

Bonding and Sealing Mineral Glazing



Application Description

The direct mineral glazing into frames or directly into the hull or deck, requires a full understanding of all the important principles involved.

It is essential that the glass meets all the demands and standards required for the intended application, such as IMO resolutions or other regulations as laid down by the classification societies.

For insulation glass, total bonding consistency must be ensured by using Sikaflex® adhesives and sealants for the entire installation. Glass

qualities especially developed for the marine industry are recommended.

The adhesive bond line must be protected against UV radiation. This may be achieved using several materials and methods:

- Using a black, ceramic coated border with a light transmission of less than 0.01%.
- Using an overlapping trim with a width twice that of the glass thickness (plastic or metal).








For glass without a black, ceramic coated border or without the overlapping trim, Sika® UV Shielding Tape should be used for proper protection of the bond line (plastic or metal).










Local and international rules for maritime constructions and appropriate legislation must always be observed.

Procedure for Bonding and Sealing Mineral Glazing

GRP Frame



| | |
|--|--|
|  | Lightly abrade the gelcoat of the contact area with a very fine sanding pad |
|  | Remove the dust with a vacuum cleaner |
|  | Mask off any areas that need it |
|  Aktivator | Pretreat the substrate with Sika® Aktivator, using a clean, lint-free rag or paper towel. Change the rag frequently! |
|  | Flash-off: 10 minutes (min) to 2 hours (max) |
|  206 G+P 210 | Apply a thin, continuous coat of Sika® Primer-206 G+P or Sika® Primer-210, using a clean brush or felt applicator |
|  | Drying time: 30 minutes (min) to 24 hours (max) |

Aluminium Frame





| | |
|--|--|
|  | Mask off any areas that need it |
|  | Lightly abrade the contact area with a fine sand pad |
|  | Remove the dust with a vacuum cleaner |
|  205 Aktivator | Pretreat the substrate with Sika® Aktivator, Sika® Aktivator 205, using a clean, lintfree rag or paper towel. Change the rag frequently! Glass MUST be prepared with Sika® Aktivator. Sika® Aktivator must be applied with the wipe on/wipe off method |
|  | Flash-off: 10 minutes (min) to 2 hours (max) |
|  206 G+P 210 | Apply a thin, continuous coat of Sika® Primer-206 G+P or Sika® Primer-210, using a clean brush or felt applicator |
|  | Drying time: 10 minutes (min) to 24 hours (max) |

Substrate Preparation

Glass with External UV Protection or with Black Ceramic Border (Transmission < 0.01%)

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|--|--|
|  Aktivator | Pretreat the substrate with Sika® Aktivator, using a clean, lint-free rag or paper towel. Change the rag frequently! (Fig. 128) Sika® Aktivator must be applied with the wipe on/wipe off method |
|  | Flash-off: 10 minutes (min) to 2 hours (max) |

Glass with Black Ceramic Glass Border (Transmission > 0.01%)

| | |
|---|---|
|  Aktivator | Pretreat the substrate with Sika® Aktivator, using a clean, lint-free rag or paper towel. Change the rag frequently! (Fig. 113) |
|  | Flash-off: 10 minutes (min) to 2 hours (max) |
|  206 G+P | Apply a thin, continuous coat of Sika® Primer-206 G+P, using a clean brush or felt applicator |
|  | Drying time: 30 minutes (min) to 24 hours (max) |

Timber or Aluminium Frame Coated with Two-Part Lacquer




| | |
|---|--|
|  | Mask off any areas that need it |
|  205 Aktivator | Pretreat the substrate with Sika® Aktivator, Sika® Aktivator 205, using a clean, lintfree rag or paper towel. Change the rag frequently! Glass MUST be prepared with Sika® Aktivator. Sika® Aktivator must be applied with the wipe on/wipe off method |
|  | Flash-off: 10 minutes (min) to 2 hours (max) |



Fig. 128 Applying Sika® Aktivator

For the preparation of the frame, please refer to the Primer Chart for Sika Marine Applications on page 146.



Fig. 129 Applying Sikaflex®-296

Adhesive and Sealant Dimensioning

The dimensioning of the adhesive and the joint geometry must be carried out in accordance with Sika's basic rules of calculation. If deck movement is negligible the following dimensions are recommended.

 **At all times recommendations from classification societies must be respected**

See page 106 for the procedure to calculate to size of the bond line.

