

# Heat-Shrinkable Rubber Tubing ST Series

**ShinEtsu**  
Shin-Etsu Silicone



# A diverse product lineup for a wide range of industrial applications.

The ST Series is heat-shrinkable rubber tubing made of silicone.

Simply heating shrinks the inner diameter of the tubing by about 50%.

This silicone rubber tubing is used for electrical insulation, protection and sheathing.

The products in the ST Series offer the fine properties typical of silicone, including heat- and cold-resistance, chemical-resistance, excellent weatherability, and fine electrical properties.

This makes them ideal for a wide range of applications ranging from roller covers, paint masking, and consumer electronics to applications in the transport industry and the light and heavy electric industries.

Our heat-shrinkable rubber tubing offers advantages in saved labor and reduced work time and exhibit stable performance in even the harshest conditions.

*Communication*

*Precision &  
Office Automation*

Heat Shrinkable Silicone Rubber Tubings  
**ST Series**



*Transport*



*Electronics*



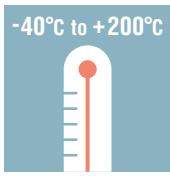
## Contents

<b>Features/Main Applications</b> .....	3
<b>Product lineup arranged by type/General Properties</b> .....	4
<b>Properties Data</b>	
Shrinkage properties: ST Series .....	5
High-temperature resistance: ST-DG  Type/ST-DG Type .....	5
Solvent resistance: ST-DG Type .....	6
Oil resistance: ST-DG Type .....	6
Modulus of elasticity: ST-DG Type .....	6
<b>Instructions for Use</b> .....	7
<b>Product List</b>	
ST-DG Type .....	8
ST-DG  Type .....	9
<b>Packaging</b> .....	10
<b>Standard packing quantity</b> .....	11
<b>Storage and Handling Precautions</b> .....	11

## Features

The ST Series includes a variety of silicone rubber tubing whose inner diameter shrinks by 50% just by heating.

They are used for covering in places where users require properties of high- and low-temperature resistance, weatherability and favorable electrical properties.



### Outstanding high- & low-temperature resistance and flame retardancy.

Can be used over a wide temperature range (-40°C to +200°C). ST Series have high flame retardancy and are UL certified.



### Excellent releasability.

Our tubing can also be used for masking and as jigs for resin molds due to the excellent release properties typical of silicone rubber.



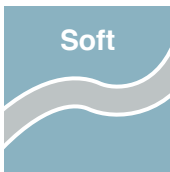
### Excellent electrical properties.

Our products exhibit stable electrical properties in even the harshest conditions.



### They form highly airtight coverings.

With the contractile stress of rubbers, the tubing shrinks tight to the object being covered to form a highly airtight cover. You can also form a watertight seal by injecting RTV rubber.



Soft

### They stay suitably flexible.

Even after heat shrinking, our products retain the flexibility typical of silicone rubber, and they exhibit little degradation over time.



### A wide assortment of sizes.

Our lineup includes tubing in a wide variety of wall thicknesses and bore diameters, from small to large.

## Main Applications

### Heavy and Light Electric

- Heat protection for heaters & sensors in semiconductor devices
- Heat protection for wiring in copiers
- Insulative coating of risers and bus bars in train car motors and electric generators
- Lead wires and coil joints of transformers
- Connections (incl. PE fusion) of power and telecommunications cables
- Preventing shorts to the bus bars (caused by birds, snakes, etc.) at power plants and substations
- Heat-resistant and electrical insulative protection for resistors, thermistors and dielectric heater coils
- Protection and terminal treatment of the lead wires of temperature sensors



Insulative sheathing of large motor ground wires



Exterior sheathing for fiber optic cables

### Consumer Electronics

- Protective sheathing of the ends of heater wires in microwave ovens and electric rice cookers
- Protection of the thermistor wiring in air conditioners
- Protective sheathing for fuses



Protecting lead wires of temperature sensors in electric rice cookers

### Transport Vehicles

- Heat-resistant coating for onboard sensors (oxygen, temperature, etc.) in automobiles
- Automotive spark plug applications
- Heater hose applications
- Treating harness terminals
- Treating wiring terminals in transport vehicles
- Cushioning material for turbo pipe joints
- Damping vibration of motorcycle silencer fastener springs

### etc. Other Applications

- For rollers
- Masking for painting and other coatings
- Covers for the arms of eyeglasses
- Grip covers for dental grinders
- Securing shafts in prepreg fabrication

## Product lineup arranged by type



### ST-DG<sup>FR</sup> type

#### Flame retardant grade

UL certified product (UL-224).

