Primer Selection Guide

REVISED JULY 2002

Construction

DESCRIPTION

Sika Primers are required on substrates where maximum adhesion is required for Sikaflex sealants. Not all joints or fillets require priming and the following notes should be used as reference guide for what substrates require priming.

PRIMER TYPES

Sika Primer 1
Apply Sika Primer 1 in a thin coat to the prepared surface by brush. Allow the primer to dry for at least one hour but not longer than 5 hours before placing the sealant. If ventilation is poor eg. joints are narrow – wait 2 hours before applying sealant. SG = 1.07.

Sika Primer 3
Apply Sika Primer 3 in a thin coat to the prepared surface by brush. Allow the primer to dry for at least 30 minutes but not longer than 8 hours before placing the sealant. If ventilation is poor eg. joints are narrow – wait 1 hour before applying the sealant. SG = 0.9. Viscosity 10-15 MPas.

Sika Primer 15
Apply Sika Primer 15 in a thin coat to the prepared surface with a clean dry brush. Allow the Primer to dry for at least 30 minutes but not longer than 5 hours before placing the sealant. If ventilation is poor eg. narrow joints – wait 90 minutes before applying the sealant. SG = 0.9

Sika Primer 215
For Sikaflex-PRO and 11 FC on ABS plastic and some other plastic materials. Allow to dry for a minimum 30 minutes and a maximum of 5 hours before applying sealant. SG = 1.0.

Sika Primer 35
Apply by brush in a thin coat to the prepared surface. Allow the primer to dry for at least 30 minutes for non porous substrates or 60 minutes for porous mineral substrates, but no longer than 5 hours before application of sealants. SG = 0.9. Viscosity 7mPas.

Sika Adhesive Cleaner 1 (Adhesive Promoter)
Degreases and deposits a chemical bond promoter on plastics, paints and metals etc. Apply very thinly with a clean polishing cloth or tissue NOT a brush. Change cloth frequently. Allow a minimum of 10 minutes to dry and a maximum of 30 minutes. SG = 0.8. Viscosity 2 MPas.

Sika Primer 209
Shake thoroughly to ensure all black pigment is dispersed. Apply a moderate coat and allow 10 minutes to dry. Do not spray apply. Repeat coats until opaque to bright sunlight. Apply a sealant within 5 hours. SG = 1.0. Viscosity 70 MPas

Sika Primer 290DC/215
a) Thoroughly de-oil timber surface with Acetone or Thinner C. Apply thin coat with a clean brush. Ideally apply when substrate temperature is falling. Allow a minimum of 60 minutes to dry before applying sealant and a maximum of 24 hours.
b) For plastic substrates allow to dry for a minimum of 30 minutes and a maximum of 24 hours before applying sealant. SG = 0.98. Viscosity 35 MPas.

Sika Primer PU
A special two component grey primer. A minimum of two coats of this primer is required in all cases. Mix the two pre-measured components together thoroughly and apply by brush to the prepared surface in an even coat. Allow to harden for a minimum 12 hours. Mix the second pack of PU Primer and apply the second coat. Allow to cure for at least 24 hours prior to application of the sealant.

N.B. Sika Primer PU can also be used on concrete, should one of the joint faces be of this material. Sika Primer PU reduces the working movement of the sealant to a maximum of 12½%. This is because the black contaminant on the substrate has low cohesive strength. Potlife once mixed 1-1½ hours at 20°C.

