavant modelling clay which is ideal for sculpting and silicone mold making.

Silicone is also extremely sensitive to moisture so assure all casts / molds are completely dry before using. For porous or difficult plaster surfaces, we suggest Smooth-On "cast sealer".

Mann Ease Release 200 (aerosol) as well as Vaseline can be used as release agents when applying silicone over another silicone.

Vaseline has also been successfully used as a barrier on questionable surfaces which may have caused previous cure inhibition.

Most silicones may be used in a lamination. Laminating with silicone is a little more time consuming than conventional resins, so please assure that you choose a silicone with adequate working time.

For brush on applications, the use of a MOT Rotator will allow even coats of silicone to be applied easily. This is an industrial grade machine that turns anything with a 1/2" steel pipe mandrel (up to 200lbs). It rotates slowly (7 rpm) which allows material to be built up without dripping off.

Ideal for applications where thick, even, brush on application is important.

Pre packaged cartridges cannot be pigmented. Use 2 part kits when a custom color is required. Empty cartridges are available if you wish to create a custom color in an injectable format. Use only Smooth-On/Renew silicone pigments.

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Psycho Paint was formulated especially for prosthetic and special effect applications. It is a pigmentable, platinum cure silicone base that can be painted or sprayed onto the exterior surface of a silicone appliance, or onto the interior surface of silicone molds which will be poured up afterwards. MOT recommends the use of naphtha (camp fuel) to thin psycho paint when required. When used properly on a fresh silicone surface, the painted surface will not rub off. Our testing showed that it even holds up to occasional cleaning with solvent.

Renew silicone adhesive is a great product to bond silicone to something it won't naturally adhere to. You can either brush the silicone adhesive onto a surface and then pour silicone onto it (priming method), or use the silicone adhesive like a glue. When bonding to materials with low surface energy (plastics, etc) we recommend the use of 3m 4298 primer before applying silicone adhesive. Please see MOT part # ADH4298.

Additives

- Silicone thinner is used to thin the silicone during its liquid state. Thinning can help reduce bubbles in the finished piece, and allows the silicone to be poured quicker and easier into molds with small cavities. It will reduce the overall strength slightly, and is not recommended for silicone that will be worn directly against the skin.
- Thivex II is used to thicken the silicone during its liquid state. This allows the silicone to be brushed or troweled onto surfaces and can help build thicker molds in less time. It will reduce the overall strength slightly, and is not recommended for silicone that will be worn directly against the skin.
- Slacker is a "tactile mutator" which alters the feel of the cured silicone. It will provide a softer and more flesh-like feel when added in small quantities, or soften to a gel like consistency if used in large quantities. Unlike other softening methods, with slacker the finished product will not extrude silicone oils.
- Slide is a friction modifier which can be used to reduce the surface tension of cured silicone.

After a project is demolded and left 24 hours (exposed to air), the silicone will extrude some natural oils creating a smooth, almost slippery surface.

The oils extruded are an allergen and should be avoided by anyone who is allergic to musk thistle seed, durian, tree nuts, and their derivatives.

This product has been tested at MOT, and we currently do not recommend it. It tends to leave a slippery residue on everything it comes into contact which is not easy to wash off. It also may stain fabrics.

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Silicone adhesive

½oz. (S-ADH-½OZ) and 3oz. tubes (S-ADH-3OZ)

- ▶ 5 minute work time, 15 minute cure time

The best choice for bonding silicone to just about anything. Can also be used as a primer before pouring silicone onto a surface it generally wouldn't bond to otherwise.

Platinum cure silicone 00-10

400ml Cartridge (S-0010-400) and 2 part kit (S-0010-2LB)

- ▶ 30 minute pot life, 4 hour cure time

One of the softest silicone rubbers available, properties border on a gel. Quite tacky.

Not recommended for applications with skin contact due to the tacky surface. Best results when encapsulated within another silicone, or when used with an interface.

Platinum cure silicone 00-30

400ml cartridge (S-0030-400) and 2 part kit (S-0030-2LB)

- ▶ 45 minute pot life, 4 hour cure time.

Softest silicone rubber available without an overly tacky surface. Excellent for soft pads and shock absorption. Closest properties to human skin, so it is often used in maxillofacial applications, distal end pads, and multi durometer liners.

Platinum cure silicone 00-50

400ml cartridge (S-0050-400) and 2 part kit (S-0050-2LB)

- ▶ 18 minute pot life, 3 hour cure time

Very similar properties to the silicone 5 once cured, but has an 18 minute pot life which is great for times when the silicone 5 cures too quickly. Excellent for soft pads and shock absorption. Used in maxillofacial applications, distal end pads, and multi durometer liners.

Platinum cure silicone 2 (Dragon Skin FX Pro)

2 part kit (S-2-2LB)

- ▶ 10 minute pot life, 40 minute cure time

This material was created for the special effect industry. It is commonly used for prosthetic makeup, masks, and lifelike props. It has properties similar to human skin but is a bit more rigid than the 00-30 so it will hold its shape better. Very soft and flexible. The pot life and cure times make this a great choice for projects that require a brush on application or multiple layers. Excellent for soft pads and shock absorption. Used in maxillofacial applications, distal end pads, and cosmetic restorations.