Product name and other items are printed on the surface of the tube.

\*Not including ST-8/10 DG



### ST-DG type

#### General purpose grade

Standard product is light gray (DG).

For products in special colors, with special diameters,

wall thicknesses & physical properties (eg. enhanced oil resistance), talk to our Sales Department.

## General Properties (Thickness: 2 mm sheet)

Item \ Type	Type	ST-DG <sup>FR</sup> *1	ST-DG
Feature		Flame retardant	Thin wall
Standard colors		Light gray	Light gray
Density	g/cm <sup>3</sup>	1.2	1.2
Hardness Durometer A		70	70
Tensile strength	MPa	6.0	6.0
Elongation	%	350	350
Tear strength	kN/m	15	15
Volume resistivity	Ω·m	2 x 10 <sup>12</sup>	2 x 10 <sup>12</sup>
Breakdown strength (in oil)	kV/mm	30*2	30*2
Dielectric constant (ε) 50 Hz		3.2	3.2
Dielectric dissipation factor (tanδ) 50 Hz		0.001	0.001
Flame retardancy UL-224		VW-1	—
Usage temperature range	°C	-40 to +200	-40 to +200
Shrinkage (in direction of diameter)	%	about 50	about 50
Shrinkage temp.	°C	80 to 200	80 to 200

\*1 UL-224 Certification no.: E49996 (S), Rated temp.: 200°C, Rated voltage: 600 V, Flame retardancy: passes VW-1

(Not specified values)

Method used to measure flame retardancy:

- A flame is applied for 15 seconds, then the time (sec) is measured until flaming or glowing ceases. This cycle is repeated 5 times.
- 5 test strips are used (flame applications: 25 total), and the material passes only if the flame/glow time per any single flame application never exceeds 60 seconds.

\*2 Measured at 1 mm sheet

#### Reading

the product number:

ST-○○ □□ (○.○)

Size

Grade

Post-shrink

wall thickness (mm)

Size: post-shrink bore diameter x 10 (mm)

## Properties Data

### Shrinkage properties: ST Series

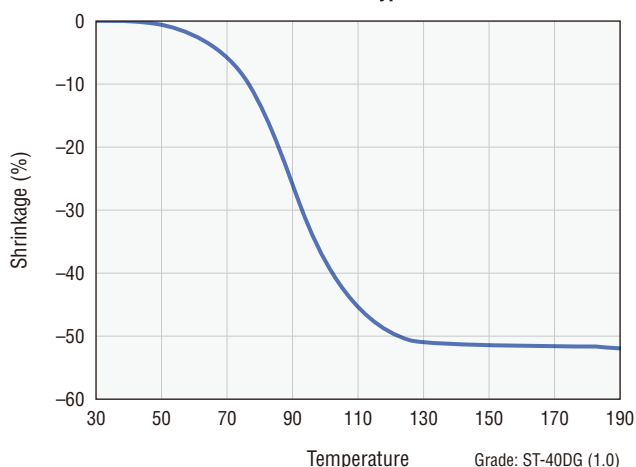
#### ● Heating temperature and shrinkage

The shrinkage of our ST Series heat-shrinkable rubber tubing is determined by temperature and shrinkage increases with heating time.

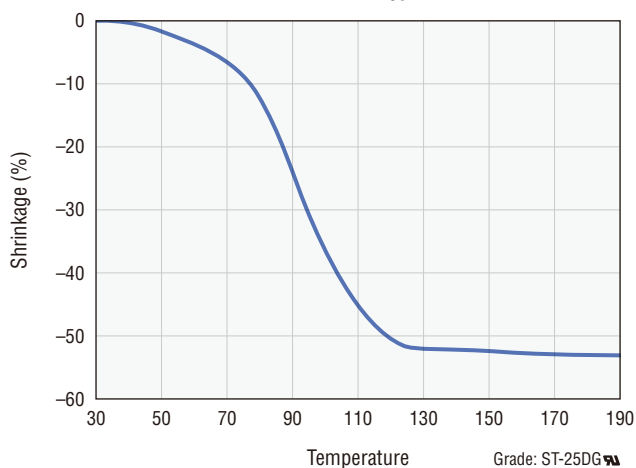
The graph shows the rate of shrinkage after 5 minutes at various temperatures.

Condition: hot air dryer, heated for 5 minutes at each temperature. Tubing left for 30 minutes at room temperature before measurement.

