Product Datasheet

SP&S
Specialty Polymers and Services

Silfex SM 328

28 Durometer Condensation Cure Moldmaking Material

Product Description
Silflex SM 328 is a two-component, room temperature condensation cure silicone material. The cured rubber has excellent mechanical properties and good shelf-life stability. This material is an excellent choice for the molding of intricate patterns, skin molding and applications where high durometer, dimensional stability and extremely tough rubber are required.

Key Features
- High tear strength
- Low viscosity
- Fast demold time
- Excellent dimensional stability

Main Applications
- Molds for statues & decorative applications
- Molds for polyester, polyurethane and epoxy resin castings
- Molds for technical articles and prototypes
- Molds for furniture and picture frame replication

Typical Properties

UNCATALYZED PROPERTIES

Base Appearance	Beige
Base Viscosity, cps	35,000
Mix Ratio:	10 parts Base to 1 part catalyst by weight

CATALYST(1)	**S-Cat Blue**	**S-Cat Purple**	**S-Cat Red 3**
Color	Blue	Purple	Red
Viscosity, cps	100	100	100
Specific Gravity	1.03	1.00	0.95
CATALYZED PROPERTIES SM128/S-Cat indicated:			
Catalyzed Color	Light Blue	Light Purple	Light Red
Catalyzed Viscosity	28,000	28,00	28,00
Specific Gravity	1.28	1.28	1.28
Pot Life (minutes) (2)	45 – 90	~ 45	~15
Tack Free Time	6-8 hours	4-6 hours	45 – 60 minutes
Demold Time	16-24 hours	12-16 hours	4-6 hours

(1)Thixotropic and styrene resistant specialty catalysts are available.
(2)Pot Life is defined as the time at which the catalyzed viscosity has doubled.

TYPICAL CURED PROPERTIES (cured 3 Days @ 25C)

Durometer, Shore A	26 to 30
Tensile Strength, psi	>500
Elongation, %	~400
Tear B, ppi	>140
Linear Shrinkage, %	<0.3

Note: Not for Product Specification Purposes – for reference only contact us for sales specifications.

Curing Characteristics

The curing process begins as soon as the catalyst is mixed with the base. Under normal temperature (25C) and humidity (50% RH) conditions, the material will cure as described in the data above. Because this system is sensitive to heat and humidity, a change in cure speed may be seen if one or both of these variables are altered. Any large difference in temperature (+/-5C) or humidity (>60-70%) may change the cure profile of the material. In addition, if the product is to be used with aggressive resins such as high styrene polyester resins, it is recommended that the rubber be allowed to cure for 48 hours. The standard catalyst for the SM128 is S-Cat Purple at a 10% level **by weight**. S-Cat Blue is recommended for those needing a longer working time or those hand mixing larger quantities of SM 328. Faster cure can be obtained using DBT, a higher level of S-Cat Purple, or S-Cat Red 3. However, rapid cure of condensation cure moldmaking rubber often results in a small sacrifice of physical properties or an increase in hardness.

Mixing and De-aeration

The following procedure should be followed for obtaining optimal performance from the SM 328. Charge 100 parts, **by weight**, of Silfex SM 328 and 10 parts**, by weight**, of the chosen catalyst into a clean, compatible metal or plastic container. Shake the catalyst well before use. The volume of the container should be 3-4 times the volume of the material to be mixed. This allows for expansion of the siloxane material as it de-gasses.

Mix thoroughly by hand or with mixing equipment while minimizing air entrapment until a homogeneous mixture is obtained. This will occur when the material takes on a uniform color with no visible striations. Once mixing is complete it is recommended that the material be de-aired 2-3 times by intermittent evacuation for a few minutes to minimize any imperfections due to bubbles in the cured material. Typically after releasing the vacuum 2-3 times the mass will collapse on itself at which time the vacuum should be left on only 2-4 minutes longer.

Shelf-life and Storage

SM 328 and the chosen catalyst should be stored in their original, sealed containers in an environment that does not exceed 90F. Under these conditions the expected shelf-life of the material is 6 months.

FIRST AID

In case of contact:
Skin – Immediately wash skin thoroughly with mild soap and water. Remove contaminated clothing and wash before reuse. Destroy contaminated shoes and other articles made of leather.
Eyes – Immediately flush eyes with plenty of water for 15 minutes and get prompt medical attention.
Inhalation - Remove person to fresh air. Administer oxygen or artificial respiration if necessary. Call a physician.
Ingestion - Do not induce vomiting. Dilute with plenty of water and contact physician immediately. Never give anything by mouth to an unconscious person.

Specialty Polymers & Services, Inc. (SP&S)
27822 Fremont Court
Valencia, CA 91355
www.spolymers.com
Tel: 661-294-1790
Fax : 661-294-0640
info@spolymers.com