Shin-Etsu

Shin-Etsu Silicone

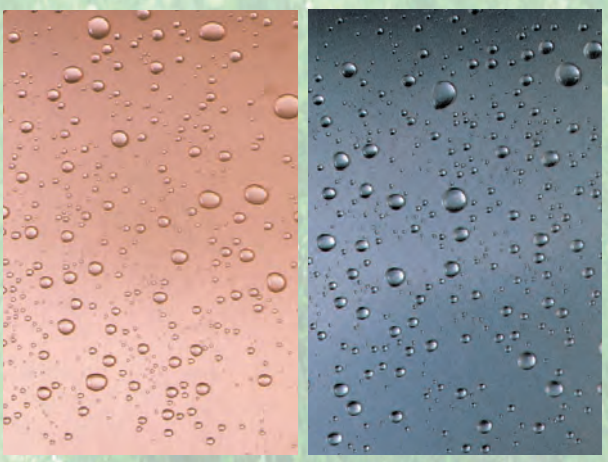
For Construction, Civil Engineering & Industrial Plant Applications

Coating Agents

High performance coating agents with outstanding durability and weatherability.

Shin-Etsu silicone coating agents are one-component coating agents developed for surface waterproofing of concrete, mortar, metal roofs and other surfaces. When applied, these agents adhere fast to the substrate surface to form a silicone rubber coating and prevent penetration by rainwater. They are thus powerfully effective at preventing rust and corrosion of the substrate. Shin-Etsu Silicone has a diverse lineup of products designed to meet a range of needs in construction and civil engineering.

Rubber sheet of S COAT- 57



Water repellency of metal sheets treated with S COAT- 58

Contents

Types & Features

Types

Product name	Type
S COAT- 57	Solution
S COAT- 58	Solution

Features

1. Heat- and cold-resistant

These products show excellent resistance to high and low temperatures, and maintain rubber elasticity over a wide temperature range (–40℃ to 150℃).

2. Durable

These products are exceptionally stable against exposure to sunlight, wind & rain, UV rays and ozone. Products can withstand years of exposure with little change in their rubber characteristics, and no visible deterioration such as cracking, blistering or discoloration.

3.Waterproof

The silicone rubber coating that is formed exhibits a low surface tension, which provides high water repellency and waterproofs the coated substrate.

4. Easy to work with

Being one-component, these products are easy to work with. They can be applied by brush, roller or spray (airless sprayer).

5. Adhesive

These coating agents adhere to most materials. (But with certain materials, they may not adhere sufficiently on their own and should thus be used together with a primer.)

6. Air permeable

The silicone rubber formed as a coating has high gas permeability, so water vapor and other gases pass through easily.

Product Properties & Applications

S COAT- 57 (Solution type)

Solution type that forms a high strength, rust preventative silicone rubber coating.

Applications

- Anti-rust, anti-corrosion coating for metal roofs
- Anti-rust, anti-corrosion coating for tank surfaces
- Lining for industrial plants
- Coating/waterproofing of building roofs
- Anti-salt protective coating for metal, concrete, etc.
- Coating of building materials to improve weatherability & waterproofness

Properties before curing

Consistency		Solution type (rubber)
Appearance		Paste-consistency solution
Specific gravity @23 °C		1.25
Non volatile matter	%	75
Viscosity	Pa·s	5
Solvent		Xylene
Tack-free time	min	20
Colors		Ivory、gray、red、blue、green

※105℃ × 3h

Properties after curing

Appearance		Elastic
Density @23 °C	g/cm²	1.51
Hardness, Durometer A		60
Tensile strength	MPa(psi)	2.9 (421)
Elongation at break	%	230

(Not specified values)

S COAT- 58

High transparency, glossy topcoat agent.

Applications

- Topcoat for S COAT- 57
- Gloss for tile, metal, etc.
- Topcoat for paints and coatings

Properties before curing

Consistency		Solution type (varnish)
Appearance		Colorless transparent liquid
Specific gravity @23 °C		0.94
Non volatile matter	%	35
Viscosity	mPa·s	7
Solvent		Toluene
Tack-free time	min	3
Colors		Clear

※105℃ × 3h

Properties after curing

Appearance		Transparent resin
Density @23 °C	g/cm²	1.15

(Not specified values)

S COAT- 57: Properties Testing

Weathering test

(JIS K 6249)

Product name / Item / Irradiation time, h	Hardness Durometer A	Tensile strength MPa (psi)	Elongation at break %
Initial	55	2.9 (421)	230
200	53	2.8 (406)	220
600	52	2.8 (406)	210
1200	51	2.9 (421)	220
2200	52	3.0 (435)	210

(After irradiation, no irregularities in appearance were detected.)