ST-DG Type



ST-DG Type

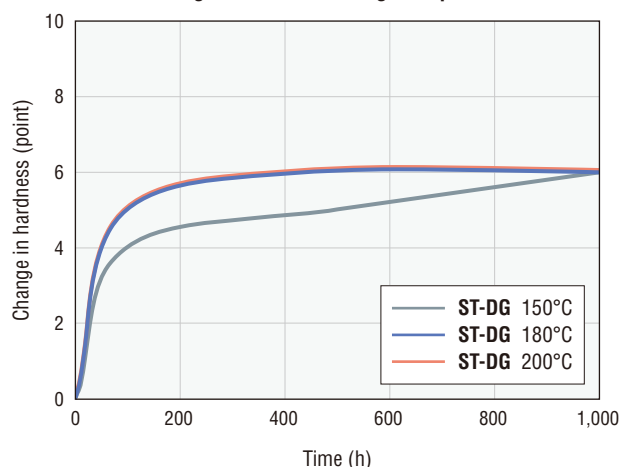


### High-temperature resistance: ST-DG Type/ST-DG Type

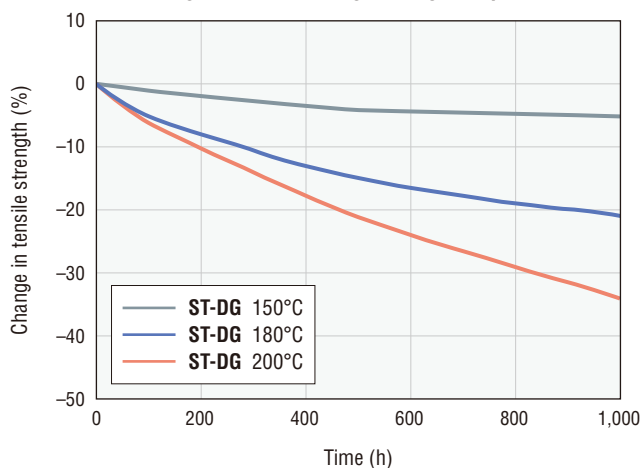
Like common silicone rubber, ST-DG and ST-DG heat-shrinkable rubber tubing retain their rubber properties over a wide temperature range (-40°C to +200°C).

The graphs show changes in hardness, tensile strength, and elongation after exposure to high temperatures.

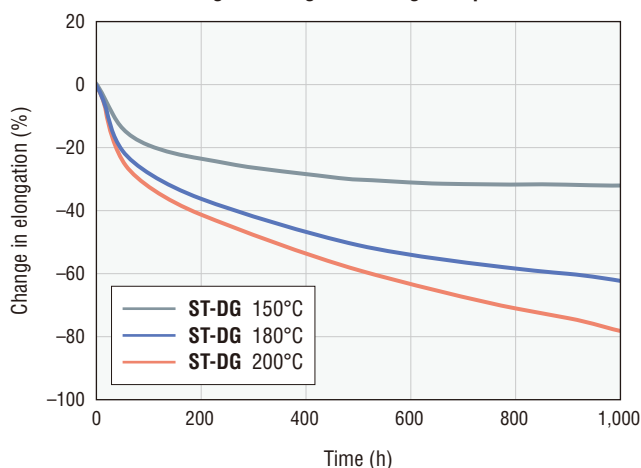
Change in hardness at high temperatures



Change in tensile strength at high temperatures



Change in elongation at high temperature



## Properties Data

### Solvent resistance: ST-DG Type

The solvent resistance of ST Series heat-shrinkable rubber tubing is the same as that of ordinary silicone rubber. They have strong resistance against water and polar solvents; however, they are affected by non-polar solvents, aromatic solvents and chlorinated solvents, resulting in swelling and reduced strength. When the swell-inducing solvent dries and is fully removed, the rubber's properties return nearly to their initial state. The table shows the change in volume when ST-DG Type tubings are immersed in various solvents.

### Oil resistance: ST-DG Type

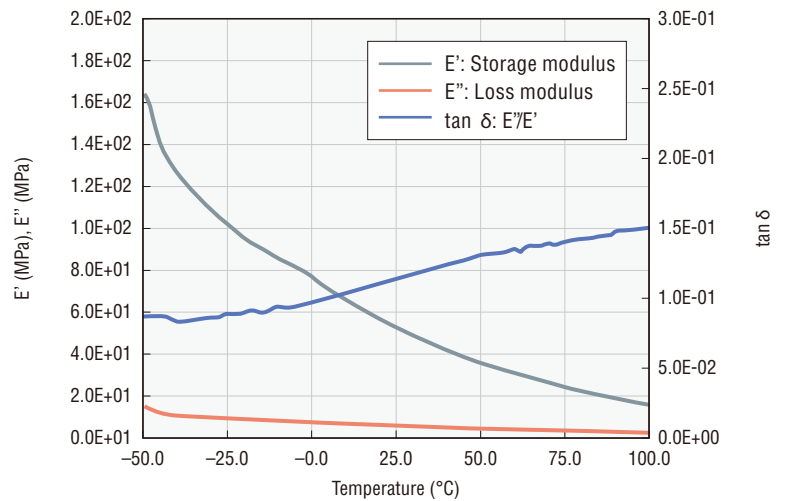
The table shows the change in volume when ST-DG Type heat-shrinkable rubber tubing is immersed in various oils.

