Product Information

DOW CORNING

SILASTIC® 3110
Base and Dow Corning® 1 Catalyst

FEATURES

- Outstanding release properties
- Low viscosity allowing easy mixing and degassing
- High flowability and long working time
- Medium-high hardness
- Economic and easy to use

General purpose silicone mouldmaking rubber

APPLICATION

- SILASTIC 3110 Base is suited for the detailed reproduction of figurines, art objects and similar items. It is particularly recommended where no deep undercuts or complex shapes are present.

TYPICAL PROPERTIES

Specifications writers: These values are not intended for use in preparing specifications. Please contact your local Dow Corning sales representative prior to writing specifications on this product.

Property	Unit	Value
Base and Catalyst (100:10 by weight)		
Mixed viscosity	mPa.s	10,000
Color		White
Working time of catalysed mixture at 23°C[1]	minutes	90 to 120
Cured for 3 days at 23°C		
Hardness (Shore A)		40
Tensile strength	MPa	2.4
Elongation at break	%	180
Tear strength	kN/m	<5
Relative density at 25°C		1.15
Linear shrinkage	%	0.2 to 0.4

1. The ratio of base: catalyst can be reduced to 100:5 parts by weight, giving a working time of 3 - 4 hours and a cure time of 48 hours. Other properties are not affected.

DESCRIPTION

SILASTIC 3110 Mouldmaking Rubber is a two component material consisting of a base, which when mixed with DOW CORNING 1 Catalyst cures at room temperature by a condensation reaction. A range of materials can be cast into the cured silicone mould: plaster, polyurethane, polyester and other reactive resins are materials typically used.

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 3110 Base before use, as filler separation may occur upon prolonged storage. Weigh 100 parts of SILASTIC 3110 Base and 5-10 parts DOW CORNING® 1 Catalyst according to the working and cure times required in a clean container. Mix together until the catalyst is completely dispersed in the base. Hand or mechanical mixing can be used, but do not allow the temperature to exceed 35°C. Mix suitably small quantities to ensure thorough mixing of the 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.

Note: If no vacuum de-airing equipment is available, air entrapment can be minimised by mixing a small quantity of base and catalyst, then using a brush, painting the original with a 1-2mm 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 mould. For some applications the low catalysed viscosity of SILASTIC 3110 Base will allow sufficient entrapped air to escape to the surface of the mould, without the need for this procedure, or vacuum.

Pouring the mixture and curing

Pour the mixed base and catalyst as soon as possible onto the original, avoiding air entrapment. The catalysed material will cure to a flexible rubber within 24-48 hours at room temperature (22-24°C) according to the amount of catalyst used and the mould can then be removed. If the working temperature is significantly lower, the cure time will be longer. If the room temperature or humidity is very high, the working time of the catalysed mixture will be reduced. The final mechanical properties of the mould will be reached within 7 days.

ADDITIONAL INFORMATION

Use at high temperatures

Some moulds produced from condensation cure silicone rubbers can degrade when exposed to temperatures above 150°C 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. Please contact a Dow Corning distributor for further advice.

Resistance to casting materials

The chemical resistance of fully cured SILASTIC 3110 Base is excellent, and similar to all condensation cure silicone elastomers. It should be noted however that ultimately, resins and other aggressive casting materials will attack silicone moulds, changing physical properties, surface release and possibly mould dimensions. Moulds should be checked periodically during long production runs.

Note:

SILASTIC 3110 Base is an industrial product 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 SAFETY DATA SHEET IS AVAILABLE FROM YOUR LOCAL DOW CORNING SALES REPRESENTATIVE.

USABLE LIFE AND STORAGE

When stored at or below 32°C in the original unopened containers, SILASTIC 3110 Base has a usable life of 24 months and DOW CORNING 1 Catalyst has a usable life of 12 months from the date of production.

PACKAGING

SILASTIC 3110 Base is available in 5kg, 2kg and 200kg containers. DOW CORNING 1 Catalyst is available in 0.5kg and 18.1kg 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 Corning has an extensive Product Stewardship organization and a team of Health, Environment and Regulatory Affairs specialists available in each area.

For further information, please consult your local Dow Corning representative.

