



# SILICONE ELASTOMERS

FOR DENTAL APPLICATIONS

**MOMENTIVE**<sup>®</sup>

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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:

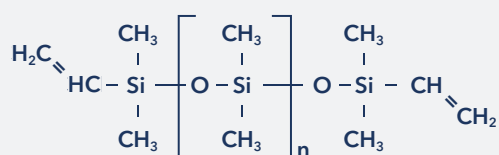
- High precision capability
- Hydrophilicity: Enables void-free impressions
- Good elasticity properties
- Outstanding dimensional stability
- High tear strength and elongation
- Ease of mixing and pigmentation
- Platinum Addition Cure

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.

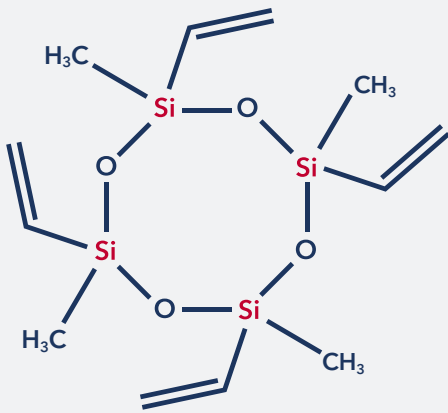
## SILOPREN U CROSSLINKING AGENTS

**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.

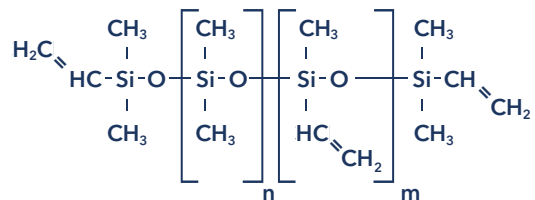
**Inhibitor Vinyl D4** can adjust pot life and curing time at room temperature of an addition curing compound based on Silopren U Catalysts.



# 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.

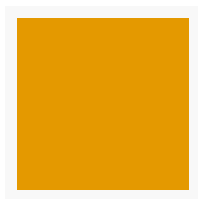
**Color pastes** are available to pigment addition cure products such as LSRs. The recommended quantity of paste to add is 0.5% to 2%, depending on the desired depth of color. The incorporation of Momentive's color additives will not typically affect the performance properties of our products.

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.

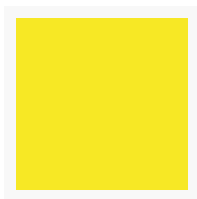


Product Name	Appearance	Viscosity mPa.s	Density g/cm <sup>3</sup>	Volatile Content % by wt.	Vinyl Content mmol/g	SiH Content mmol/g	Solidification Point °C	Refractive Index	Flash Point °C
<b>Silopren U Polymers</b>									
Silopren U 0.2	Clear	200	0.97	1	0.30	-	-	-	-
Silopren U 1	Clear	1,000	0.97	1	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	-	-	-	-
<b>Silopren U Base Compounds</b>									
U Base Compound P300	Translucent	200	1.10	-	0.04	-	-	-	>160
U Base Compound P1300	Translucent	1,300	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
<b>Silopren U Crosslinking Agents</b>									
U Chain Extender TP 3359	Clear	3	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	-	-	-
<b>Silopren U Catalyst</b>									
U Catalyst PT/D Platinum 1% by weight	Yellowish	840	0.98	-	0.5	-	-	-	>90
<b>Inhibitor</b>									
Vinyl D4	Clear	-	0.98	-	11.6	-	-	1.43	>100
<b>Silopren U Additives</b>									
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/cm<sup>3</sup>



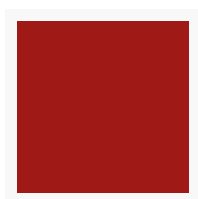
**Yellow**  
RAL 1016  
Pantone 604 C  
1.15 g/cm<sup>3</sup>



**Vermilion**  
RAL 2002  
Pantone 179 C  
1.02 g/cm<sup>3</sup>



**Orange New**  
RAL 2004  
Pantone 021 C  
1.03 g/cm<sup>3</sup>



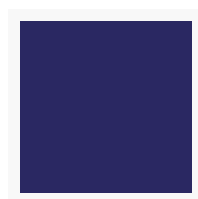
**Reddish Brown**  
RAL 3011  
Pantone 484 C  
1.14 g/cm<sup>3</sup>



**Red**  
RAL 3020  
Pantone 285 C 2X  
1.02 g/cm<sup>3</sup>



**Wine Red**  
RAL 3027  
Pantone 200 C  
1.05 g/cm<sup>3</sup>



**Ultramarine Blue**  
RAL 5002  
Pantone 2738 C  
1.18 g/cm<sup>3</sup>



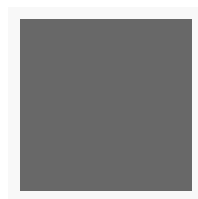
**Blue**  
RAL 5005  
Pantone 2945 C  
1.12 g/cm<sup>3</sup>



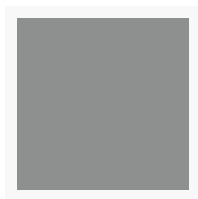
**Green**  
RAL 6010  
Pantone 364 C  
1.16 g/cm<sup>3</sup>



**Light Green**  
RAL 6032  
Pantone 356 C  
1.12 g/cm<sup>3</sup>



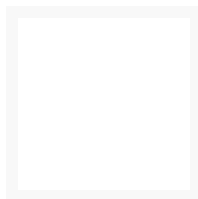
**Grey**  
RAL 7000  
1.11 g/cm<sup>3</sup>



**Light Grey**  
RAL 7040  
1.14 g/cm<sup>3</sup>



**Brown**  
RAL 8011  
Pantone 469 C  
1.10 g/cm<sup>3</sup>



**White**  
RAL 9010  
1.18 g/cm<sup>3</sup>



**Black**  
RAL 9005  
Pantone 4 C 2X  
0.98 g/cm<sup>3</sup>

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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