		Volume change % (23°C x 24 h)
		ST-DG
Solvent resistance	Methanol	2
	Ethanol	9
	IPA	20
	Ethylene glycol	0
	THF	175
	Acetone	46
	MIBK	123
	Hexane	172
	Toluene	164
	Xylene	154
Oil resistance	IRM901	2
	IRM903	16
Water		0

(Not specified values)

### Modulus of elasticity: ST-DG Type

Dynamic viscoelasticity measured at 2 mm sheet. ST-DG Type is stable to elastic performance in a wide temperature range (-50°C to 100°C).



## Instructions for Use

### Work Procedure

#### 1 Size selection

Select a size, type, and wall thickness suitable for the application.

As a rule of thumb, select a tubing whose post-shrink bore diameter is slightly smaller than that of the object to be covered.

#### 2 Fitting

Cut the tubing to the appropriate length for the object being covered.

\* Our heat-shrinkable rubber tubing can be cut easily with a utility knife or scissors. Take care to cut the end cleanly and evenly.

\* Tubing may shrink or elongate slightly lengthwise. This should be taken into careful consideration before use.

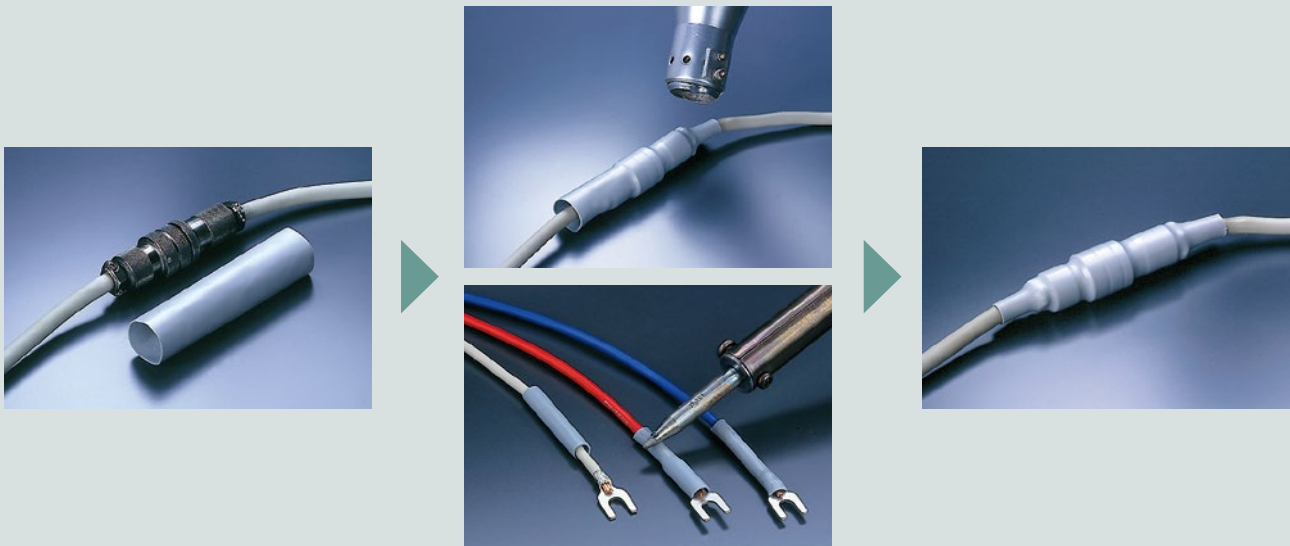
#### 3 Heating

Slip the tubing over the object being covered, then heat evenly to shrink.

Tubing should be heated to between 80°C to 200°C.

\* If the heating temperature is too high (over 200°C), the tube surface may crack or split.

Possible heating equipment: hot-air oven, hot-air gun, gas burner, infrared heater, electric heater, etc.



### Precautions during Heating

Using a hot-air oven is the easiest way to ensure even shrinking.