WARRANTY INFORMATION - PLEASE READ CAREFULLY

The information contained herein is offered in good faith and is believed to be accurate. However, because conditions and methods of use of our products are beyond our control, this information should not be used in substitution for customer's tests to ensure that Dow Corning's products are safe, effective, and fully satisfactory for the intended end use. Dow Corning's sole warranty is that the product will meet the Dow Corning sales specifications in effect at the time of shipment. Your exclusive remedy for breach of such warranty is limited to refund of purchase price or replacement of any product shown to be other than as warranted. Dow Corning specifically disclaims any other express or implied warranty of fitness for a particular purpose or merchantability. Unless Dow Corning provides you with a specific, duly signed endorsement of fitness for use, Dow Corning disclaims liability for any incidental or consequential damages. Suggestions of use shall not be taken as inducements to infringe any patent.

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To consult Dow Corning web site, type: www.dowcorning.com

DOW CORNING AMERICAS

North America
Dow Corning Corporation
Tel.: +1 517 496 6000
Fax: +1 517 496 8026
Toll free from USA:
1 800 248 2481

Canada
Dow Corning Canada, Inc.
Tel.: +1 905 826 9600
Fax: +1 905 858 6005
Toll free from Canada:
1 800 248 2481

Mexico
Dow Corning de Mexico
Tel.: +525 327 1300
Fax: +525 327 1327

South America
Dow Corning do Brasil Ltda.
Tel.: +55 11 3759 4300
Fax: +55 11 3758 5727
Toll free from
Colombia: 9809 12 0276
Venezuela: 880 12112

Argentina
Dow Corning de Argentina S.A.I.C.
Tel.: +54 11 4814 9600
Fax: +54 11 4816 6119

DOW CORNING ASIA

Australia & New Zealand
Dow Corning Australia Pty Ltd.
Tel.: +61 1300 360 732
Fax: +61 1300 650 785

China (Chengdu)
Dow Corning China Ltd.
Tel.: +86 28 661 9678
Fax: +86 28 661 6756

China (Shanghai)
Dow Corning China Ltd.
Tel.: +86 21 6249 2316
Fax: +86 21 6249 2317

Indonesia, Singapore, Malaysia & Philippines
Dow Corning Singapore Pte Ltd.
Tel.: +65 253 6611
Fax: +65 253 6070

Japan
Dow Corning Toray Silicone Co Ltd.
Tel.: +81 3 3287 1011
Fax: +81 3 3287 1201

Taiwan (Chungli)
Dow Corning Taiwan Inc.
Tel.: +886 3 462 0534
Fax: +886 3 462 0552

Thailand
Dow Corning (Thailand) Ltd.
Tel.: +66 2 634 7078 to 7088
Fax: +66 2 634 7077

China (Beijing)
Dow Corning China Ltd.
Tel.: +86 10 6500 3051
Fax: +86 10 6504 5652

China (Hong Kong)
Dow Corning Asia
Tel.: +852 2835 0350
Fax: +852 2836 6650

India
Dow Corning India Ltd.
Tel.: +91 22 444 3820
Fax: +91 22 444 3485

Japan
Dow Corning Asia Ltd.
Tel.: +81 3 3287 1141
Fax: +81 3 3287 1088

Korea
Dow Corning Korea Ltd.
Tel.: +82 2 551 7600
Fax: +82 2 551 6800

Taiwan (Taipei)
Dow Corning Taiwan Inc.
Tel.: +886 2 2713 6936
Fax: +886 2 2717 2209

DOW CORNING EUROPE

Germany, Austria, Switzerland & Eastern Europe
Dow Corning GmbH
GERMANY
Tel.: +49 (0)611 - 23 70
Fax: +49 (0)611 - 237 610
E-mail: katja.bechstein@dowcorning.com

France & North Africa
Dow Corning France S.A.
Tel.: +33 (0)4 72 84 13 60
Fax: +33 (0)4 72 84 13 79

Italy & Eastern Mediterranean Countries
Dow Corning S.p.A.
ITALY
Tel.: +39 039 - 60 711
Fax: +39 039 - 68 996 60

Poland
Dow Corning Polska Sp. zo.o.
Tel.: +48 (0)22 645 14 46
Fax: +48 (0)22 645 14 40

United Kingdom, Eire, Nordic Countries, Benelux, South Africa & Middle East
Dow Corning Ltd.
UNITED KINGDOM
Tel.: +44 (0)1 676 52 80 00
Fax: +44 (0)1 676 52 80 01

Spain & Portugal
Dow Corning Ibérica S.A.
SPAIN
Tel.: +34 93 36 36 900
Fax: +34 93 36 36 901