Technical Data Sheet

SILASTIC™ RTV-3496 Mold-Making Base
SILASTIC™ RTV-3497 Mold-Making Base
SILASTIC™ RTV-3498 Mold-Making Base
SILASTIC™ RTV-3081 Mold-Making Curing Agent
SILASTIC™ RTV-3081-R Mold-Making Curing Agent
SILASTIC™ RTV-3081-F Mold-Making Curing Agent

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

Features & Benefits

- 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

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.

Property	Unit	Result		
Bases		**SILASTIC™ RTV-3496 Mold-Making Base**	**SILASTIC™ RTV-3497 Mold-Making Base**	**SILASTIC™ RTV-3498 Mold-Making Base**
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
Curing agents		**SILASTIC™ RTV-3081 Mold-Making Curing Agents**	**SILASTIC™ RTV-3081-R Mold-Making Curing Agents**	**SILASTIC™ RTV-3081-F Mold-Making Curing Agents**
Color		Clear	Clear	Clear

Typical properties of base and curing agent mixture and of cured material can be found in Table 1.

Table 1

Typical properties of base and curing agent mixture and of cured material after 2 days at 23°C (73°F)

SILASTIC™ RTV 3496 Base		SILASTIC™ RTV-3496 Base / SILASTIC™ RTV-3081 Curing Agent	SILASTIC™ RTV-3496 Base / SILASTIC™ RTV-3081-R Curing Agent	SILASTIC™ RTV-3496 Base / SILASTIC™ RTV-3081-F Curing Agent
Base and curing agent mixture (100:5 by weight)				
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
Cured for 2 days at 23°C (73°F)				
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
SILASTIC™ RTV 3497 Base		**SILASTIC™ RTV-3497 Base / SILASTIC™ RTV-3081 Curing Agent**	**SILASTIC™ RTV-3497 Base / SILASTIC™ RTV-3081-R Curing Agent**	**SILASTIC™ RTV-3497 Base / SILASTIC™ RTV-3081-F Curing Agent**
Base and curing agent mixture (100:5 by weight)				
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
Cured for 2 days at 23°C (73°F)				
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
SILASTIC™ RTV 3498 Base		**SILASTIC™ RTV-3498 Base / SILASTIC™ RTV-3081 Curing Agent**	**SILASTIC™ RTV-3498 Base / SILASTIC™ RTV-3081-R Curing Agent**	**SILASTIC™ RTV-3498 Base / SILASTIC™ RTV-3081-F Curing Agent**
Base and curing agent mixture (100:5 by weight)				
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

Table 1 (Cont.)

SILASTIC™ RTV 3498 Base		SILASTIC™ RTV-3498 Base / SILASTIC™ RTV-3081 Curing Agent	SILASTIC™ RTV-3498 Base / SILASTIC™ RTV-3081-R Curing Agent	SILASTIC™ RTV-3498 Base / SILASTIC™ RTV-3081-F Curing Agent
Cured for 2 days at 23°C (73°F)				
Hardness (Shore A)		28	23	27
Tensile strength	psi MPa	711 4.9	711 4.9	682 4.7
Elongation at break	%	537	568	483
Tear strength	ppi kN/mm	171 30	154 27	131 23
Linear shrinkage	%	0.2–0.4	0.2–0.4	0.2–0.4

Description

SILASTIC™ RTV-3496 Mold-Making Base, SILASTIC™ RTV-3497 Mold-Making Base and SILASTIC™ RTV-3498 Mold-Making Base are two-part materials consisting of a base, which when mixed with SILASTIC™ RTV-3081 Mold-Making Curing Agent, cures at room temperature by a condensation reaction. The materials are formulated to have an improved mold life for polyester resins.

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.

Mixing

Thoroughly stir SILASTIC™ RTV-3496 Base, SILASTIC™ RTV-3497 Base, and SILASTIC™ RTV-3498 Base before use, as filler separation may occur upon prolonged storage.

Weigh 100 parts of SILASTIC™ RTV-3496, SILASTIC™ RTV-3497 Base, or SILASTIC™ RTV-3498 Base and 5 parts SILASTIC™ RTV-3081 Curing Agent into a clean container.

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.

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.

How to Use (Cont.)

Mixing (Cont.)
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™ RTV-3496 Base, SILASTIC™ RTV-3497 Base, and SILASTIC™ RTV-3498 Base 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™ RTV-3496 Base, SILASTIC™ RTV-3497 Base, and SILASTIC™ RTV-3498 Base 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 IN THIS DOCUMENT. BEFORE HANDLING, READ PRODUCT AND SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION. THE SAFETY DATA SHEET IS AVAILABLE ON THE DOW WEBSITE AT DOW.COM, OR FROM YOUR DOW SALES APPLICATION ENGINEER, OR DISTRIBUTOR, OR BY CALLING DOW CUSTOMER SERVICE.

Usable Life and Storage

Product should be stored at or below 32°C (89.6°F) in original, unopened containers.

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 has an extensive Product Stewardship organization and a team of product safety and regulatory compliance specialists available in each area.

For further information, please see our website, dow.com or consult your local Dow representative.

Disposal Considerations

Dispose in accordance with all local, state (provincial) and federal regulations. Empty containers may contain hazardous residues. This material and its container must be disposed in a safe and legal manner.

It is the user's responsibility to verify that treatment and disposal procedures comply with local, state (provincial) and federal regulations. Contact your Dow Technical Representative for more information.

Product Stewardship

Dow has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our product stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with Dow products - from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

Customer Notice

Dow strongly encourages its customers to review both their manufacturing processes and their applications of Dow products from the standpoint of human health and environmental quality to ensure that Dow products are not used in ways for which they are not intended or tested. Dow personnel are available to answer your questions and to provide reasonable technical support. Dow product literature, including safety data sheets, should be consulted prior to use of Dow products. Current safety data sheets are available from Dow.

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