When using a hot-air gun or other device, please observe the following precautions:

1. When the object being covered is long and thin, start shrinking in the center and work outward to the ends.
2. To ensure even rubber thickness, rotate the tubing and heat evenly around the full circumference.
3. Take care not to trap air pockets: apply heat first to any concave sections.
4. When covering a polygonal bar, start shrinking at the angles first.  
Work should proceed in the order listed above.

## Product List

### ST-DG Type

Product Name	Pre-shrink bore diameter (mm)	Post-shrink bore diameter (mm)	Post-shrink wall thickness (mm)	Standard packaging				Minimum packing unit (m)
				1 m	3 m	5 m	50 m*	
ST-5DG (0.3)	0.9-1.2	0.4-0.75	0.2-0.4	●	●			30
ST-8DG (0.3)	1.8-2.4	0.7-1.1	0.2-0.45	●	●			
ST-8DG (0.5)	1.6-2.9	0.7-1.1	0.4-0.7	●	●			
ST-10DG (0.5)	2.2-3.0	0.8-1.3	0.3-0.7	●		●		25
ST-15DG (0.5)	3.0-3.7	1.3-1.8	0.3-0.7	●		●		
ST-15DG (1.0)	3.0-4.2	1.3-1.8	0.8-1.2	●		●	●	20
ST-20DG (0.5)	4.3-5.5	1.8-2.3	0.4-0.8	●		●		
ST-20DG (1.0)	4.2-5.2	1.8-2.3	0.8-1.2	●		●	●	
ST-25DG (0.5)	5.0-6.5	2.3-3.0	0.3-0.7	●		●		
ST-25DG (1.0)	5.0-6.5	2.2-2.9	0.8-1.2	●		●	●	
ST-30DG (0.5)	5.8-7.1	2.8-3.5	0.3-0.7	●		●		
ST-30DG (1.0)	6.2-8.0	2.8-3.5	0.8-1.2	●		●	●	
ST-40DG (0.5)	7.7-9.2	3.7-4.5	0.3-0.7	●		●		
ST-40DG (1.0)	7.8-10.0	3.6-4.4	0.8-1.2	●		●	●	
ST-45DG (1.0)	8.0-10.6	4.0-5.0	0.8-1.2	●		●	●	
ST-55DG (1.5)	10.0-13.0	5.0-6.2	1.2-1.8	●		●		10
ST-65DG (0.6)	11.0-14.0	6.1-7.5	0.4-0.7	●		●		
ST-80DG (1.5)	15.0-18.5	7.3-9.0	1.2-1.8	●		●		
ST-110DG (2.0)	21.0-24.5	10.4-12.5	1.7-2.3	●		●		
ST-140DG (1.3)	25.0-29.0	14.0-16.0	1.0-1.6	●		●		5
ST-170DG (1.5)	30.0-35.0	15.0-20.0	1.2-1.8	●		●		
ST-170DG (2.0)	30.0-35.0	15.0-19.0	1.7-2.3	●		●		
ST-230DG (1.5)	43.0-50.0	21.0-28.0	1.2-1.8	●		●		
ST-230DG (3.0)	41.0-49.0	20.0-26.0	2.7-3.3	●		●		
ST-290DG (1.5)	54.0-65.0	28.0-33.0	1.2-1.8	●		●		
ST-290DG (3.0)	53.0-65.0	27.0-32.0	2.7-3.3	●		●		
ST-350DG (1.5)	63.0-75.0	34.0-42.0	1.2-1.8	●		●		
ST-350DG (3.0)	60.0-73.0	32.0-40.0	2.7-3.3	●		●		
ST-400DG (3.0)	68.0-84.0	38.0-46.0	2.5-3.5	●		●		
ST-500DG (3.0)	77.0-98.0	47.0-57.0	2.5-3.5	●		●		
ST-600DG (3.0)	97.0-118.0	58.0-68.0	2.5-3.5	●		●		
ST-800DG (3.0)	132.0-160.0	75.0-90.0	2.5-3.5	●		●		
ST-1000DG (3.0)	162.0-190.0	90.0-113.0	2.5-3.5	●		●		
ST-1200DG (3.0)	190.0-230.0	110.0-135.0	2.5-3.5	●		●		
ST-1500DG (3.0)	237.0-285.0	135.0-168.0	2.5-3.5	●		●		

\* Tubing is not sold in amounts smaller than 50 m (1 reel).

• Please place orders in multiples of the packing unit.

• Bore and wall thickness are not specified values.



