



SILICONE ELASTOMERS

FOR DENTAL APPLICATIONS

MOMENTIVE[®]

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ELASTOMERS FOR DENTAL APPLICATIONS

Dental impression materials play a crucial role in restorative dentistry to efficiently create accurate dental impressions for a wide variety of applications like implants, crowns, inlays, overlays and bridges.

For a successful restoration, it's essential to make the most accurate impression possible, and doing so requires a material that can adapt in great detail to the patient's teeth and gums, remain stable, and not cause discomfort to the patient during the process.

With these requirements in mind, polyvinyl siloxanes have become the restorative dentistry industry's preferred elastomeric impression materials due in large part to their:

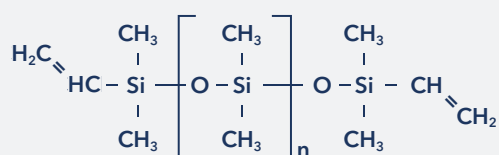
- High precision capability
- Hydrophilicity: Enables void-free impressions
- Good elasticity properties
- Outstanding dimensional stability
- High tear strength and elongation
- Ease of mixing and pigmentation
- Platinum Addition Cure

To help our customers succeed, Momentive offers a range of products for the compounding of dental impression materials, all of which are available in a modular system:

- Silopren U Polymers
- Silopren U Base Compounds
- Silopren U Crosslinking Agents
- Silopren U Catalysts and Inhibitor
- Silopren LSR Color Pastes

SILOPREN U POLYMERS

Silopren U Polymer is the base for addition curing silicone rubber comprising vinyl terminated, linear polydimethylsiloxanes.



The grade number refers to the product's viscosity, which is directly correlated to the length of the polymer chain.



SILOPREN U BASE COMPOUNDS

Silopren U Base Compounds P300 and P1300 are mixtures of vinyl-containing polysiloxanes and a reinforcing filler.

Silopren U Base Compounds H6 and H60 are vinyl group-containing polysiloxanes that do not include a reinforcing filler. These base compounds are used in the development of transparent formulations, and do not contain any catalysts or crosslinking agents.

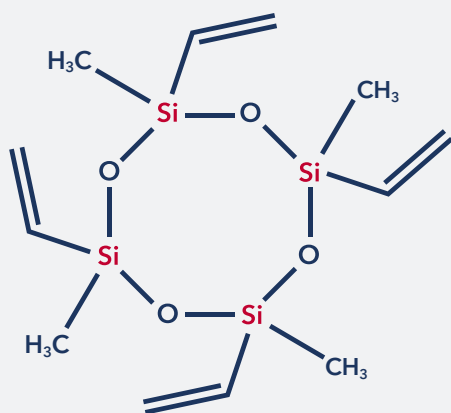
SILOPREN U CROSSLINKING AGENTS

Silopren U Crosslinking Agents are polysiloxanes that contain silicon-bonded hydrogen atoms, and primarily used to vulcanize vinyl-group containing polymers and base compounds together with Silopren U Catalysts and Inhibitor.

SILOPREN U CATALYSTS AND INHIBITOR

Silopren U Catalysts are platinum complexes in a vinyl group-containing siloxane matrix that catalyze the addition reaction of the Silopren U Crosslinking Agents with the vinyl groups contained in Silopren U Polymers and Silopren U Base Compounds.

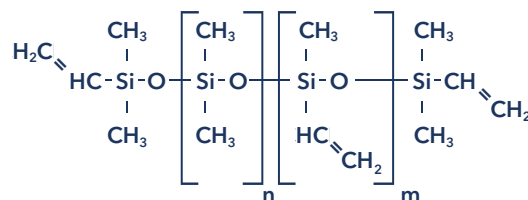
Inhibitor Vinyl D4 can adjust pot life and curing time at room temperature of an addition curing compound based on Silopren U Catalysts.



SILOPREN U ADDITIVES

Silopren U Additive V 200 and V 5000

are vinyl group-containing polysiloxanes, of which the terminal and lateral vinyl groups take part in the vulcanization reaction with Silopren U Crosslinking Agents. The mechanical properties of the vulcanized compound are thus influenced by the crosslinking density.



Silicone Additive TP 3610 and EVH 3824 are solvent-free, resin-based liquid polysiloxanes that utilize their incorporated vinyl groups to facilitate the reaction with Silopren U Crosslinking Agents. The mechanical properties of the vulcanized compound are thus influenced by the crosslinking density.

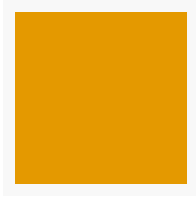
Silicone Additive TP 3610 and EVH 3824 can enable the stability of the compounds while at the same time reducing their viscosity.

