EXPLANATORY NOTES ON SUBSTRATE PREPARATION AND TREATMENT

1. Aluminum
Alloys containing magnesium or silici-
um may form an unstable layer on the
surface. This layer must be removed with
very fine abrasive paper.

2. Aluminum, anodized
For aluminum that has been surface
-treated, e.g. chromated, anodised or
coated, a simple pre-treatment is usu-
ally sufficient. Due to the wide variety of
anodising treatments it is necessary
to run preliminary tests to check for
satisfactory adhesion.

3. Steel, stainless
The term “stainless steel” and “spe-
cial steel” encompasses a whole group
with an important influence on the
adhesion behaviour. Adhesion might be
improved by a prior cleaning step with
very fine abrasive paper.

4. Steel, hot-dip galvanized,
electrogalvanized
The surface composition of hot-
dip components is not uniform. It is
therefore necessary to carry out ad-
hesion checks: Oiled zinc-coated
steel has to be degraded prior to use.

5. Non-ferrous metals
Metals like brass, copper and bronze
are prone to intermetallic reaction with
the seal-
ant or adhesive. Therefore it is rec-
ommended to contact Sika for advice prior
to use.

6. Surface coatings, paint finishes
As a general rule, successful bonding
with Sikaflex® products is expected with
the following paint systems: cat-
aphoretic immersion coatings; powder
coatings; epoxy or polyurethane paints.

7. FRP ( fibre reinforced plastic)
These materials consist of the most
part of the thermosetting plastics de-
veloped from unsaturated polyester,
less commonly from epoxy vinylester
or phenol formaldehyde resins. Newly
manufactured components can be
affected by corrosion due to water and
oxygen. In such cases, the surface
may be covered with a yellow or brown
film facing. These are waterproof plywood
panels that are subject to periodic inspections.

8. Plastics
Some plastics require special physico-
chemical treatment before they can be
successfully bonded (flame treatment
or plasma treatment in combination
with chemical post treatment). Poly-
propylene and Polyethylene are two
examples. With many plastic blends it
is impossible to give specific guidance
due to the potential variation of com-
ponents and internal/external release
agents they contain. Some engineered
plastics such as ABS, PMMA and PE
may contain substances which can be
dissolved by the solvents of that are
compatible with them. For this reason
appropriate pre-treatment (chemical
post treatment) is recommended.

9. PMMA/PC
Scratch resistant coating on PMMA
or PC must be removed in the bond-
ing area with sand paper (120 grit)
and pre-treated as defined for non-coated
substrates. Note that this last step
may impair the mechanical properties
of the PMMA/PC. Contact Sika for so-
lutions without removal of the coat-
ing. See also further item 10 and
consider always the UV-rules mentioned
under "Transparent or translucent sub-
strates" and ESC under item General
Information.

10. Sikafloor®-352 SL/ST/VS
These are solvent free 2C polyurethane
filing and levelling compounds used to
level uneven substrates in ship and boat
constructions prior to the installation
of e.g. a teak deck system. Do not
use solvent to clean cured and ground
Sikafloor®-352 SL/ST/VS. Con-
sult the respective PDS for further in-
formation.

11. Glass (mineral) / Ceramic screen
print
Due to production, some windscreen
may have silicone contaminated ce-
ramic screen print or glass. It might be
removed by using Sika® Cleaner PCA.

EPDM/SBR
RUBBERS can be made from natural
carbohydrate or are produced artificially.
They are therefore nearly endless combinations
are possible. For this reason each type
of rubber has to be tested separately.

ESC
At present environmental stress crack-
ing (ESC) is one of the most common
causes of unexpected brittle failure of
thermoplastics, especially amorphous
polymers. Key parameters to trigger
ESC are stress, liquid chemical ex-
posure. Each bonding process must be verified.

Protective layer
Substrate surfaces with high variabil-
ity like galvanised, anodized, coil
coating, varnishing finish must be
subjected to periodic inspections.

GENERAL INFORMATION

Transparent or translucent substrates
With transparent or translucent sub-
strates where the bonded surface is
exposed to direct sunlight through
the transparent or translucent layer, some
form of UV barrier must be incorpo-
rated to shield the adhesive bond. This
may consist of an opaque cover strip,
an optically dense screen printed bor-
der or a black primer for semi-trans-
parent substrates such as translucent
FRP or screen prints. Due to the high
UV exposure for exterior applications
the sole use of black primers for UV
protection is not sufficient. For interi-
or applications and where the bondline
is occasionally exposed to UV-light, a
sole black primer for UV protection
may be sufficient.

Corrosion protection
All listed pre-treatment products in
this chart are not designed to give
comprehensive corrosion protection. In
most cases primer layers protect the
surface to a certain degree. Whether or not this protection is sufficient for
specific processes is at the customers
sole discretion.

SIKA PRE-TREATMENT CHART
FOR SEALING AND BONDING IN MARINE APPLICATIONS

6. Marine
SIKA PRE-TREATMENT CHART
FOR SEALING AND BONDING IN MARINE APPLICATIONS

 utilisation of sika pre-treatment chart
The information about the pre-treatment of surfaces in this document serves as a guideline only and must be verified by tests on original substrates.
Project specific pre-treatment recommendations, based on laboratory tests, are available from Sika upon request. Always consult additional information.

MARINE SIKA PRE-TREATMENT CHART
FOR SEALING AND BONDING IN MARINE APPLICATIONS

utilisation of sika pre-treatment chart
The information about the pre-treatment of surfaces in this document serves as a guideline only and must be verified by tests on original substrates.
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MARINE SIKA PRE-TREATMENT CHART
FOR SEALING AND BONDING IN MARINE APPLICATIONS
**RECOMMENDATIONS FOR SIKA MARINE RANGE**

**PRECONDITION:**
Surfaces have to be clean, dry and free of oil, grease, dust and loose particles. Depending on the nature of soiling, Sika® Remover-208, Sika® Sikasil® SG-20 must not be applied here.