## ST-DG 矽 Type

Product Name	Pre-shrink bore diameter (mm)	Post-shrink bore diameter (mm)	Post-shrink wall thickness (mm)	Standard packaging				Minimum packing unit (m)
				1 m	3 m	5 m	50 m*	
ST-8DG 矽	> 1.6	< 0.9	0.8-1.2	●		●		25
ST-10DG 矽	> 1.8	< 1.2	0.8-1.2	●			●	
ST-15DG 矽	> 3.0	< 1.8	0.8-1.2	●			●	20
ST-20DG 矽	> 3.8	< 2.3	0.8-1.2	●			●	
ST-25DG 矽	> 5.0	< 2.9	0.8-1.2	●			●	
ST-30DG 矽	> 6.2	< 3.4	0.8-1.2	●			●	
ST-40DG 矽	> 7.8	< 4.4	0.8-1.2	●			●	
ST-55DG 矽	> 10.0	< 6.2	1.2-1.7	●			●	
ST-80DG 矽	> 15.0	< 9.0	1.3-1.7	●		●		10
ST-110DG 矽	> 20.0	< 12.5	1.7-2.2	●		●		
ST-140DG 矽	> 24.0	< 15.5	1.7-2.2	●		●		5
ST-170DG 矽	> 29.0	< 19.0	1.7-2.2	●		●		
ST-230DG 矽	> 41.0	< 26.0	2.7-3.3	●		●		
ST-290DG 矽	> 50.0	< 34.0	2.7-3.3	●		●		
ST-350DG 矽	> 60.0	< 40.0	2.7-3.3	●		●		
ST-400DG 矽	> 67.0	< 49.0	2.5-3.5	●		●		
ST-500DG 矽	> 78.0	< 60.0	2.5-3.5	●		●		1
ST-600DG 矽	> 95.0	< 70.0	2.5-3.5	●		●		
ST-800DG 矽	> 130.0	< 95.0	2.5-3.5	●		●		
ST-1000DG 矽	> 158.0	< 115.0	2.5-3.5	●		●		
ST-1200DG 矽	> 190.0	< 140.0	2.5-3.5	●		●		
ST-1500DG 矽	> 235.0	< 165.0	2.5-3.5	●		●		

\* Tubing is not sold in amounts smaller than 50 m (1 reel).

• Please place orders in multiples of the packing unit.

• Wall thickness are not specified values.

## Sample order

If you would like a sample of products in our ST Series, please request from “Heat-shrinkable rubber tubing ST Series” on our website.

[https://www.shinetsusilicone-global.com/products/type/heat\\_tube/](https://www.shinetsusilicone-global.com/products/type/heat_tube/)

How to access

Products

Rubbers

Heat-shrinkable silicone rubber tubing

Sample order



## Packaging

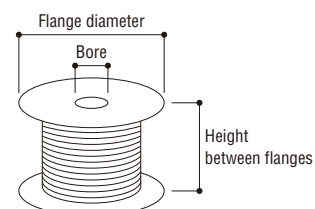


Samples of 1-, 3-, 5-meter packaging






Samples of 50-meter packaging

\* Box No. 6-11 50 m reels Part names



Reel size

Flange diameter 250 mm: 10-30DG and DG  / Height between flanges 85 mm  
 290 mm: 40-45DG and DG  / Height between flanges 110 mm  
 340 mm: 55DG  / Height between flanges 110 mm

Bore is 30 mm for all.

## Sizes of shipping boxes

Uses	Packaging	Type	Size (long side x short side x height) / Weight	Brief description
Standard for domestic shipping	1-, 3-, 5-meter packaging	① Box No.1	1,120 × 110 × 110 mm / 0.38 kg	1-, 3-, 5-meter
		② Box No.2	1,105 × 200 × 110 mm / 0.75 kg	1-, 3-, 5-meter
		③ Box No.3	1,105 × 430 × 175 mm / 1.51 kg	1-, 3-, 5-meter
		④ Box No.4	1,115 × 80 × 80 mm / 0.19 kg	1-, 3-, 5-meter
		⑤ Box No.5	1,105 × 280 × 160 mm / 0.98 kg	1-, 3-, 5-meter
	50-meter packaging	Box No. 6	260 × 260 × 120 mm / 0.245 kg	For 50 m reels (1 reel, 250 mm in diameter)
		Box No.7	515 × 260 × 215 mm / 0.46 kg	For 50 m reels (4 reel, 250 mm in diameter)
		Box No.8	300 × 300 × 145 mm / 0.335 kg	For 50 m reels (1 reel, 290 mm in diameter)
		Box No.9	595 × 300 × 265 mm / 0.585 kg	For 50 m reels (4 reel, 290 mm in diameter)
		Box No.10	350 × 350 × 145 mm / 0.6 kg	For 50 m reels (1 reel, 340 mm in diameter)
		Box No.11	695 × 350 × 265 mm / 0.8 kg	For 50 m reels (4 reel, 340 mm in diameter)
Standard for export	1-, 3-, 5-meter packaging	Export box K	1,110 × 485 × 365 mm / 4.06 kg	1-, 3-, 5-meter
		Export box S	1,130 × 415 × 230 mm / 2.52 kg	1-, 3-, 5-meter
	50-meter packaging	Export box L	1,050 × 280 × 460 mm / 2.3 kg	Shipping unit: 4 No. 7 Boxes
		Export box M	1,230 × 320 × 580 mm / 3.92 kg	Shipping unit: 4 No. 9 Boxes
		Export box N	1,430 × 370 × 580 mm / 5 kg	Shipping unit: 4 No. 11 Boxes

