



# GENERAL GUIDELINE

## Insulating Glass Edge Sealing with Sikasil® and SikaGlaze® IG Sealants & Adhesives

08.10.2018 / VERSION 3 / SIKA SERVICES AG

## TABLE OF CONTENTS

<b>1</b>	<b>Purpose and general information</b>	<b>3</b>
<b>2</b>	<b>Introduction</b>	<b>4</b>
<b>3</b>	<b>Design and Joint Dimensioning</b>	<b>4</b>
<b>4</b>	<b>Working Place Conditions</b>	<b>4</b>
<b>5</b>	<b>Surface Pre-treatment</b>	<b>4</b>
<b>6</b>	<b>Processing and Product Application</b>	<b>5</b>
6.1	Two-component Insulating Glass Secondary Sealants (Sikasil® IG-25, Sikasil® IG-25 HM Plus)	5
6.1.1	Preparatory Work	5
6.1.2	Mixing	5
6.1.3	Application	6
6.2	One-component Insulating Glass Secondary Sealants (Sikasil® IG-16)	6
6.2.1	Preparatory Work	6
6.2.2	Application	6
6.3	thermoplastic primary sealant SikaGlaze® ig-5 pib	6
6.3.1	Preparatory Work	6
6.3.2	Application	6
<b>7</b>	<b>Movement of Bonded Elements</b>	<b>7</b>
<b>8</b>	<b>Quality Assurance</b>	<b>7</b>
8.1	Testing the Mixing Ratio (2-component products only)	8
8.2	Marble Test for Homogeneity (2-part products only)	8
8.3	Butterfly Test for Homogeneity (2-part products only)	9
8.4	Pot Life (Snap Time) Testing (2-part products only)	10
8.5	Skin-over Time and Tack-free Time (1-part products only)	11
8.6	Shore A Hardness	12
8.7	Tensile Adhesion Tests on H-specimens	12
<b>9</b>	<b>Notes</b>	<b>14</b>
<b>10</b>	<b>Legal Note</b>	<b>15</b>

### General Guideline

Insulating Glass Edge Sealing with Sikasil® and SikaGlaze® IG Sealants & Adhesives  
08.10.2018, VERSION 3

Sika Services AG  
Tueffenwies 16  
CH-8048 Zurich

# 1 PURPOSE AND GENERAL INFORMATION

This document contains recommendations and hints for the application of Sikasil® IG sealants and adhesives as secondary edge seals of dual-sealed insulating glass units. This guideline is relevant for the following products:

- Sikasil® IG-25  
2-part IG Secondary Edge Seal for air-filled IG units
- Sikasil® IG-25 HM Plus  
2-part IG Secondary Edge Seal for air- and inert gas-filled IG units
- Sikasil® IG-16  
1-part Secondary Edge Seal for air- and inert gas-filled IG units
- SikaGlaze® IG-5 PIB  
Butyl Primary Seal for IG units

The information herein is offered for general guidance only. Since the production of insulating glass units –especially for the use in structural glazing facades and structurally bonded windows- is a critical application and conditions as well as substrates may vary greatly, customers and applicators must test the suitability of the products for each specific project and contact Sika for advice.

Quality assurance by the applicator must cover all aspects of the application of Sikasil® IG sealants and adhesives and include at least the following elements:

- application design and verification prior to implementing an application
- quality control during production
- quality control of the finished product



In such highly demanding and critical applications Sikasil® Engineering Silicone sealants & adhesives may only be applied by experienced professionals and after a detailed examination and written approval of the corresponding project details by the Technical Department of Sika Industry.

For detailed information about specific sealants, adhesives and surface pre-treatment agents please refer to the most recent Product Data Sheets (PDS) and Safety Data Sheets (SDS) and calculation value sheets. For the application of Sika® IG products not mentioned in this guideline consult the Technical Department of Sika Industry.

**Safety Instructions**

- Pre-treatment products and adhesives are chemical products. Please follow safety instructions:



- Wear chemical-resistant gloves and safety glasses. Safety Data Sheets and instructions for use (Product Data Sheet) must be strictly adhered to.

