ASSYST sprl / A.S.O.W. sprl
Hellegatstraat 13a - 2590 Berlaar - Belgium
Tel: +32 495 50 61 14 / +32 496 83 70 27
Website: www.assyst.org / www.artsuppliesonweb.com
Email: ao@assyst.org / vera.opsommer@assyst.org

Platsil Gel Silicone

WHAT IS PLATSIL GEL?
Soft, translucent, liquid silicone rubber for theatrical prostheses, life casting and mold building applications

DESCRIPTION:
PlatSil® Gels are 1A: 1B (by weight or volume) platinum-cured silicone systems that can be used as moulding rubbers, to make prosthetic devices and for life casting. Polytek offers a range of accessory products that can be used independently or together to increase working time, speed up curing time, thicken the mix for brushing/layering, thin the mix for easier casting or to make the rubber softer or harder. Smith's Theatrical Prosthetic Deadener and PlatSil® Deadener LV can be added to soften and eliminate the spicy, synthetic look and feel of regular silicone rubbers. "Deadened" PlatSil Gels can be made to look, feel and move like living tissue. Unlike silicone fluid, Deadener does not leach from the cured rubber/device, so adhesion and use are much easier.
PlatSil Gel-OO30 & PlatSil Gel-OO20 have a lower viscosity and are less sticky when cured compared to PlatSil Gel-OO.

MIXING AND CURING:
Before use, ensure that Parts A and B are at room temperature and that all tools are ready. Surface and air temperatures must exceed 15°C (60°F) during application and throughout the curing period.
Carefully measure or weigh Part B and then Part A in the proper proportion in a clean mixing container. Mix thoroughly, scraping down the sides and bottom of the container. The mix should be quickly placed over the model or into the mold. If more work time is needed, PlatSil® 71/73 Part R Retarder can be used to allow for vacuuming, pressure pouring, or larger mixes.

MOULD MAKING - INDUSTRIAL APPLICATIONS:
Seal porous models (e.g. wood or plaster) with wax, vaseline, lacquer or paint to prevent the rubber from penetrating the pores of the material. The model and other surfaces in contact with the liquid rubber should be lightly coated with PVA or sprayed Ultra 4 epoxy parfilm. Do not use silicone-based release agents on surfaces in contact with liquid PlatSil rubbers, as this may result in inhibition and/or adhesion. In addition, modeling slates with sulphur will inhibit curing. Contamination with soaps, amines, sulphur, tin compounds, polyester resins and some silicone rubbers can inhibit surface curing. PlatSil rubber may adhere to cured silicone rubber unless a separating agent (PVA or Ultra 4 epoxy parfilm) is used. If in doubt, perform a test cure on a similar surface to ensure proper curing and release.

Porous molds should be vented from below to prevent trapped air bubbles from causing bubbles in the rubber. For best results, the PlatSil Gel mold should be allowed to cure for the specified time before being put into use. No release agent is required to cast most materials into properly cured PlatSil gels. A barrier coating or release agent is recommended for longer life when casting epoxy, polyurethane or polyester resins.

MOULDING - LIFECASTING:
PlatSil Gels can be used to make molds of hands, feet, faces and other body parts. Avoid contact of PlatSil Gel with eyes, nose, mouth or mucous membranes. Before starting the project, perform a small-scale patch test on the subject to determine that the subject is not unusually sensitive or allergic to any of the components. PlatSil Gels can be mixed with Thixo and Part X Accelerator to produce a brushable mix with an appropriate demoulding time. Vaseline or baby oil can be used to prevent hair from sticking.

ASSYST sprl / A.S.O.W. sprl
Hellegatstraat 13a - 2590 Berlaar - Belgium
Tel: +32 495 50 61 14 / +32 496 83 70 27
Website: www.assyst.org / www.artsuppliesonweb.com
Email: ao@assyst.org / vera.opsommer@assyst.org

PHYSICAL ATTRIBUTES:

	Gel-OO20	Gel OO-30	Gel-OO	Gel-10	Gel-25
Mixing ratio (weight or volume)	1A:1B	1A:1B	1A:1B	1A:1B	1A:1B
Shore Hardness	OO20	OO30	OO30	A10	A25
Processing time	40 min	45 min	6 min	6 min	5 min
Deformation time	2 u	4 u	30 min	30 min	60 min
Colour when cured	Milky white	Milky white	Milky white	Milky white	Milky white
Mixed viscosity (cP)	3.900	6.200	22.000	15.000	3.500
Specific volume (in^3/lb)	26	26	25	25	25
Specific gravity at 25°C	1.05	1.05	1.1	1.1	1.1
Shrinkage when cured	0%	0%	0%	0%	0%
Tensile strength (mPa)	122 (0.84)	118 (0.81)	154 (1.06)	228 (1.57)	434 (2.99)
Elongation %	964	848	1275	970	385