Chemical resistance

(JIS K 6249)

Product name / Item / Property	Hardness Durometer A	Tensile strength MPa (psi)	Elongation at break %	Test conditions
Initial	58	2.9 (421)	210	———
Water resistance	56	2.7 (392)	210	50 °C×168 hrs
Acid resistance	54	2.8 (406)	220	2% H_2SO_4 solution 20 °C×168 hrs
Alkali resistance	57	2.7 (392)	210	0.5% NaOH solution 20 °C×168 hrs
Saltwater resistance	55	2.8 (406)	210	10% NaCl solution 20 °C×168 hrs

Heating test using a constant-temperature drying oven

Temp. / Time h / Product name / Item	Hardness Durometer A	Tensile strength MPa (psi)	Elongation at break %
Initial	55	2.9 (421)	230
150℃ 10	56	3.1 (450)	210
150℃ 20	58	2.8 (406)	220
150℃ 30	56	2.9 (421)	220
200℃ 10	57	3.0 (435)	200
200℃ 20	57	2.9 (421)	200
200℃ 30	59	3.1 (450)	190

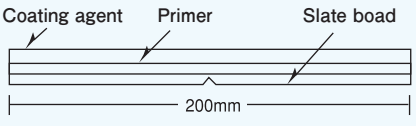
(After heating, no irregularities in appearance were detected.)

Zero-span test (coating conformance)

Coating thickness (dried)	
0.1 (mm)	0.3 (mm)
0.2	0.5
0.5	0.9
0.8	1.3
1.0	2.0

Conformance of coating against cracking

○Zero-span test piece



Application Procedures

The application procedures for S COAT- 57 are nearly identical to most substrates, although the amount applied will vary depending on the application location and type of substrate. Proper application will ensure the best performance.

Application to a roof (concrete)

Weather → Surface prep → Cleaning

Apply primer
Dilute Primer MT with an equal part of toluene and apply (0.15 kg/m²).

Apply coating agent*
Apply S COAT- 57 (0.8–1.0 kg/m²)

Apply topcoat
Apply S COAT- 58 (0.2 kg/m²)

Cure → Done

*The amount applied will vary depending on the condition of the concrete surface.

Application to an exterior wall (concrete)

Weather → Surface prep → Cleaning

Apply primer
Dilute Primer MT with an equal part of toluene and apply (0.15 kg/m²).

Apply coating agent*
Apply S COAT- 57 (0.4–0.6 kg/m²)

Apply topcoat
Apply S COAT- 58 (0.2 kg/m²)

Cure → Done

*The amount applied will vary depending on the exterior wall's texture, etc.

Application to base metals

Weather → Surface prep (down to bare metal as necessary) → Cleaning

Apply primer
Dilute Primer C with an equal part of toluene and apply (0.10 kg/m²).

Apply coating agent*
Apply S COAT- 57 (0.4–0.6 kg/m²)

Apply topcoat
Apply S COAT- 58 (0.2 kg/m²)

Cure → Done

*The amount applied will vary depending on the site where the coating agent is applied.

Packaging

Product name	Packaging
S COAT- 57	1 kg (round can), 20 kg (square can)
S COAT- 58	1 kg (square can), 16 kg (square can)

*1 kg products are packaged in boxes of 10.

Primers

For use on:	Primer name	Consistency (solvent)	Drying time @20°C (min)	Amount to use (g/m^2)
Glass, enamel, tile, ceramic, metal	Primer C	Pale yellow, transparent liquid (Industrial gasoline, toluene)	15 minimum	35
Stone, mortar, slate, concrete, wood	Primer MT	Colorless transparent liquid (Toluene, isopropanol)	30 minimum	200

Handling Precautions

Quality, storage and handling:

(1) During storage, the resin component may precipitate out, so be sure to mix before use.

(2) Products should not be applied immediately after a rain or if rain is forecasted, because doing so could interfere with formation of a good silicone rubber coating. The work should be done at another time, or steps taken to protect the treated surface from rain while the product cures.

(3) Select the products (coating agents, primers) suited best for the characteristics of the substrate.

(4) Be sure to clean, rinse and care for tools used for application immediately after use.

(5) Exposure to heat, light, acids and bases may affect product quality. Take care to avoid contamination, seal containers tightly and store at 0–25 °C.

