

Materials



7.1 Sika Marine Products



Fig. 1 Sikaflex®-290i DC weather- and UV-resistant, medium-viscous marine caulking compound, 300 ml cartridge, 600 ml unipac



Fig. 2 Sikaflex®-291i multifunctional marine sealant, 100 ml tubes, 300 ml cartridge, 600 ml unipac, white, black, grey



Fig. 3 Sikaflex®-292i structural marine adhesive, 300 ml cartridge, white



Fig. 4 Sikaflex®-295 UV weather-resistant, marine adhesive for direct glazing and backfilling of organic glazing, 300 ml cartridge, 600 ml unipac, white, black



Fig. 5 Sikaflex®-296 weather-resistant, marine adhesive for direct glazing and backfilling of mineral glass, 600 ml unipac, black



Fig. 6 Sikaflex®-298 self-levelling marine adhesive, 600 ml unipac, 10 l pail, black



Fig. 7 SikaFiresil® Marine N grey, 300 ml cartridge



Fig. 8 SikaTransfloor®-352 ST and SikaTransfloor®-352 SL, two-component levelling compound, 25 kg (A+B) pail, grey



Fig. 9 Sikasil® WS-605 S, 300 ml cartridge, black



Fig. 10 SikaSil® N-Plus, 300 ml cartridge, white



Fig. 11 Sika® Aktivator cleaning agent and adhesion promoter, 30 ml, 250 ml and 1 l can, transparent



Fig. 12 Sika® Aktivator-205 (former Sika® Cleaner-205), cleaning agent for nonporous substrates, 250 ml, transparent



Fig. 13 Sika® MultiPrimer Marine, 250 ml can, 1000 ml can



Fig. 14 Sika® Primer-209 D adhesion promoter for organic glazing, 30 ml, 250 ml can, black
Sika® Primer-206 G+P adhesion promoter for mineral glass, black



Fig. 15 SikaCor® ZP Primer, two-component, anti-corrosion primer/paint system for steel and aluminium prior to the application of SikaFloor® Marine-352, 6.25 kg, 12.5 kg, 30 kg pail, grey



Fig. 16 Sika® Handclean special cleaning tissues for cleaning skin and removing uncured SikaFlex®



Fig. 17 Sika® Tooling Agent N, 1 l, 5 l, 60 l, canister



Fig. 18 Sika® Teak Oil Premium sealer and finisher, 1 l bottle
Sika® Teak Brightener for marine teak decks, 1 l bottle
Sika® Teak Cleaner for marine teak decks, 1 l bottle



Fig. 19 Manual application gun for 300 ml cartridge and 400 ml unipac



Fig. 20 Manual application gun for up to 600 ml unipacs



Fig. 21 Air-powered application gun for up to 600 ml unipacs



Fig. 22 The battery operated gun dispenser, for 300 ml cartridge or 600 ml unipacs



Fig. 23 Manual operated gun for 300 ml cartridge



Fig. 24 Sika® Remover-208, 1 l

7.2 Sika Marine Product Selector

Adhesives/sealants

	Sikatflex®-290i DC	Sikatflex®-291i	Sikatflex®-292i	Sikatflex®-295 UV	Sikatflex®-296	Sikatflex®-298	Sikasil® WS-605 S	Sika Firesil Marine N	Sikasil® N-Plus	Sika Transfloor-352
Applications										
General sealing overpaintable	-	▲▲▲	▲▲	-	-	-	-	-	-	-
General sealing, weathering resistant	-	-	-	▲▲▲	▲▲	-	▲▲▲	-	-	-
Fire retardent sealing	-	-	-	-	-	-	-	▲▲▲	-	-
Organic glass bonding	-	-	-	▲▲▲	▲	-	-	-	-	-
Mineral glass bonding	-	-	-	-	▲▲▲	-	-	-	-	-
Deck levelling	-	-	-	-	-	-	-	-	-	▲▲▲
Wooden deck bonding	-	▲▲	-	-	-	▲▲▲	-	-	-	-
Caulking	▲▲▲	-	-	-	-	-	-	-	-	-
Bonding of coverings	-	▲▲	-	-	-	▲▲▲	-	-	-	-
Sanitary sealing	-	▲	-	-	-	-	-	-	▲▲▲	-
Service conditions										
High temperature > -40 °C to 150 °C	-	-	-	-	-	-	-	▲▲▲	▲▲	-
Normal temperature -40 °C to 90 °C	-	▲▲▲	▲▲▲	▲▲▲	▲▲▲	▲▲▲	▲▲▲	-	-	▲▲▲