Color pastes are available to pigment addition cure products such as LSRs. The recommended quantity of paste to add is 0.5% to 2%, depending on the desired depth of color. The incorporation of Momentive's color additives will not typically affect the performance properties of our products.

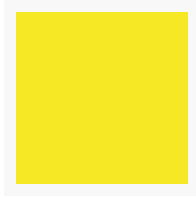
Momentive's UV Curing Silicone Rubbers are broadly compatible with most of the standard colors. In most cases, the curing time is extended in comparison to the transparent silicone rubbers. Please contact our technical experts for more information.

Product Name	Appearance	Viscosity mPa.s	Density g/cm ³	Volatile Content % by wt.	Vinyl Content mmol/g	SiH Content mmol/g	Solidification Point °C	Refractive Index	Flash Point °C
Silopren U Polymers									
Silopren U 0.2	Clear	200	0.97	1	0.30	-	-	-	-
Silopren U 1	Clear	1,000	0.97	1	0.13	-	-	-	-
Silopren U 10	Clear	10,000	0.97	1	0.05	-	-	-	-
Silopren U 65	Clear	65,000	0.97	1	0.03	-	-	-	-
Silopren U 165	Clear	165,000	0.97	1	0.02	-	-	-	-
Silopren U Base Compounds									
U Base Compound P300	Translucent	300,000	1.10	-	0.04	-	-	-	>160
U Base Compound P1300	Translucent	1,300,000	1.13	-	0.04	-	-	-	>160
U Base Compound H6	Clear, slightly yellow	6,200	1.01	-	0.22	-	-55	1.406	>180
U Base Compound H60	Clear, slightly yellow	55,000	1.01	-	0.20	-	-55	1.406	>200
Silopren U Crosslinking Agents									
U Chain Extender TP 3359	Clear	13	0.96	-	-	1.40	-	-	-
Chain Extender TP 3666	Clear	1,000	0.97	-	-	0.12	-	-	-
U Crosslinking Agent 230	Clear	210	0.98	-	-	2.30	-	-	-
U Crosslinking Agent 430	Clear	35	0.96	-	-	4.30	-	-	-
U Crosslinking Agent 730	Clear	35	0.98	-	-	7.30	-	-	-
U Crosslinking Agent 930	Clear	45	1.03	-	-	9.30	-	-	-
Silopren U Catalyst									
U Catalyst PT/D Platinum 1% by weight	Yellowish	840	0.98	-	0.5	-	-	-	>90
Inhibitor									
Vinyl D4	Clear	-	0.98	-	11.6	-	-	1.43	>100
Silopren U Additives									
U Additive V 200	Clear	225	0.98	2	2.0	-	-	-60	-
U Additive V 5000	Clear	4,400	0.98	2	0.8	-	-	-60	-
Additive TP 3610	Clear	2,000	1.08	-	0.8	-	-	-	-
Additive EVH 3824	Clear, slightly yellow	2,500	1.05	-	1.3	-	-	-	-

LSR COLOR PASTES



Maize Yellow
RAL 1007
Pantone 130 C
1.00 g/cm³



Yellow
RAL 1016
Pantone 604 C
1.15 g/cm³



Vermilion
RAL 2002
Pantone 179 C
1.02 g/cm³



Orange New
RAL 2004
Pantone 021 C
1.03 g/cm³



Reddish Brown
RAL 3011
Pantone 484 C
1.14 g/cm³



Red
RAL 3020
Pantone 285 C 2X
1.02 g/cm³



Wine Red
RAL 3027
Pantone 200 C
1.05 g/cm³



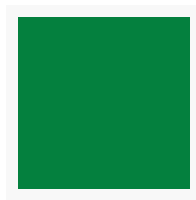
Ultramarine Blue
RAL 5002
Pantone 2738 C
1.18 g/cm³



Blue
RAL 5005
Pantone 2945 C
1.12 g/cm³



Green
RAL 6010
Pantone 364 C
1.16 g/cm³



Light Green
RAL 6032
Pantone 356 C
1.12 g/cm³



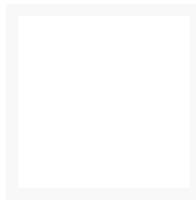
Grey
RAL 7000
1.11 g/cm³



Light Grey
RAL 7040
1.14 g/cm³



Brown
RAL 8011
Pantone 469 C
1.10 g/cm³



White
RAL 9010
1.18 g/cm³



Black
RAL 9005
Pantone 4 C 2X
0.98 g/cm³

Color pastes are available to pigment addition cure products such as LSRs. The recommended quantity of color to add is 0.5% to 2%, depending on the desired depth of color. The use of Momentive's color additives should not affect the performance properties of our products.

The UV Curing Silicone Rubbers from Momentive can be colored with most of the standard colors. In most cases the curing time is extended compared to the transparent silicone rubbers. Please contact our technical experts for more information.

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