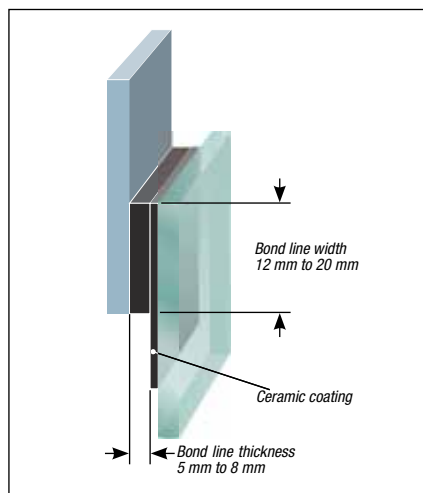












Fig. 130 Required parameters of the joint




Fig. 131 Another example of decorative glazing in a luxury liner

Applying Sikaflex®-296 Adhesive

-  Place spacers in position. Depending on the size of the glazing panel, the thickness of the spacer should be chosen accordingly; approximately 40 Shore A hardness
-  Avoid interruption of the bead by the spacers
-  Apply Sikaflex®-296 to the frame rebate or glazing panel using a triangular nozzle with a bead width of at least 10 mm
-  Assemble all components within 20 minutes of applying the adhesive
-  To prevent slip down of vertical glazing panels, distance blocks (wood or plastic) must be placed in the lower rebate during installation. After curing, these must be removed. The rebate gap must be at least 10 mm (see Fig. 130)
-  Clamps and other fastening aids can be removed after 24 hours. After this time, the expansion gap between glazing panel and rebate should be filled and sealed with Sikaflex®-296 or Sikaflex®-295
-  This sealant joint can be tooled to a smooth finish using Sika® Tooling Agent N.
-  This must be carried out before skinning of the sealant
-  After tooling, remove any masking tape before the adhesive skins over
-  Uncured Sika adhesives or sealants can be removed with Sika® Remover-208

 Do not use Sika® Aktivator or any other cleaning agent or solvent for cleaning purposes

 If required, apply Sika® UV Shielding Tape to cover the bond line in accordance with the Sika recommendations. (Fig. 133)

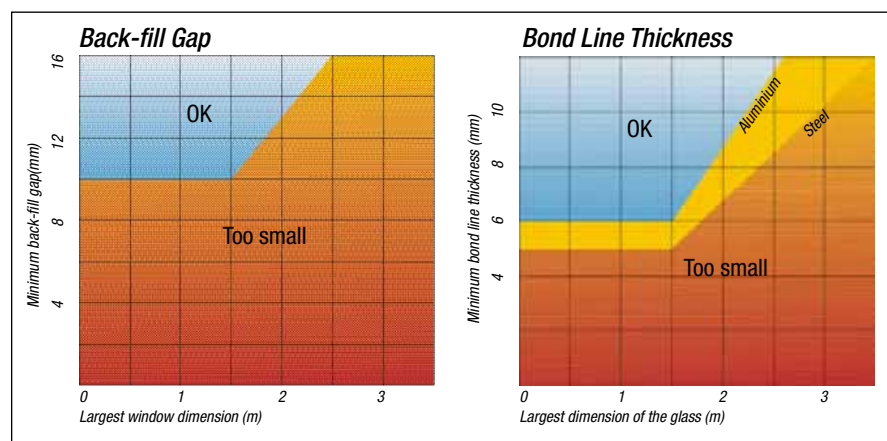


Fig. 132 Glass window dimensioning ratios

Bond Line Protection

The bond line on conventional glass must be protected from damage by UV radiation using one of the methods listed below.

Conventional glass with no ceramic frit does not protect the adhesive face from damage by UV radiation. Therefore, the bond face must be protected from direct sunlight using one of the materials recommended here.

- Ceramic coated glass border with a light transmission value of <0.01%
- External cover strip of appropriate dimensions
- Sika® UV Shielding Tape of appropriate dimensions