(6) Keep away from heat and flame, and otherwise be sure that storage and handling is done in accordance with the laws of your region.

Safety and Hygiene

(1) Uncured sealant will irritate skin and mucous membranes, and it should not be allowed to come into contact with the skin or eyes. However, in the event that the sealant does come into contact with the eyes, the affected area should be immediately flushed with a large volume of water for at least 15 minutes and then that individual should immediately seek medical attention. If the sealant comes into contact with skin, the affected area should be wiped immediately with a dry cloth and then washed thoroughly with soap and water.

(2) During application, wear rubber gloves and other gear to prevent contact with the skin and mucous membranes. In case of contact, wipe off immediately with a rag or gauze (etc.), then wash thoroughly with soap and running water. When working in a poorly ventilated area, be sure to wear a respirator mask designed to filter organic gases.

(3) When using products which contain solvent, provide ventilation and take care to avoid breathing solvent vapors.

(4) Please read the Safety Data Sheet (SDS) before use. SDS can be obtained from our Sales Department.

Silicone Division Sales and Marketing Department IV
Marunouchi Eiraku Bldg. ,4-1, Marunouchi 1-chome, Chiyoda-ku, Tokyo 100-0005, Japan
Phone : +81-(0)3-6812-2411 Fax : +81-(0)3-6812-2415

Shin-Etsu Silicones of America, Inc.
1150 Damar Drive, Akron, OH 44305, U.S.A.
Phone: +1-330-630-9860 Fax: +1-330-630-9855

Shin-Etsu do Brasil Representação de Produtos Químicos Ltda.
Rua Coronel Oscar Porto, 736 - 8°Andar – Sala 84,
Paraiso São Paulo – SP Brasil CEP: 04003-003
Phone : +55-11-3939-0690 Fax : +55-11-3052-3904

Shin-Etsu Silicones Europe B. V.
Bolderweg 32, 1332 AV, Almere, The Netherlands
Phone : +31-(0)36-5493170 Fax : +31-(0)36-5326459
(Products & Serviced : Products for Cosmetics Application)

Germany Branch
Rheingaustrasse 190-196, 65203 Wiesbaden, Germany
Phone : +49-(0)611-962-5366 Fax : +49-(0)611-962-9266
(Products & Serviced : Products for Industrial Applications)

Shin-Etsu Silicone Taiwan Co., Ltd.
Hung Kuo Bldg. 11F-D, No. 167, Tun Hua N. Rd.,
Taipei, 105406 Taiwan, R.O.C.
Phone : +886-(0)2-2715-0055 Fax : +886-(0)2-2715-0066

Shin-Etsu Silicone Korea Co., Ltd.
GT Tower 15F, 411, Seocho-daero, Seocho-gu,
Seoul 06615, Korea
Phone : +82-(0)2-590-2500 Fax : +82-(0)2-590-2501

Shin-Etsu Singapore Pte. Ltd.
4 Shenton Way, #10-03/06, SGX Centre Ⅱ, Singapore 068807
Phone : +65-6743-7277 Fax : +65-6743-7477

Shin-Etsu Silicones India Pvt. Ltd.
Unit No. 403A, Fourth Floor, Eros Corporate Tower,
Nehru Place, New Delhi 110019, India
Phone : +91-11-43623081 Fax : +91-11-43623084

Shin-Etsu Silicones (Thailand) Ltd.
7th Floor, Harindhorn Tower, 54 North Sathorn Road,
Bangkok 10500, Thailand
Phone : +66-(0)2-632-2941 Fax : +66-(0)2-632-2945

Shin-Etsu Silicone International Trading (Shanghai) Co., Ltd.
29F Junyao International Plaza, No.789,
Zhao Jia Bang Road, Shanghai 200032, China
Phone : +86-(0)21-6443-5550 Fax : +86-(0)21-6443-5868

Guangzhou Branch
Room 2409-2410, Tower B, China, Shine Plaza, 9 Linhexi Road,
Tianhe, Guangzhou, Guangdong 510610, China
Phone : +86-(0)20-3831-0212 Fax : +86-(0)20-3831-0207

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Gunma Complex	ISO 9001 (JCQA-0004)	ISO 14001 (JCQA-E-0002)
Naoetsu Plant	ISO 9001 (JCQA-0018)	ISO 14001 (JCQA-E-0064)
Takefu Plant	ISO 9001 (JQA-0479)	ISO 14001 (JQA-EM0298)

https://www.shinetsusilicone-global.com/

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Ⓒ Shin-Etsu 2001.3/2021.10②H.O. web in Japan.