TIPS AND TRICKS

SURFACE PREPARATION

GENERAL REMARKS

The surface preparation is beside the material choice and the joint dimensioning the key for a long lasting bond. Therefore it is essential to execute the surface preparation very accurately.

SURFACE CLEANING

Dirty surfaces have to be pre cleaned. For oily or fatty surfaces, steam cleaning with detergents and consecutive rinsing with clean water are recommended for large areas. Smaller areas may be pre cleaned with solvents such as Sika® Remover-208.

Dust on surfaces is best removed with a vacuum cleaner. Compressed air as alternative can be used if it is deoiled.

Rust, other oxydes or loose paints have to be eliminated mechanically. Methods are sandblasting, and grinding. In case of sandblasting the type of blasting material has to be chosen according to substrate to clean. If necessary contact an abrasive producer.

Grinding with sand paper may be done with belt grinder, excentric grinder, rotation grinder or manually. The grit to choose depends on the material to eliminate. Usually grit 40-80 is used.

After grinding the dust has to be eliminated with a vacuum cleaner.

Fig. 11 Sandblasting

Fig. 12 Steam cleaner

Fig. 13 Deoiler for compressed air

Fig. 14 Excenter grinder

Fig. 15 Rotative grinder

Fig. 16 Belt grinder

SURFACE TREATMENT

The additional surface treatment may be the use of an activator or/and a primer. Detailed informations are given on the Marine Pre-Treatment Chart.

STORAGE OF THE PRODUCTS

STORAGE UNOPENED CARTRIDGE OR UNIPACK

Sikaflex® and Sikasil® products should be stored at a temperature below 25°C. The product shelf life is indicated on each packaging unit.

If the product is stored at higher temperature, viscosity of Sikaflex® rises up to a moment where it is hard to extrude and shows a slight elastic behavior. In this case do not use it as the wetting of the substrate is not ensured anymore.

Sikasil® reacts differently. After the expiry date the reactivity slows down and the physical strength is lower than indicated in the Product Datasheet. The viscosity (extrusion behavior) of the product is not changing.

STORAGE OF AN OPENED CARTRIDGE

If a cartridge is opened and not used for some days, the nozzle has to remain on the cartridge and just changed with a new one before reuse of the cartridge.

If the product will not be used for a longer period, we recommend removing the nozzle and covering the cartridge opening with an aluminum foil. Screw a new nozzle over this foil. When reused after elimination of the foil, the beginning of the extrusion needs a high force. Once the plunger starts to move, the extrusion force drops down to a normal level.

STORAGE OF ACTIVATORS AND PRIMERS

These products should be stored at lower temperatures than 25°C. Once opened bottles should be closed immediately after use. Maximum storage life after opening is 3 months.

PRODUCT APPLICATION

GENERAL ADVICE

Respect the recommendation in the actual Product Safety Sheet concerning collective and personal protection.
Use only products within the best before date. Never use thinners or solvents to dilute Activators or Primers.

Fig. 17 Best before date cartridge

Fig. 18 Best before date unipac

APPLICATION OF ACTIVATORS AND PRIMERS

Activators should be applied like a solvent. It is applied on non-porous substrates only! Wet a paper tissue sparingly with the corresponding Activator and wipe the surface in one direction. Turn the tissue to a proper side and continue cleaning. Dry the area with a dry tissue (wipe on / wipe off method) Discard the tissues when dirty according to legal legislation.

Close Activator bottles immediately after use.

Fig. 19 Outer and inner cap

Fig. 20 Close inner cap immediately after use

If you transfer the Activator in a separate can, discard the rest at the end of the day according to legal legislation to prevent inactivation of it.

Do not use an Activator which is cloudy or which show an unusual aspect.

Respect the minimum and maximum waiting time until the adhesive or sealant is applied. Consult the Pre-Treatment Chart Marine.

Primers are applied like paint. Use a clean dry brush, a felt or dauber to apply a Primer.

Sika® MultiPrimer Marine may also be applied with a paper tissue.

Pigmented primer like Sika® Primer-206 G+P or Sika® Primer-209 D have to be shaken until the metal ball in the can be heard. Shake for another minute until the primer is completely homogen.

Fig. 21 Shake

Fig. 22 Outer and inner cap

Fig. 23 Close inner cap immediately after use

If you transfer the primer for use in a separate can, discard the rest of it at the end of the day according to national legislation. With this action inactivation or jellification will be prevented.