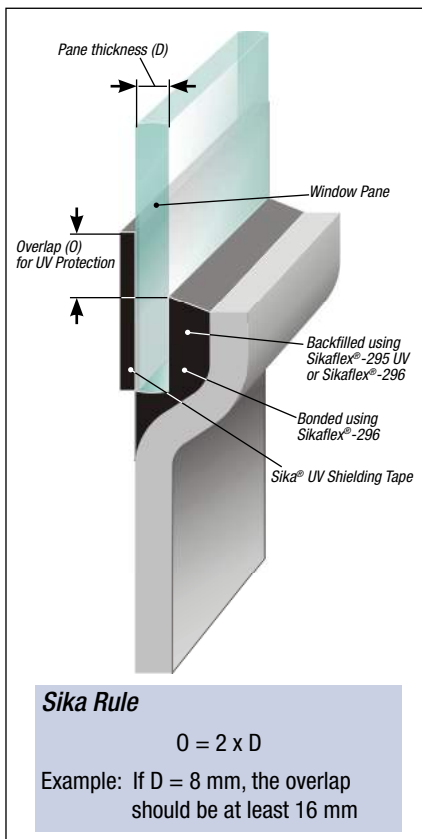


Fig. 133 Minimum Recommendations for UV Bond Protection

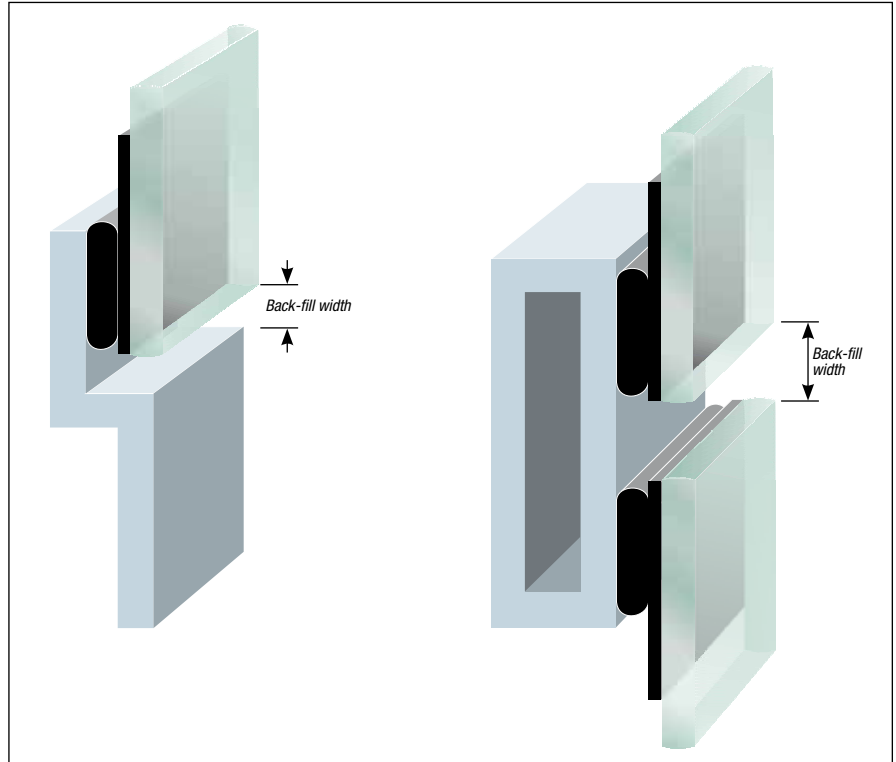


Fig. 134 The definition of back-fill width

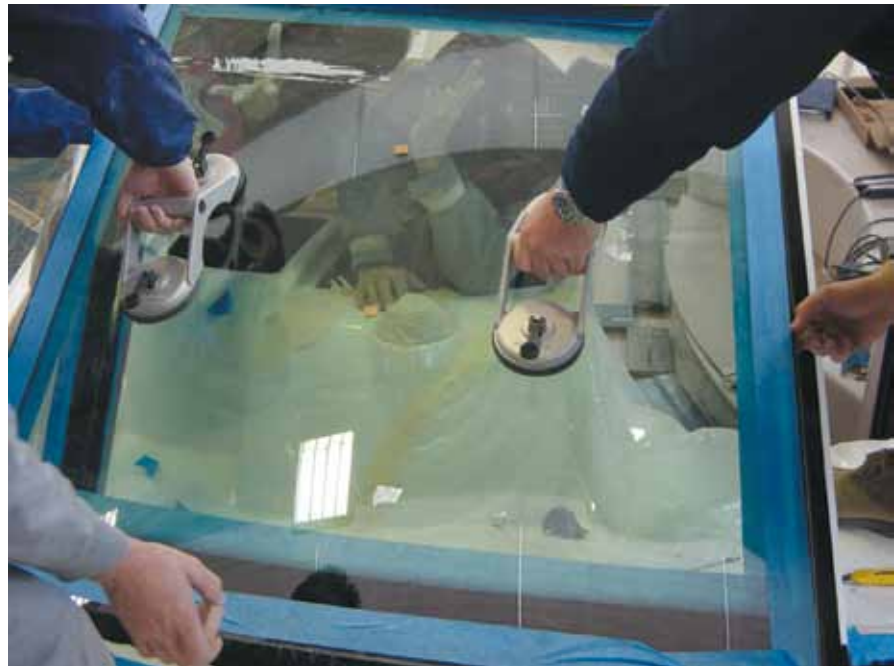


Fig. 135 Putting a window in place



Sika's Technical Service department is always available to lend support in calculating the bond line dimensions needed for durability