See also Pre-Treatment Chart for Marine Applications

Key to symbols

▲▲▲	Best solution
▲▲	Good solution
▲	Possible solution

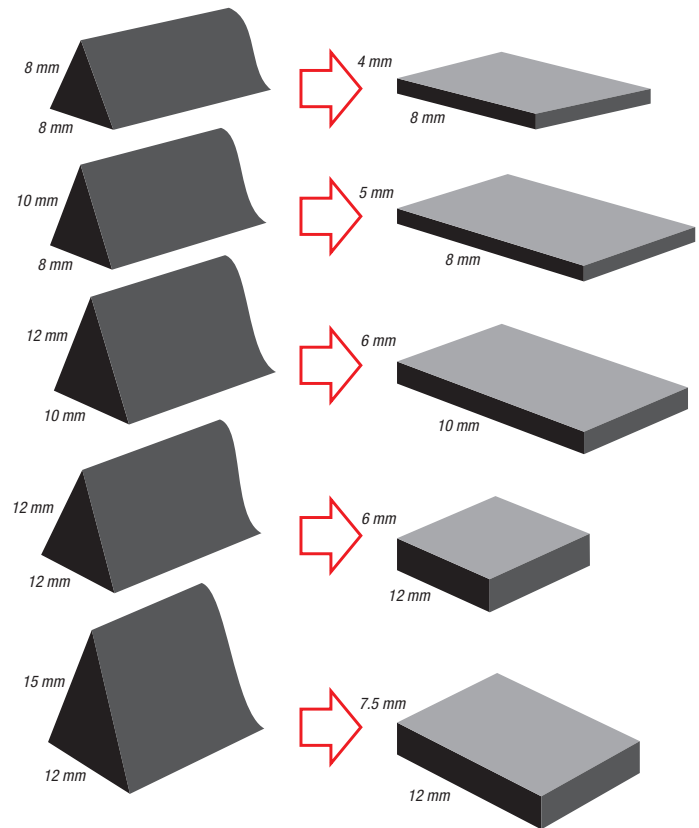
7.3 Adhesive Primer Consumption

Design of adhesive layer geometry

The elastic adhesive can only fully develop its positive properties (movement compensation, peeling and impact resistance) if the adhesive layer geometry is correct.

Above all, this means keeping to a minimum layer thickness that must be individually suited to the bond. A layer thickness of 2-3 mm has proved best for most applications. Thicker layers may be required where considerable movement is expected.

Depths over 20 mm should be avoided with standard Sikaflex® grades because the adhesive would take too long to harden.



Joint width	No. of metres per 300 ml cartridge			No. of metres per 100 ml tube			
	5	10	15	5	10	15	
Depth / Layer thickness of bond (mm)	1	62.00	31.00	20.60	20.00	10.00	6.60
	2	31.00	15.50	10.30	10.00	5.00	3.30
	3	20.60	10.30	6.88	6.60	3.30	2.20
	4	15.50	7.75	5.15	5.00	2.50	1.60
	5	12.40	6.20	4.10	4.00	2.00	1.30
	6	10.30	5.16	3.44	3.30	1.60	1.10
	7	8.85	4.40	2.95	2.80	1.40	0.90
	8	7.75	3.90	2.60	2.50	1.20	0.80
	9	6.90	3.50	2.30	2.20	1.10	0.70
	10	6.20	3.10	2.00	2.00	1.00	0.60

Primer and cleaner consumption

Product	Yield per 100 ml at 20 mm width (m)	Brush application tissue application* (l/m ²)
Sika® Aktivator / Sika® Aktivator-205	25-30	0.04*
Sika® Primer-206 G+P	17-22	0.1-0.15
Sika® Primer-209 D	12-15	0.15-0.2
Sika® MultiPrimer Marine	12-15	0.15-0.2

Make sure that:

- The primed areas coincide with the bonding areas
- The right primer for the material surface is used
- The primer is completely dry and cured before bonding i.e. watch the evaporation time
- Primers are shaken if necessary

7.4 Conversions and Calculations

Formulae

To estimate the number of litres required

Normal bead application;

$$\text{Quantity in litres} = \frac{\text{bead width (mm)} \times \text{bead thickness (mm)} \times \text{joint length (metres)}}{1000}$$

(Dimensions are for wet adhesive in rectangular cross section)

Large area bonding and laminating;

$$\text{Quantity in litres} = \text{width (metres)} \times \text{length (metres)} \times \text{wet film adhesive thickness (mm)}.$$

To determine the volume of a semi-circular bead

$$\text{Quantity in litres} = \frac{3.142 \times \text{diameter (mm)} \times \text{diameter (mm)} \times \text{length (metres)}}{8000}$$

To determine the volume of a triangular bead

$$\text{Quantity in litres} = \frac{\text{width (mm)} \times \text{height (mm)} \times \text{length (metres)}}{2000}$$

To convert kilograms to litres

$$\text{Quantity in litres} = \frac{\text{weight in kilograms}}{\text{density (grams/ml or kg/l)}}$$

To convert between temperature scales

$$\text{Fahrenheit} = \frac{(\text{degrees celsius (}^\circ\text{C)} \times 5)}{9} - 32$$

$$\text{Celsius} = \frac{(\text{degrees fahrenheit (}^\circ\text{F)} \times 9)}{5} + 32$$

The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered.

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SI prefixes

Name	Symbol	Factor
giga	G	10 ⁹
mega	M	10 ⁶
kilo	k	10 ³
hecto	h	10 ²
deca	da	10 ¹
deci	d	10 ⁻¹
centi	c	10 ⁻²
milli	m	10 ⁻³
micro	μ	10 ⁻⁶
nano	n	10 ⁻⁹

Conversion factors

Weight	
1 ounce =	28.3495 g
1 pound =	0.45359 kg
1 hundredweight =	50.8023 kg

Area	
1 inch ² =	645.16 mm ²
1 foot ² =	0.0929 m ²
1 yard ² =	0.8361 m ²
1 acre =	4046.86 m ²
1 mile ² =	2.59 km ²

Volume	
1 pint (UK) =	0.5683 l
1 pint (USA) =	0.4732 l
1 gallon (UK) =	4.5461 l
1 gallon (USA) =	3.7854 l

Length	
1 inch =	25.4 mm
1 foot =	0.3048 m
1 yard =	0.9144 m
1 furlong =	201.17 m
1 mile =	1.6093 km

Pressure	
1 bar =	0.1 MPa
1 Pascal =	1 N/m ²
1 kgf/cm ² =	0.09807 MPa
1 psi =	6894.76 Pa

Temperature scales	°C	°F
	100	212
	80	176
	60	140
	40	104
	35	95
	30	86
	25	77
	20	68
	15	59
	10	50
	5	41
	0	32