MAKING THEATRICAL PROSTHETIC DEVICES:

For prosthetic and simulated tissue / skin applications, use PlatSil Gels with PlatSil additives to achieve varied hardness or gel-like properties (addition of Deadener to PlatSil Gel-OO20 and OO30 is not recommended). If a softer rubber is desired, small additions of Deadener will reduce hardness without stickiness. Increasing the content of Deadener will result in a sticky to tacky cured gel. The stickiness of diluted silicone can be eliminated with powder (once powdered, the stickiness cannot be reduced) or by painting a thin barrier layer of pure PlatSil Gel over the sticky surface. PlatSil Gel applied as a barrier mimics the surface tension of the skin. PlatSil gels can be lightly stippled onto a prepared mold surface (i.e. treated with PVA or Ultra 4 epoxy parfilm), and then coated with PlatSil gel mixed with Deadener.

The diluted mixture can also be injected into a mold cavity using a syringe. Injection can be used to create ultra-thin edges that can be easily eliminated when applied to the subject.
The sticky back of the prosthetic device allows for direct, adhesive-free application to the subject. The prosthesis can be gently removed, covered with clear, clean plastic film or greaseproof paper and reused. These prostheses can also be applied to the skin using uncured PlatSil gel as an adhesive (e.g., apply directly to the skin or back of the prosthesis).
Use additives such as silicone color pigments and flakes to make PlatSil Gels look more tissue-like.

ACCELERATING THE CURING SPEED:

Mix PlatSil Part X into Part B before adding Part A to accelerate gel and cure times. Adding 4 to 5% Part X to the total mix weight will reduce the working time to 3 minutes with a run-out time of ~10 minutes for PlatSil Gel-10. Experiment to determine the best level of Part X for the application.

SLOWING DOWN OF HARDENING SPEED:

Add PlatSil Part R to Part A before mixing with Part B to delay curing, giving longer application time and longer demoulding time. Add Part R at 1% by weight of the total mix (A + B) to almost double the working time. Add 2% to almost triple the working time. Add 5% to Gel-10 to obtain a 60 minute working time with a 120 minute quick demoulding time. Never use more than 5% as this may result in the system not curing at all.

THICKEN TO BRUSH:

Thicken PlatSil Gel by adding Thixo liquid thickener to the mixed parts A and B. Add 1% Thixo to the total mix (by weight) for a light, non-sagging gel. Add up to 5% Thixo for a thicker mix.

DILUTION AND SOFTENING:

Add silicone oil to the mixed rubber to thin the mix. Use the liquid sparingly, as this will result in some loss of strength, hardness and cure rate. The cured rubber may add more than 10% liquid. See below to soften without leaching oil.

ASSYST sprl / A.S.O.W. sprl
Hellegatstraat 13a - 2590 Berlaar - Belgium
Tel: +32 495 50 61 14 / +32 496 83 70 27
Website: www.assyst.org / www.artsuppliesonweb.com
Email: ao@assyst.org / vera.opsommer@assyst.org

DEADENER:

Smith's Theatrical Prosthetic Deadener and PlatSil® Deadener LV (Low-Viscosity) can be added to soften and eliminate the snappy, synthetic look and feel of ordinary silicone rubbers. "Deadened" PlatSil Gels can be made to look, feel and move like living tissue. Unlike silicone oil, Deadener does not leach from the cured rubber/prosthesis, so adhesion and use are much easier.

USE OF DEADENER:

Add Deadener to Part A before mixing with Part B. A test should be performed to determine the proper amount of Deadener to add for individual applications. Refer to the tables below for the effects of Deadener on PlatSil Gels. Adding too much of the recommended percentages of Deadener per product will result in a non-paintable, sticky, cured gel. Polytek does not recommend adding Deadener to PlatSil Gel-OO20 or PlatSil Gel-OO30.

PLATSIL® GEL-25

Add up to 100% (by weight of A +B) Smith's Theatrical Prosthetic Deadener *or* PlatSil Deadener LV to PlatSil® Gel-25.

SMITH'S THEATRICAL PROSTHETIC DEADENER & PLATSIL® GEL-25					
Mix Ratio	1A:1B	1A:1B:0.25D	1A:1B:0.5D	1A:1B:1D	1A:1B:2D
Pour Time (min)	6	6	5.5	7.5	9
Demold Time	1 hr	1 hr	45 min	45 min	1 hr
Shore Hardness	A25	A17	OO35	OOO40	OOO5
Tack	No	No	Slight	Yes	Very

PLATSIL® DEADENER LV & PLATSIL® GEL-25					
Mix Ratio	1A:1B	1A:1B:0.25D	1A:1B:0.5D	1A:1B:1D	1A:1B:2D
Pour Time (min)	6	5.5	7.5	10	12
Demold Time	1 hr	1 hr	45 min	45 min	1 hr
Shore Hardness	A25	A17	OO35	OOO44	OOO10
Tack	No	No	Slight	Yes	Very

PLATSIL® GEL-10

Add up to 200% (by weight of A +B) Smith's Theatrical Prosthetic Deadener or PlatSil Deadener LV to PlatSil® Gel-10.

