

# Silastic® 3496, 3497 and 3498 Mold Making Bases and Silastic® 81 NW Series Curing Agents

## FEATURES

- High flowability and long working time for complex molds
- Outstanding release and high tear resistance for intricate originals and deep undercuts
- High elasticity, for easy removal of complex parts
- Choice of bases and curing agents for various rubber properties

**High strength silicone mold making rubbers with improved mold life for polyester resins**

## APPLICATIONS

- High strength silicone mold making rubber developed for the detailed reproduction of figurines, art objects and similar items.

## TYPICAL PROPERTIES

Specification Writers: These values are not intended for use in preparing specifications. Please contact your local Dow Corning sales office or your Global Dow Corning Connection before writing specifications on this product.

Property	Unit	Value		
<b>Bases</b>		<b>SILASTIC 3496</b>	<b>SILASTIC 3497</b>	<b>SILASTIC 3498</b>
Color		Off-White	Off-White	Light Beige
Viscosity	mPa.s	18,600	24,800	27,200
Rel. density at 25°C(77°F)		1.16	1.21	1.23
<b>Curing Agents, Silastic</b>		<b>81 NW</b>	<b>81-R NW</b>	<b>81-F NW</b>
Color		Clear	Clear	Clear

Typical properties of Base and Curing Agent mixture and of cured material can be found in Table 1.

## DESCRIPTION

SILASTIC® 3496, 3497 and 3498 Mold Making Rubbers are two-component materials consisting of a base, which when mixed with SILASTIC® 81 NW, 81-F NW or 81-R NW Curing Agent, cures at room temperature by a condensation reaction. The materials are formulated to have an improved mold life for polyester resins.

separation may occur upon prolonged storage.

Weigh 100 parts of SILASTIC 3496, 3497 or 3498 Base and 5 parts SILASTIC 81 NW, 81-R NW or 81-F NW Curing Agent into a clean container.

## HOW TO USE

### Substrate preparation

The surface of the original should be clean and free of loose material. If necessary, and in particular with porous substrates, use a suitable release agent such as petroleum jelly or soap solution.

Mix together until the curing agent is completely dispersed in the base. Hand or mechanical mixing can be used, but do not mix for an extended period of time or allow the temperature to exceed 35°C(95°F).

Mix suitable small quantities to ensure thorough mixing of base and curing agent.

### Mixing

Thoroughly stir SILASTIC 3496, 3497 or 3498 Base before use, as filler

It is strongly recommended that entrapped air be removed in a vacuum chamber, allowing the mix to completely expand and then collapse.

After a further 1-2 minutes under vacuum, the mix should be inspected and if free of air bubbles, can then be used.

A volume increase of 3-5 times will occur on vacuum de-airing the mixture, so a suitably large container should be chosen.

Caution: prolonged vacuum will remove volatile components from the mix and may result in poor thick section cure and non-typical properties.

Note: If no vacuum de-airing equipment is available, air entrapment can be minimized by mixing a small quantity of base and curing agent, then using a brush, painting the original with a thin layer. Leave at room temperature until the surface is bubble free and the layer has begun to cure. Mix a further quantity of base and curing agent and proceed as follows to produce a final mold.

### **Pouring the mixture and curing**

Pour the mixed base and curing agent as soon as possible onto the original, avoiding air entrapment. The catalyzed material will cure to a flexible rubber and the mold can then be removed (see table of typical properties for details). If the working temperature is significantly lower than 23°C (73.4°F), the cure time will be longer. If the room temperature or humidity is very high, the working time of the catalyzed mixture will be reduced. The final mechanical properties will be reached within 7 days.

### **Use at high temperatures**

Some molds produced from condensation cure silicone rubbers can degrade when exposed to temperatures above 150°C (302°F) over a period of time or when totally confined in storage at high ambient temperatures. This can result in softening and loss of elastic properties.

### **Resistance to casting material**

The chemical resistance of fully cured SILASTIC 3496, 3497 or 3498 is excellent. The materials are formulated to have an improved mold life for polyester resins. It should be noted however that ultimately, resins and other aggressive casting materials will attack silicone molds, changing physical properties, surface release and possibly mold dimensions. Molds should be checked periodically during long production runs. SILASTIC 3496, 3497 and 3498 are industrial products and must not be used in food molding, dental and human skin molding applications.