(Not specified values)

## Standard packing quantity

Product name	Standard packing	Standard packing quantity m						Weight per meter*1 g/m
		No.1	No.2	No.5	No.3	S	K	
ST-5DG (0.3)	1m, 3m	500	1,200	2,000	3,000	3,200	6,000	0.9
ST-8DG (0.3)	1m, 3m	500	1,200	2,000	3,000	3,200	6,000	1.9
ST-8DG (0.5)	1m, 3m	500	1,200	2,000	3,000	3,200	6,000	3.0
ST-8DG ㉮	1m, 5m	400	800	1,800	3,000	3,200	6,000	8.5
ST-10DG (0.5)	1m, 5m	400	800	1,800	3,000	3,200	6,000	3.7
ST-10DG ㉮	1m	300	600	1,200	2,000	2,150	4,000	10.6
ST-15DG (0.5)	1m, 5m	300	600	1,500	2,500	2,700	5,000	4.7
ST-15DG (1.0)	1m, 5m	200	500	800	1,500	1,600	3,000	9.0
ST-15DG ㉮	1m	200	500	800	1,500	1,600	3,000	12.5
ST-20DG (0.5)	1m, 5m	200	400	800	1,400	1,500	2,800	8.0
ST-20DG (1.0)	1m, 5m	150	250	600	1,000	1,050	2,000	12.1
ST-20DG ㉮	1m	150	250	600	1,000	1,050	2,000	14.2
ST-25DG (0.5)	1m, 5m	150	250	600	1,000	1,050	2,000	7.7
ST-25DG (1.0)	1m, 5m	140	200	500	800	1,050	2,000	15.0
ST-25DG ㉮	1m	140	200	500	800	1,050	2,000	15.6
ST-30DG (0.5)	1m, 5m	150	300	700	1,200	1,280	2,400	9.0
ST-30DG (1.0)	1m, 5m	60	120	300	500	540	1,000	17.0
ST-30DG ㉮	1m	60	120	300	500	540	1,000	17.6
ST-40DG (0.5)	1m, 5m	100	180	400	800	850	1,600	12.3
ST-40DG (1.0)	1m, 5m	60	120	300	500	540	1,000	22.5
ST-40DG ㉮	1m	60	120	300	500	540	1,000	23.5
ST-45DG (1.0)	1m, 5m	60	120	300	500	540	1,000	19.3
ST-55DG (1.5)	1m, 5m	40	60	150	300	320	600	43.0
ST-55DG ㉮	1m	40	60	150	300	320	600	42.0
ST-65DG (0.6)	1m, 5m	50	100	300	500	540	1,000	18.0
ST-80DG (1.5)	1m, 5m	20	40	100	150	160	300	64.0
ST-80DG ㉮	1m, 5m	20	40	100	150	160	300	64.0
ST-110DG (2.0)	1m, 5m	10	25	50	100	100	200	104.0
ST-140DG (1.3)	1m, 5m	15	25	60	125	160	300	83.0
ST-140DG ㉮	1m, 5m	10	20	40	80	85	160	123.0
ST-170DG (1.5)	1m, 5m	10	20	40	80	85	160	132.0
ST-170DG (2.0)	1m, 5m	10	20	40	80	85	160	142.0
ST-170DG ㉮	1m, 5m	10	20	40	80	85	160	142.0
ST-230DG (1.5)	1m, 5m	10	20	40	80	85	160	180.0
ST-230DG (3.0)	1m, 5m	5	10	30	50	50	100	310.0
ST-230DG ㉮	1m, 5m	5	10	30	50	50	100	310.0
ST-290DG (1.5)	1m, 5m	10	20	40	80	85	160	230.0
ST-290DG (3.0)	1m, 5m	5	10	15	40	40	80	370.0
ST-290DG ㉮	1m, 5m	5	10	15	40	40	80	370.0
ST-350DG (1.5)	1m, 5m	5	20	40	70	75	140	270.0
ST-350DG (3.0)	1m, 5m	—	5	20	35	35	70	440.0
ST-350DG ㉮	1m, 5m	—	5	20	35	35	70	440.0
ST-400DG (3.0)	1m, 5m	—	5	20	30	30	60	520.0
ST-400DG ㉮	1m, 5m	—	5	20	30	30	60	520.0