**Notices:** Sikaflex® activators and primers are moisture reactive systems. In order to maintain product quality it is important to reseal the container immediately after use. With frequent use i.e. opening and closing several times, it is recommended disposing of the product one month after the first opening. With infrequent use, it is recommended disposing of the product 3 months after opening. When selecting a foam applicator, the solvent resistance must be considered. Suitable products include Sika® Cleaner PCA or melamine foam Basotect from BASF.

Always consult additional information, such as General Guidelines, Bonding and Sealing with Sikaflex® - current Product Data Sheets, Safety Data Sheets, additional Product and Technical Information, etc. prior to use of the products. Project-oriented solutions are documented in full technical service reports. These reports can usually be obtained from the sales酣 pat or the local Product Data Sheet.

LEGAL DISCLAIMER
The information contained herein and any other advice we give in good faith based on Sika’s current knowledge and experience of the products when properly used, handled and applied under normal conditions in accordance with Sikas recommendations. The information only applies to the application(s) and product(s) expressly referred to herein. Sika is not responsible for products or systems not supplied or supported by Sika. Sika does not assume any responsibility for tests, information or knowledge of the user of the information provided, such as changes in substrates, etc. in case of different application, consult Sika’s Technical Service prior to using Sikaflex® products. The information contained herein does not relieve the user of the products from testing them for the intended application and purpose. All orders are subject to our current terms of sale and delivery. Terms must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which can be downloaded on your local Sika company website or will be supplied on request.

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**PRODUCT DATA AND ABBREVIATIONS**

The following product information is an abbreviated version of the current Product Data Sheets.

**Abbreviation**
AP-C Abrasive Pad very fine (e.g. from Sia or 3M)
AP-V Abrasive Pad very fine and vacuum cleaning
CP-V Crimping (60 – 80 g/m²) and vacuum cleaning
SCP Sika® Cleaner P
SA-100 Sikaflex® Aktivator-100
SA-205 Sikaflex® Aktivator-205
SMM Sika® MultiPrimer Marine
SP-206 GP Sika® Primer-206 GP
SP-209 D Sika® Primer-209 D
SP-290 DC Sika® Primer-290 DC
ZP Sika® Cor-ZP-Primer

**Notice:** Not all products available globally.

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### PRE-CLEARANCE CHART FOR SEALING AND BONDING IN MARINE APPLICATIONS

<table>
<thead>
<tr>
<th>Substrate</th>
<th>EN*</th>
<th>SikaFlex®-292 UV</th>
<th>SikaFlex®-290 PC</th>
<th>SikaFlex®-290 DC</th>
<th>SikaFlex®-292-236 UV</th>
<th>SikaFlex®-292-236 DC</th>
<th>SikaFlex®-292-236 PC</th>
<th>SikaFlex®-292-236 N</th>
<th>SikaFlex®-291</th>
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<tbody>
<tr>
<td>Aluminum (AlMg1, AlMgSi1)</td>
<td>1</td>
<td>AP-C</td>
<td>SA-100</td>
<td>SA-100</td>
<td>AP-C</td>
<td>SA-100</td>
<td>SA-100</td>
<td>AP-C</td>
<td>SA-100</td>
</tr>
<tr>
<td>Aluminum (sandblasted)</td>
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<td>AP-C</td>
<td>SA-100</td>
<td>SA-100</td>
<td>AP-C</td>
<td>SA-100</td>
<td>SA-100</td>
<td>AP-C</td>
<td>SA-100</td>
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<tr>
<td>Stainless steel</td>
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<td>SA-100</td>
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<td>SA-100</td>
<td>SA-100</td>
<td>AP-C</td>
<td>SA-100</td>
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<tr>
<td>Steel (hot-dipped, galvanized)</td>
<td>4</td>
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<td>SA-100</td>
<td>SA-100</td>
<td>AP-C</td>
<td>SA-100</td>
<td>SA-100</td>
<td>AP-C</td>
<td>SA-100</td>
</tr>
<tr>
<td>Non ferrous metals (copper, brass, bronze…)</td>
<td>5</td>
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<td>SA-100</td>
<td>AP-C</td>
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<tr>
<td>Metal with shop primer</td>
<td>6</td>
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<td>SA-100</td>
<td>AP-C</td>
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<td>AP-C</td>
<td>SA-100</td>
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<tr>
<td>Metal with 2C AC/PU-paint</td>
<td>6</td>
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<tr>
<td>FRP (unsmaturated polyester) gelcoat side or SMC</td>
<td>7</td>
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<td>SA-100</td>
<td>SA-100</td>
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<tr>
<td>FRP (unsmaturated polyester) lay-up side</td>
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<tr>
<td>HandlPUV (without anti scratch coating)</td>
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<td>SikaTransflow®-352 SL/ST/SL</td>
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<td>[Link to Product Data Sheet]</td>
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<td>Glass (mineral)</td>
<td>11</td>
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<td><strong>SA-100</strong></td>
<td><strong>SA-205</strong></td>
<td><strong>SA-100</strong></td>
<td><strong>SA-100</strong></td>
<td><strong>SA-205</strong></td>
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<tr>
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</tr>
<tr>
<td>Wood and wood derivatives</td>
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<td>AP-C</td>
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<tr>
<td>Phenolic Plywood</td>
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* EN = Explanatory notes see page 4.