### **HANDLING PRECAUTIONS**

Product safety information required for safe use is not included. Before handling, read product and safety data sheets and container labels for safe use, physical and health hazard information. The material safety data sheet is available on the Dow Corning website at [www.dowcorning.com](http://www.dowcorning.com). You can also obtain a copy from your local Dow Corning sales representative or Distributor or by calling your local Dow Corning Global Connection.

### **USABLE LIFE AND STORAGE**

When stored at or below 32°C (89.6°F) in the original unopened containers, SILASTIC 3496, 3497 or 3498 have a usable life of 12 months from the date of production.

SILASTIC 81 NW has a usable life of 12 months, SILASTIC 81-R NW has a usable life of 9 months and SILASTIC 81-F NW has a usable life of 7 months from the date of production.

### **PACKAGING**

SILASTIC 3496, 3497 or 3498 Base are available in 5kg, 20kg or 200kg containers.

SILASTIC 81 NW series Curing Agents are available in 0.25kg, 1kg and 10kg containers. In most areas

### **LIMITATIONS**

This product is neither tested nor represented as suitable for medical or pharmaceutical uses.

### **HEALTH AND ENVIRONMENTAL INFORMATION**

To support Customers in their product safety needs, Dow Corning has an extensive Product Stewardship organization and a team of Product Safety and Regulatory Compliance (PS&RC) specialists available in each area.

For further information, please see our website, [www.dowcorning.com](http://www.dowcorning.com) or consult your local Dow Corning representative.

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**Table 1: Typical properties of Base and Curing Agent mixture and of cured material after 2 days at 23°C (73°F)**

<i>SILASTIC 3496 Base</i>		<i>349 6 / 81 NW</i>	<i>3496 / 81-R NW</i>	<i>3496 / 81-F NW</i>
<b>Base and Curing Agent mixture (100:5 by weight)</b>				
Mixed viscosity	mPa.s	11,400	14,600	13,000
Working time, minimum	min	120-180	120-180	60-90
Curing time, maximum	hours	24	24	8
<b>Cured for 2 days at 23°C (73°F)</b>				
Hardness (Shore A)		13	12	15
Tensile strength	psi	522	580	537
	MPa	3.6	4.0	3.7
Elongation at break	%	689	765	585
Tear strength	ppi	160	154	160
	kN/mm	28	27	28
Linear shrinkage	%	0.2-0.4	0.2-0.4	0.2-0.4
<i>SILASTIC 3497 Base</i>		<i>3497 / 81 NW</i>	<i>3497 / 81-R NW</i>	<i>3497 / 81-F NW</i>
<b>Base and Curing Agent mixture (100:5 by weight)</b>				
Mixed viscosity	mPa.s	19,000	16,200	16,600
Working time, minimum	min	120-180	120-180	60-90
Curing time, maximum	hours	24	24	8
<b>Cured for 2 days at 23°C (73°F)</b>				
Hardness (Shore A)		23	18	24
Tensile strength	psi	696	609	696
	MPa	4.8	4.2	4.8
Elongation at break	%	568	582	528
Tear strength	ppi	131	154	143
	kN/mm	23	27	25
Linear shrinkage	%	0.2-0.4	0.2-0.4	0.2-0.4
<i>SILASTIC 3498 Base</i>		<i>3498 / 81 NW</i>	<i>3498 / 81-R NW</i>	<i>3498 / 81-F NW</i>
<b>Base and Curing Agent mixture (100:5 by weight)</b>				
Mixed viscosity	mPa.s	14,700	17,100	16,900
Working time, minimum	min	120-180	120-180	60-90
Curing time, maximum	hours	24	24	8
<b>Cured for 2 days at 23°C (73°F)</b>				
Hardness (Shore A)		28	23	27
Tensile strength	psi	711	711	682
	MPa	4.9	4.9	4.7
Elongation at break	%	537	568	483
Tear strength	ppi	171	154	131
	kN/mm	30	27	23
Linear shrinkage	%	0.2-0.4	0.2-0.4	0.2-0.4