## Reference: Other product

Product name	Weight per meter*1 g/m
ST-500DG (3.0)	650.0
ST-500DG ㉮	650.0
ST-600DG (3.0)	750.0
ST-600DG ㉮	750.0
ST-800DG (3.0)	1,000.0
ST-800DG ㉮	1,000.0
ST-1000DG (3.0)	1,230.0
ST-1000DG ㉮	1,230.0
ST-1200DG (3.0)	1,500.0
ST-1200DG ㉮	1,500.0
ST-1500DG (3.0)	1,950.0
ST-1500DG ㉮	1,950.0

- \*1 Not specified values.  
• This information is subject to change without notice.  
• Each color is equal.

## Storage and Handling Precautions

1. Store out of direct sunlight in a cool (1 to 30°C), dry place.
2. Do not allow product to come in contact with solvents or oils. Prolonged contact may deteriorate the product resulting in a decline in properties.
3. Before use, be sure to clean the surface of the object being covered to remove any dirt, debris, moisture or oil.
4. Please read the Safety Data Sheet (SDS) before use. SDS can be obtained from our Sales Department.

## Silicone Division Sales and Marketing Department Ⅲ

Marunouchi Eiraku Bldg., 4-1, Marunouchi 1-chome, Chiyoda-ku, Tokyo 100-0005, Japan  
 Phone : +81-(0)3-6812-2409 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 - 8º Andar - Sala 84,  
 Paraíso 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 & Services: Products for Cosmetics Application)

#### Germany Branch

Kasteler Str. 45, 65203 Wiesbaden, Germany  
 Phone : +49-(0)611-71187290  
 (Products & Services: Products for Industrial Applications)

### 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 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

### 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 Singapore Pte. Ltd.

1 Kim Seng Promenade #15-05/06 Great World City,  
 Singapore 237994  
 Phone : +65-6743-7277 Fax : +65-6743-7477

### Shin-Etsu Silicones Vietnam Co., Ltd.

Unit 4, 11th Floor, A&B Tower, 76A Le Lai Street,  
 Ben Thanh Ward, District 1, Ho Chi Minh City, Vietnam  
 Phone : +84-(0)28-35355270

### 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,  
 Silom Bangrak, Bangkok 10500, Thailand  
 Phone : +66-(0)2-632-2941 Fax : +66-(0)2-632-2945

- The data and information presented in this catalog may not be relied upon to represent standard values. Shin-Etsu reserves the right to change such data and information, in whole or in part, in this catalog, including product performance standards and specifications without notice.
- Users are solely responsible for making preliminary tests to determine the suitability of products for their intended use. Statements concerning possible or suggested uses made herein may not be relied upon, or be construed, as a guaranty of no patent infringement.
- For detailed information regarding safety, please refer to the Safety Data Sheet (SDS).
- The silicone products described herein have been designed, manufactured and developed solely for general industrial use only; such silicone products are not designed for, intended for use as, or suitable for, medical, surgical or other particular purposes. Users have the sole responsibility and obligation to determine the suitability of the silicone products described herein for any application, to make preliminary tests, and to confirm the safety of such products for their use.
- Users must never use the silicone products described herein for the purpose of implantation into the human body and/or injection into humans.
- Users are solely responsible for exporting or importing the silicone products described herein, and complying with all applicable laws, regulations, and rules relating to the use of such products. Shin-Etsu recommends checking each pertinent country's laws, regulations, and rules in advance, when exporting or importing, and before using the products.
- Please contact Shin-Etsu before reproducing any part of this catalog. Copyright belongs to Shin-Etsu Chemical Co., Ltd.



The Development and Manufacture of Shin-Etsu Silicones are based on the following registered international quality and environmental management standards.

**Gunma Complex** ISO 9001 ISO 14001  
 (JCQA-0004 JCQA-E-0002)

**Naoetsu Plant** ISO 9001 ISO 14001  
 (JCQA-0018 JCQA-E-0064)

**Takefu Plant** ISO 9001 ISO 14001  
 (JQA-0479 JQA-EM0298)