Substrate	Sikaflex PRO-2HP	Sikaflex-11FC	Sikaflex-PRO	Sikaflex-35SL	Sikaflex-T68W Sikaflex-T68NS
Fibre Reinforced Cement	SP 1, SP 3 or SP 15 (see note 11)	SP 3	SP 1, SP 3 or SP 15 (see note 11)	–	ND
Besser Block	SP 3	SP 3	SP 3 or SP 15	–	ND
Concrete, renderings and mortar	SP 1, SP 3 or SP 15 (see notes 1&11)	SP 1, SP 3 or SP 15 (see notes 1&11)	SP 1, SP 3 or SP 15 (see notes 1&11)	SP 1, SP 3 or SP 15 (see notes 1&11)	SP 1
G.R.C. (glass reinforced concrete) **CAST SECTION:** **CUT EDGES:**	SP 3	SP 1, SP 3, SP 15 2 x SP 1, SP 3 or SP 15 (see note 11)	SP 1, SP 3, SP 15 2 x SP 1, SP 3 or SP 15 (see note 11)	SP 1, SP 3, SP 35 2 x SP 1, SP 3 or SP 35	ND
Concrete saturated with water but surface dry	SP3	SP 3	SP 3	SP 35	ND
Portland Cement polymer modified mortars	SP 3	SP 3 (see note 3)	SP 35 or SP 15 (see notes 3 & 11)	SP 3, SP 35 or SP 15 (see notes 3 & 11)	ND
Lightweight blocks, ALC & plasterboard	SP 3	SP 1, SP 3 or SP 15 (see note 11)	SP 1, SP 3 or SP 15 (see note 11)	ND	ND
Claybrick	SP 3	SP 3	SP 15 (see notes 1 & 11)	–	ND
Ceramic tiles, Quarry tiles	SP 3 & SP 35	SAC 1 or SP 3 (see note 2)	SAC 1 or T (see note 2)	SP 35	SP 35
Marble	T	T	T	T	–
Granite	SP 3 or T	SP 35, SP 15, SP 3 or T (see note 11)	SP 35, SP 15 or T (see note 11)	SP 35 or T	T
Sandstone	SP 1, SP 3 or T	T	SP 1 or T	–	–
Anodised aluminium	SAC 1 & SP 35	NP or SAC 1 or SAC 1 & SP 35	NP or SAC 1 or SAC 1 & SP 35	NP or SAC 1 or SAC 1 & SP 35	SAC 1 & SP 35
"Mill Finished" aluminium	SAC 1 & SP 35	SAC 1 & SP 35	NP or SAC 1 or SAC 1 & SP 35	SAC 1 & SP 35	SAC 1 & SP 35
Chromesteel, stainless steel, galvanised iron, Zincalume coated steel	SAC 1 & SP 35 (see note 4)	SAC 1 or SAC 1 & SP 35 (see note 4)	SAC 1 or SAC 1 & SP 35 (see note 4)	SAC 1 & SP 35 (see note 4)	ND
Iron, steel, zinc	SAC 1 & SP 35	SAC 1 & SP 35 (see note 4)	SAC 1 & SP 35 (see note 4)	SAC 1 & SP 35 (see note 4)	T
Copper, brass, bronze	SAC 1 & SP 35	SAC 1 & SP 35	SAC 1 & SP 35	SAC 1 & SP 35	SAC 1 & SP 35

Note:
1. For maximum adhesion use Sika Primer 1, Sika Primer 15 & Sika Primer 3. No primer required on joints or fillets with minimal movements.
2. Edges of ceramic tiles are often only partially glazed or unglazed. These edges should be primed for moving and/permanently water immersed joints. Preliminary testing is advisable to ascertain suitable primer particularly if tiles are silicone impregnated etc. Sika Primer 1 may be tried.
3. For satisfactory adhesion, surfaces must be rough, not a smooth "glassy" finish as when cast against smooth plastic sheets.
4. Degrease with Sika Colma Cleaner. De-rust surfaces. Free from unsound paints and treatments.
5. For maximum adhesion use Sika Primer 1 or Sika Primer 290DC. No primer required on joint or fillets with minimal movements. Two coats of primer required on strongly absorbent wood or chipboard. Remove any wood "nap" with glass paper. Remove dust with clean and dry compressed air or vacuum. Moisture content less than 16%. Some reconstituted timbers with a high glue content may have better adhesion with Sika Primer 215.
6. Completely de-oil with clean acetone or Thinner C and after 10 minutes but within 1 hour apply Sika Primer 290DC.
7. Two coats of Sika Primer PU required. Allow first coat to cure for 10-12 hours, allow second coat to cure for a further 24 hours prior to application to sealant.
8. Testing may prove priming unnecessary but thorough sanding and acetone wipe would still be necessary to ensure removal of any wax traces.
9. Types of hard and unplasticised PVC can be different, some are treated on the surface with a clear sealer. Pre-test recommended.
10. Light abrasion with a scotchbrite pad will improve adhesion.
11. Sika Primer 15 must not be used in permanently wet or water immersed environments.

Special Note: Adhesion tests on unlisted or special substrates with Sika sealants can be arranged through our Technical Department.