Respect the minimum and maximum waiting time until the adhesive or sealant is applied.

APPLICATION OF ADHESIVES AND SEALANTS

The application is done with a good quality type of gun. Cheap guns may fail especially with higher viscous adhesives such as Sikaflex®-292i or -296.
Apply the product with a triangle shaped nozzle of the appropriate dimension, holding the gun in a vertical position.

Fig. 24 Adhesive application

Insert spacers (see page 17) beside the adhesive bead

Join the parts together, applying a uniform pressure until the final position of the parts is reached. Use a flat rod to press flexible parts uniformly to the desired thickness.

In case of vertical application use distance blocks or adhesive tapes to hold the part in position until the adhesive get sufficient strength.

For additional sealing operation, protect the sides with adhesive tapes. Apply the sealant watching a complete filling of the space to prevent air inclusions between adhesive and sealant. Tool the sealant with a flexible spatula. Remove the adhesive tapes as soon as the tooling has been done before skinning of the sealant occurs.

REMOVAL OF ADHESIVES AND SEALANTS

FRESH UNCURED PRODUCTS

On non-porous substrate, remove the sealant or adhesive with a spatula. Clean the left over with a tissue or rag and Sika® Remover-208.

Do not use other solvents as they can react with Sikaflex® forming a permanently sticky surface

On porous substrate it is best to let the product cure and remove it after hardening with mechanical means.

CURED PRODUCT

Cured Sikaflex® can only be eliminated with mechanical means. Solvents do not dissolve the hardened Sikaflex® but may soften it for easier removal (use acetone or isopropyl alcohol)

Note: Never use Sika® Aktivator for cleaning

CLEANING OF HANDS AND SKIN

Contact with Sikaflex® should be avoided. Use personal and collective protection means, such as gloves etc.

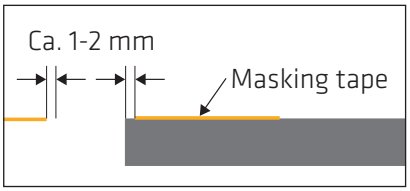
Never use solvents to clean the skin. Best is Sika® Handclean towel or other water based cleaning pastes.

Detailed information's about the physiology of the products are available in the national Safety Datasheet, available on the Internet. www.sika.com

AUXILIARY MATERIALS

MASKING TAPE

Masking tapes are to be used to protect the substrate against soiling. Apply the masking tape about 1 mm away from the joint area (see illustration). After application and tooling of the adhesives, the masking tape should be eliminated as soon as possible before skinning of the adhesive or sealant occurs.



SPACERS

Spacers are used to assure a defined thickness of the bond line. They should be softer (shore hardness) than the cured adhesive.

Suitable materials are self-adhesive bumpers. Other possibility is to produce a small bead or sheet of the Sikaflex® adhesive in the desired thickness. After curing cut it in small parts of approx. 5x10 mm.

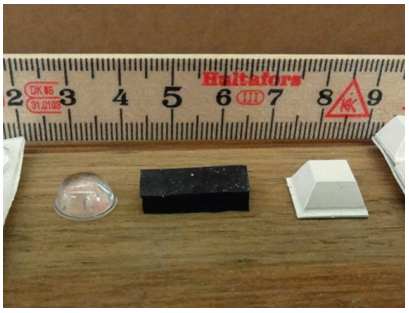


Fig. 25 Example of spacers

Fix the spacer on the substrate. If an adhesive is needed we recommend to use a small dot of Sikaflex®. Never use superglue as they exhale vapors which impair a good adhesion of the Sikaflex® adhesive on the substrate.

DISTANCE BLOCKS

Distance blocks are used to temporarily fix vertically bonded parts to prevent sliding.

They are best made of plastics or wood. Never use metals! After sufficient curing of the adhesive. They can be removed to permit the consecutive sealing (backfill) of the remaining joint.

Fig. 26 Distance block

HOW TO AVOID CORROSION

The best corrosion resistance is achieved with suitable paint systems which are designed for the marine conditions.

- Aluminum and ordinary steel have to be protected with such systems. (ISO 12499-3)
- In addition enclosed air pockets or other closed areas (example between adhesive and backfill sealant) have to be avoided. In case of cold application temperature, the viscosity can be decreased warming up the adhesive or sealant in a water bath. (Up to about 40°C)
- Interrupt the bead to allow occasionally entered water (condensed water).

Note: Sika primers give a very limited corrosion resistance and should be used only for adhesion purposes.