SMITH'S THEATRICAL PROSTHETIC DEADENER & PLATSIL® GEL-10					
Mix Ratio	1A:1B	1A:1B:0.5D	1A:1B:1D	1A:1B:2D	1A:1B:4D
Pour Time (min)	8	6.5	7	8.5	10
Demold Time	30 min	30 min	30 min	30 min	1 hr
Shore Hardness	A8	OO41	OO30	OOO52	OOO20
Tack	No	No	Slight	Yes	Very

PLATSIL® DEADENER LV & PLATSIL® GEL-10					
Mix Ratio	1A:1B	1A:1B:0.5D	1A:1B:1D	1A:1B:2D	1A:1B:4D
Pour Time (min)	8	9.5	10	13	15
Demold Time	30 min	30 min	30 min	30 min	1 hr
Shore Hardness	A8	OO39	OO28	OOO49	OOO25
Tack	No	No	Slight	Yes	Very

PLATSIL® GEL-OO

Add up to 100% (by weight of A +B) Smith's Theatrical Prosthetic Deadener or PlatSil Deadener LV to PlatSil® Gel-OO.

SMITH'S THEATRICAL PROSTHETIC DEADENER & PLATSIL® GEL-OO				
Mix Ratio	1A:1B	1A:1B:0.5D	1A:1B:1D	1A:1B:2D
Pour Time (min)	7.5	6.5	9	11
Demold Time	40 min	40 min	40 min	45 min
Shore Hardness	OO30	OO17	OOO50	OOO16
Tack	No	No	Yes	Very

PLATSIL® DEADENER LV & PLATSIL® GEL-OO				
Mix Ratio	1A:1B	1A:1B:0.5D	1A:1B:1D	1A:1B:2D
Pour Time (min)	8	10	15	18.5
Demold Time	40 min	40 min	40 min	45 min
Shore Hardness	OO30	OO11	OOO45	OOO15
Tack	No	No	Yes	Very

HARDENER:

PlatSil® Part H Hardener can be used to increase Shore hardness for all PlatSil gels. Add hardener to Part A before mixing with Part B. Do not exceed the mix ratio of 1A: 1B: 1H.

ASSYST sprl / A.S.O.W. sprl
Hellegatstraat 13a - 2590 Berlaar - Belgium
Tel: +32 495 50 61 14 / +32 496 83 70 27
Website: www.assyst.org / www.artsuppliesonweb.com
Email: ao@assyst.org / vera.opsommer@assyst.org

PLATSIL® PART H HARDENER & PLATSIL® GEL-25		
Mix Ratio	1A:1B	1A:1B:1H
Pour Time (min)	6	8
Demold Time	1 hr	2.5 hr
Shore Hardness	A25	A40
Tack	No	No

PLATSIL® PART H HARDENER & PLATSIL® GEL-10		
Mix Ratio	1A:1B	1A:1B:1H
Pour Time (min)	8	9.5
Demold Time	30 min	1.5 hr
Shore Hardness	A8	A25
Tack	No	No

PLATSIL® PART H HARDENER & PLATSIL® GEL-OO		
Mix Ratio	1A:1B	1A:1B:1H
Pour Time (min)	7.5	6.5
Demold Time	40 min	1.5 hr
Shore Hardness	OO30	A17
Tack	No	No

PLATSIL® PART H HARDENER & PLATSIL® GEL-OO30		
Mix Ratio	1A:1B	1A:1B:1H
Pour Time (min)	45	30
Demold Time	4 hr	3.5 hr
Shore Hardness	OO30	A14
Tack	No	No

PLATSIL® PART H HARDENER & PLATSIL® GEL-OO20		
Mix Ratio	1A:1B	1A:1B:1H
Pour Time (min)	40	40
Demold Time	2 hr	4 hr
Shore Hardness	OO20	A14
Tack	No	No

COLOR:
Silicone colors can be added individually or in combination to achieve any color desired. These are available in white, yellow, red, green, blue, brown, black, skin tone and dark skin tone.

SAFETY:
Read product labels and safety data sheets before use. Follow safety precautions and instructions. Use with adequate ventilation. Avoid contact with mucous membranes and eyes. The best way to clean up is to wipe with disposable paper towels and wash with waterless hand sanitizer and then with soap and water. If solvents must be used, denatured ethyl alcohol is best, but must be handled with respect for health and flammability. PlatSil gels conform to ASTM D4236.

MAINTENANCE:
For best results, store products in unopened containers at room temperature (60-90°F / 15-32°C). Use products within six months.