Substrate	Sikaflex PRO-2HP	Sikaflex-11FC	Sikaflex-PRO	Sikaflex-35SL	Sikaflex-T68W Sikaflex-T68NS
Untreated hard-woods	SP 3 or SP 290DC (see note 5)	SP 1, SP 3 or SP 290DC (see note 5)	SP 1, SP 3 or SP 290DC (see note 5)	SP 1, SP 35 or SP 290DC (see note 5)	ND
Untreated soft-woods, corks, particle board	SP 3 or SP 290DC (see note 5)	SP 1, SP 3 or SP 290DC (see note 5)	SP 1, SP 3 or SP 290DC (see note 5)	ND	ND
Preservative treated impregnated timber	T	T	T	T	T
Naturally 'oily wood' (Teak etc.)	SP 290 DC (see note 6)	SP 290 DC (see note 6)	SP 290 DC (see note 6)	ND	–
Timber Deck Caulking	Use Marine Sikaflex-290 DC, refer to "Weathering the Elements" brochure				
Asphalt, bituminous & tar surfaces & concrete contaminated with same	T	T	T	T	2 x SPPU (see note 7)
GRP, fibreglass (waxed polyester resins only)	SAC 1 & SP 35 (see note 8)	SAC 1 & SP 35 (see note 8)	SAC 1 & SP 35 (see note 8)	T	ND
Epoxies, polyester & PU coatings, incl. powder coatings	T	T	T	T	T
Epoxy Mortars	SP 3 (see note 10)	SP 1 or SP 3 (see note 10)	SP 1 or SP 3	SP 35	T
Polycarbonate i.e. Lexan "Makrolon", "Tuffak"					
TRANSLUCENT:	Adhesion of Sikaflex with primers unpredictable to translucent grades thus not a suitable substrate				
OPAQUE:	SP 35/SP 209	SP 35/SP 209	SP 35/SP 209	ND	–
Polythene, Nylon, P.T.F.E. Polypropylene	–	–	–	–	–
Hard PVC	SP 15 (see note 11)	ND	SP 15 or SP 35 (see note 9 & 11)	T	ND
Acrylic i.e. "Perspex", "Diakon" Plexglass					
TRANSLUCENT:	Adhesion of Sikaflex with primers unpredictable to translucent grades thus not a suitable substrate				
OPAQUE:	SP 15 (see note 11)	SP 15 (see note 11)	SP 15 (see note 11)	SP 15 (see note 11)	–
Plasticised (soft) PVC	SP 15 (see note 11)	SP 15 (see note 11)	SP 15 (see note 11)	–	–
ABS Plastic	ND	SP 215 or SP 35	SP 215 or SP 35 (see note 10)	ND (see note 10)	–
"Colorbond" coated metal	T	T	T	T	T
"AquaPlate"	T	T	T	T	T
Acrylic latex paint	–	–	–	–	–
SikaGard-680S	SP 15 or SP 3	ND	SP 3	ND	ND
SikaGard-700S Impregnated concrete	ND	ND	ND	ND	ND
Some fluorocarbon metal finishes eg. Duranar & Krynar	T	T	T	T	–
Solvent based enamel	T	T	T	T	T
Rubbers	T	T	T	T	T

Key

SAC 1	=	Adhesive Cleaner 1
SP 1	=	Sika Primer 1
SP 3	=	Sika Primer 3
SP 15	=	Sika Primer 15
SP 35	=	Sika Primer 35
SP 209	=	Sika Primer 209
SP 215	=	Sika Primer 215
SP 290 DC	=	Sika Primer 290DC
SPPU	=	Sika Primer PU
NP	=	No Primers required
2 x	=	Two coats of Primer required
ND	=	No data available at present
T	=	Pre-test required because of large variations within these generic types of substrates.
–	=	Not recommended

Other Names

=	Sika Cleaner 205	
=	Sika Primer 202	
=	Sika Primer 210T	
=	Sika Primer 215	

COVERAGE

The primers mentioned have a coverage rate of 4-5m²/litre, except for PU Primer which has a coverage rate of 4 to 6 m²/kg/coat. Sika Adhesive Cleaner 1 has a coverage rate of 20 - 25 m²/litre.