Quicksil silicone 2 + Quicksil primer

50ml (QS-2-50) / 330ml cartridges (QS-2-330)

This material was created specifically for prosthetic and orthotic applications, and direct to skin applications. Common uses include distal end pads, forefoot prostheses and "bumpers", pressure relief in seating systems, myoelectric isolation, and more. It is ideal for filling voids in the distal end of a socket since it can be injected against the patients residual limb if necessary. This material is a blue color.

Platinum cure silicone 5

400ml Cartridge (S-5-400)

- ▶ 1 minute pot life, 5 minute cure time

This material is excellent for projects that require a rapid cure. It is commonly used for distal end pads that are injected in place (always use a barrier between skin or liner), and flexible molds (brushability and fast cure allow molds to be made very quickly). Silicone 5 is also less sensitive to cure inhibition. It can be used to create molds where other silicones may have cure issues.

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Platinum cure silicone 10

SLOW

2 part kit (S-10S-2LB)

- ▶ 45 minute pot life, 7 hour cure time

MEDIUM

2 part kit (S-10M-2LB)

- ▶ 20 minute pot life, 5 hour cure time

FAST

400ml cartridge (S-10-400), 2 part kit (S-10-2LB)

- ▶ 8 minute pot life, 75 minute cure time

This material has many uses and comes in multiple “speeds”. It is great for mold making and has exceptional stretch and tear resistance. It is often used for distal end pads, liners, multi durometer liners, silicone insoles, as well as special effect applications.

Platinum cure silicone 20

400ml cartridge (S-20-400), 2 part kit (S-20-2LB)

- ▶ 25 minute pot life, 4 hour cure time

This material is great for mold making and certain silicone liner applications.

It is quite firm and holds its shape quite well.

Platinum cure silicone 30

2 part kit (S-30-2LB)

- ▶ 45 minute pot life, 16 hour cure time

This material is used mainly for mold making. It is moderately rigid and holds its shape very well, even when it is quite thin.

Platinum cure silicone 40

2 part kit (S-40-2LB)

- ▶ 60 minute pot life, 24 hour cure time

This material is used mainly for mold making. It is quite rigid and holds its shape very well, even when it is very thin walled. It is quite clear compared to most softer durometers, so it may also be used in specialty applications which call for a clear silicone.

Platinum cure silicone 50

2 part kit (S-50-2LB)

- ▶ 45 minute pot life, 24 hour cure time

This is the most rigid platinum cure silicone available from Smooth-On. It is used mainly for mold making. This material is a light blue color.

Silicone Replicator

REGULAR

400ml cartridge (S-RR-400), 2 part kit (S-RR-2LB)

- ▶ 5 minute pot life, 20 minute cure time

FAST

400ml Cartridge (S-RF-400)

- ▶ 90 second pot life, 7 minute cure time

These materials are used mainly for life casting and mold making. They are suitable for direct to skin application and take incredibly detailed casts which have a long library life. They are also quite resistant to cure inhibition and can be used on surfaces that are tricky to mold and may cause cure inhibition when used with silicones that have a longer cure time.

Regular set is a purple color, and Fast set is green.

MOT Silicone Overview

Additives and part #s:

SKU	Description
S-THIN-1LB	Silicone thinner (1 pint)
TVEXST-PT	Thivex II (1 pint)
S-SLACK-1LB	Slacker (1 pint)
ADH4298-2.5	3M 4298 Primer (25 prepackaged wipes)
M200-12OZ	Mann Ease Release 200 (12oz aerosol)
MSEAL-1LB	Smooth On Cast Sealer (1 pint)
MSEAL-1G	Smooth On Cast Sealer (1 gallon)

Equipment and part #s:

SKU	Description
ROTATOR	MOT ROTATOR
400GUN	400ml Manual cartridge gun
400GUNP	400ml Electric cartridge gun
U-FF-400CTG	400ml cartridge empty
SMIXER-4	Static mixing tubes for 400ml cartridges (10 per pkg)

MOT Silicone Overview

Product Name	Durometer	50ML	330ML	400ML	2 PART	Pot Life	Cure Time	Special Notes
Standard Platinum Cure Silicones								
Silicone 00-10	Shore 00 - 10			X	X	30 Min	4 Hr	
Silicone 00-30	Shore 00 - 30			X	X	45 Min	4 Hr	
Silicone 00-50	Shore 00 - 50			X	X	18 Min	3 Hr	
Silicone 2	Shore A - 2				X	10 Min	40 Min	
Silicone 5	Shore A - 5			X		1 Min	5 Min	
Silicone 10 Slow	Shore A - 10				X	45 Min	7 Hr	
Silicone 10 Med.	Shore A - 10				X	20 Min	5 Hr	
Silicone 10 Fast	Shore A - 10			X	X	8 Min	75 Min	
Silicone 20	Shore A - 20			X	X	25 Min	4 Hr	
Silicone 30	Shore A - 30				X	45 Min	16 Hr	
Silicone 40	Shore A - 40				X	60 Min	24 Hr	
Silicone 50	Shore A - 50				X	45 Min	24 Hr	Blue Color
Safe for direct to skin application								
QuickSil 2	Shore A - 2	X	X					Blue Color
Silicone Replicator	Shore A - 25			X	X	5 Min	20 Min	Purple Color
Silicone Replicator Fast	Shore A - 25			X		1.5 Min	7 Min	Green Color

SHORE HARDNESS SCALES

