



Craftsil-20HS

Silicone Rubber for Flexible Molds

Product Technical data sheet

PRODUCT DESCRIPTION

Craftsil-20HS is a cost effective 2-Part Silicone RTV, recommended for mold making applications. This is a low viscosity, flowable grade, having good mechanical strength and cures with various catalyst options (depending on the application requirements) at room temperature to a flexible elastomer, This grade is well suited for detailed and exact reproduction of artifacts, figures, architectural items and similar objects. Craftsil-20HS will reproduce the finest detail of the master and is suitable for a variety of art related and industrial applications such as mold making for reproducing architectural items, prototypes, furniture, and sculptures.



PRODUCT FEATURES

- ❑ Craftsil-20HS offers an optimum combination of good flow, high mechanical properties and excellent detail reproduction with good service life in mold making applications
- ❑ Craftsil-20HS is compatible with several master materials such as wood, metal, plastics, rubber, clay...
- ❑ Molds made of Craftsil-20HS can be used to cast a variety of reproduction materials such as polyester resins, polyurethanes low melt metal alloys, epoxies, wax, gypsum, clay, wax, soap etc
- ❑ Good mechanical properties – gives long mold life
- ❑ Highly elastic and excellent release properties – for easy de-molding.
- ❑ Work in a wide range of service temperatures.

APPLICATIONS

- Craft Industry- figurines, decorative reproduction
- Statue/idol casts with polyester resins,
- GRC, FRP and Cement casting.
- Artificial stone, murals, architectural items, ornamental frames, buttons, stationery gifts
- Planter, furniture, decorative items

TECHNICAL OVERVIEW

UNCURED PROPERTIES

PROPERTY	STANDARD	UNITS	VALUE
Colour			White
Viscosity Component A		mPa.s	19000
Specific Gravity	ASTM D-1475	-	1.1
Mixed Viscosity	ASTM D-2393	mPa.s	15000
Pot-life with 5% Cat-UL5	ASTM D-2471	Min.	30
Pot-life with 3% Cat-2P	ASTM D-2471	Min.	10

CURED PROPERTIES* (With Cat-UL5 & CAT-2P)

PROPER	STANDARD	UNITS	VALUE		
			CAT-UL5 (5%)	CAT-2P (2%)	CAT-2P (3%)
Hardness	ASTM D-2240	Shore A	20	15	25
Tensile Strength	ASTM D-412	MPa	4.5	4.0	4.2
Elongation	ASTM D- 412	%	450	380	305
Tear Strength	ASTM D-624	N/mm	12	10	10
Linear Shrinkage		(%)	<0.5	<0.5	<0.5

*Typical Properties, should not be used as specification

CATALYST OPTIONS

The choice of catalyst depends on the application method and the speed of cure needed. Craftsil-20HS can be cured in to elastomeric products using the following cure options:

- ❑ **Cat-UL-5: Slow catalyst:** Catalyst with long work life for slow demolding (useful in pouring application). Takes about 12 hours at room temperature for complete curing.
- ❑ **Cat-2P : Rapid Catalyst :** demolding catalyst with short work life for high speed mold making.(useful for brushing). Takes about 4 hours at room temperature for complete curing.

CATALYST PROPERTIES

PROPERTY	Cat-UL5	Cat-2P
Colour	Transparent	Transparent
Density (g/cc)	0.95-0.97	0.95-0.97
Viscosity (mPa.s)	25	25
Mix Ratio (A:B)	100:5	100:2-3
Cure time (h)	12	4

METHOD OF USE

- ❑ **Surface Preparation:** The master surface should be clean, free of loose materials and dust particles. With porous substrates use a suitable release agent such as petroleum jelly or soap solution.
- ❑ **Mixing of Components:** Thoroughly stir Craftsil-20HS before addition of catalyst, as filler separation might have occurred during prolonged storage. *This is an important step to get the desired performance.* Select a container for mixing which is 4-5 times larger than the total material to be mixed. Weigh the A and B components in the desired ratio (ex: 100:5). Stir vigorously for several minutes scraping the sides and the bottom of the container to produce a homogeneous mix. Hand or mechanical (power) mixing can be used but do not mix for an extended air or causing over heating resulting in shorter work life.
- ❑ **De-aeration :** It is recommended that entrapped air be removed under vacuum to eliminate voids in the final product. This process will make the mixture to expand and then collapse. A volume increase of

about 4-5 times will occur during the de-aeration process. Therefore, a large container should be used to accommodate this volume change. It should be also noted that prolonged application of vacuum will remove the volatiles from the mixture that can result in poor cure.

- ❑ This system is sensitive to temperature and humidity and therefore can influence the cure speed. However, the final mechanical properties of the mold will be attained in one week. The material will cure to a flexible rubber within 24 hours at room temperature and the mold can then be separated from the master.
- ❑ **Pouring the Mix and Curing:** The mix should be poured as soon as possible on to the original master to avoid air entrapment. The material will cure at a speed depending on the selection and the amount of the catalyst.

HANDLING PRECAUTIONS AND SAFETY

Craftsil-20HS contains constituents that have been found to be safe. Hence special handling precautions except general industrial hygiene need to be followed. Catalysts (Cat-UL5 and Cat-2P) contain organo-tin compounds and are flammable and might cause irritation upon contact with eyes and skin. Adequate protective measures are recommended. Refer to Material safety Data Sheet (MSDS) for safe use of the product

USABLE LIFE AND STORAGE

The shelf life of Craftsil-20HS and the catalysts (Cat-UL5, Cat-2P) is 6 months from the date of manufacturing if stored below 27°C in original unopened containers.

PACKING

Craftsil-20HS is available in following kit forms :

1. Kit of 1.050 kg (1 kg Craftsil-20HS - Part-A + 50 grams of Cat-UL5/Cat-2P)
2. Kit of 5.25 kg (5 kg Craftsil-20HS - Part-A + 250 grams of Cat-UL5/Cat-2P)
3. Kit of 21 kg (20 kg Craftsil-20HS – Part-A + 1 kg of Cat-UL5/Cat-2P)

LIMITATIONS

This product is neither tested nor claimed as suitable for food contact, medical or pharmaceutical applications.

Craftsil-20HS is manufactured in India by :

Performance Polymers

B-88, 3rd Cross 3rd Main,

Opp. ESI Sub-Regional Office

DDUTT, Industrial Suburb, 2nd Stage,

Yeshwantpur, Bangalore 560 022,

Phone: +91-8023379779

e-mail: ceo@performancepolymers.in web: www.moldsil.com

Limited Warranty : The information mentioned in this data sheet is a description of the product to the best of our knowledge. Recommendations for use do not constitute a warranty of the fitness for a particular use. It is the user's responsibility to thoroughly test the product in a particular application to determine its performance and safety.