SURFACE PREPARATION

Prior to priming any material the substrate must be dry, sound, clean and free from any dust or contamination. All curing membrane and form release residues must be removed before priming. Special care should be taken with metals which may require abrasion or sanding to remove any rust, poorly bonded paints or oxide layers prior to degreasing with Sika Colma Cleaner, Thinner C or Acetone.
The base or bottom of joints should not be primed as base adhesion is not advantageous. Use Sika Foam Backing Rod or Bond-Breaker Tape under Sika sealants.

SURFACE PREPARATION – SUGGESTED SPECIFICATION

Concrete:
(i) Wire brush or use more rigorous mechanical methods to remove laitance and all residues of form oil, curing membranes etc.
(ii) Remove dust from surfaces.

Non-porous substrates (eg. metals, some plastics, etc.)
(i) Wipe surface with Sika Colma Cleaner dampened absorbent tissue to remove grime, dirt, oil, etc. Change tissue frequently. The surface is clean when there is no dirty residue left on the tissue. Wipe tissue in one direction only and use a clean area of tissue for each pass.
(ii) After any residual Sika Colma Cleaner has evaporated from the substrate apply appropriate primer or Sika Cleaner.

PRIMER STORAGE

Store Sika Primers in closed containers in cool, dry areas. The storage life under these conditions is at least 18 months. Once opened use primers promptly. Keep containers tightly closed when not in use. Do not use Sika Primers which have turned to 'syrup' or very thick consistency as this indicates that they have exceeded their storage life.

CONSUMPTION

(Approximate figures: accurate figures must be calculated with the actual joint wall dimensions.)

Sikaflex-11 FC and PRO
250 ml of primer per 12-14 cartridges of 6-7 600 ml sausages.

Sikaflex-35SL
250 ml of primer per 6-8 sausages. (PU primer 2 x 500 g per 25 litres Sikaflex-35 SL.)

Sikaflex-T68 W
1 litre primer per 40-50 kg sealant. (PU Primer 2 x 500 g per 40 kg Sikaflex-T68 W.)

Sikaflex-T68 NS
1 litre primer per 40-50 kg sealant. (PU Primer 2 x 500 g per 40 kg Sikaflex-T68 NS.)

HANDLING PRECAUTIONS

It is recommended that light gloves and safety glasses are worn when using Sika Primers. All Sika Primers are flammable, keep away from sources of ignition, pilot lights etc. Avoid contact with skin and eyes. Use only in well-ventilated areas. Refer to individual Material Safety Data Sheets.

IMPORTANT NOTES

- This document is a "Guide" only. The suggested primers usually perform satisfactorily, however the onus is on the users for critical applications to conduct a test on their substrates in the environment in which they are intended to be used. If the intended service conditions are to be wet even though not water immersed it is desirable that this testing includes a 72 hour period of water immersion for a bead of fully cured sealant. For critical applications Sika Australia can perfrom accelerated peel adhesion tests on specific substrates.
- All primers should be applied in a continuous film of uniform thickness. Large variations in film thickness can result in considerable variations in primer drying time.
- All primers must be properly dry before applying sealant. The primer is dry when there is no solvent odour left. Poor ventilation (eg. narrow joints) or low temperatures can extend the minimum drying time. A tack free surface does not necessarily mean the primer coat is dry; it may just be skinned over.

IMPORTANT NOTES *CONT.*

- Ensure the primer joints are kept clean and dry until the sealant has been applied.
- Do not use primers of other than Sika manufacture with Sika sealants.
- Should the maximum sealant application time (normally 4-5 hours) be exceeded, or if the primer is contaminated by dust or rain etc., lightly sand the surface of the hardened primer, remove dust and reprime.
- Do not replace residues of decanted primers into original containers.
- Space does not allow this document to be exhaustive. Some primers that promote adhesion to the listed substrates are not mentioned.
- For primer information on substrates not mentioned in this literature please contact Sika's Technical Department
- Primer and cleaner drying times quoted here apply at 23˚C and 50% R.H.

IMPORTANT NOTIFICATION

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. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms and conditions of sale. Users should always refer to the most recent issue of the Technical Data Sheet for the product concerned, copies of which will be supplied on request.

PLEASE CONSULT OUR TECHNICAL DEPARTMENT FOR FURTHER INFORMATION.

Construction

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