Figure 1: General Health and Safety Instructions

## General Guideline

Insulating Glass Edge Sealing with Sikasil® and SikaGlaze® IG Sealants & Adhesives  
08.10.2018, VERSION 3

Sika Services AG  
Tueffenwies 16  
CH-8048 Zurich

## 2 INTRODUCTION

Sikasil® IG sealants & adhesives are condensation-curing, one- and two-part silicone products suitable as secondary edge seals of dual-sealed insulating glass units. Since silicones are the only materials with a long-term resistance to UV radiation and with structural capabilities in the sense of EN 13022 / EN 15434 / EOTA ETAG 002 or ASTM C 1249, they are commonly used in structural glazed façades or structurally bonded windows and have proven their suitability in thousands of façade projects under various climatic conditions. SikaGlaze® IG-5 PIB is a high quality butyl used as primary seal and is compatible to all Sikasil® IG secondary sealants.

## 3 DESIGN AND JOINT DIMENSIONING

The secondary edge sealant joint of an insulating glass unit must be designed to withstand all loads the element is exposed to such as wind, snow, climatic loads etc. during the whole lifetime. The required silicone seal height of an insulating glass unit thus strongly depends on the dimensions of the glass panes, the IG unit composition (glass thickness and cavity) and the expected loads.

Since most silicone-sealed insulating glass units are used in structurally glazed facades, a minimum silicone seal height of 6mm according to EOTA ETAG 002 (European Guideline for Structural Sealant Glazing Systems) is mandatory for these units. The required silicone seal height for a certain application can be significantly larger though. For specific advice regarding joint dimensioning Sika offers a project-based calculation service.

Please contact the Technical Department of Sika Industry with your specific requests.

## 4 WORKING PLACE CONDITIONS

The working place should be as dust-free as possible. Ideal conditions are 23° C (73 °F) and 50% relative humidity. As these conditions are usually attainable only in laboratory, one should try to make the plant conditions as close as possible. Although Sikasil® IG sealants & adhesives may be processed within 5 – 40 °C (40 – 105 °F), the optimum application temperature of the products is between 15 °C and 30 °C (60 – 85 °F).

All substrates (glass and spacers) must be stored under the same conditions (i.e. between 5 and 40 °C; 40 – 105 °F) at least 24 hours prior to the application of Sika Ig products in order to avoid condensation on the surfaces.

## 5 SURFACE PRE-TREATMENT

For perfect adhesion of Sikasil® IG products the respective substrates must be free of all contamination and foreign substances such as grease, oil, drilling fluids, dust, water or frost.

For insulating glass units in structural glazing facades, Sika has to test the adhesion of insulating glass secondary sealing on project basis on production-run samples of the original materials (e.g. glass coatings) used in the specific project. For more information, please contact the Technical department of Sika Industry.

## 6 PROCESSING AND PRODUCT APPLICATION

### 6.1 TWO-COMPONENT INSULATING GLASS SECONDARY SEALANTS (Sikasil® IG-25, Sikasil® IG-25 HM PLUS)

#### 6.1.1 PREPARATORY WORK

- Sikasil® IG-25 / IG-25 HM Plus A-part as well as B-part has a paste-like consistency. To process the two components, a pump system with follower plate is required.
- After opening the 200 liter drum containing the A-part (base) remove the plastic cover sheets
- After opening the pails containing the B-part (catalyst) cut the foil in a diameter of approx. 150 mm. Remove cut foil and any cured material from the surface. Place the pail under the follower plate and start operations carefully following the instruction of the equipment supplier.
- Due to its reactivity with atmospheric moisture, the B-part of Sikasil® IG-25 / IG-25 HM Plus should not be exposed to air for more than 5 minutes. Should a thin layer of a resinous material has been formed on top, it has to be removed with a spatula or a similar tool before installing the container under the pump.
- Neither the A-part nor the B-part require stirring, as both components show very little tendency to separate.
- In the very unlikely case of oil separation of more than 1 cm thickness on the B-part contact the Technical Department of Sika Industry before use.

#### 6.1.2 MIXING

To obtain the ultimate physical properties indicated in the corresponding Product Data Sheets, Sikasil® IG-25 / IG-25 HM Plus 2-part adhesives have to be thoroughly mixed by a mixing system.

For mixing ratio by weight and volume, refer to the corresponding Product Data Sheet. Only deviations of max.  $\pm 10\%$  from the mixing ratio indicated in the Product Data Sheet are tolerated. For a proper adjustment of the mixing ratio consult the manual of the pump equipment. If further assistance is required, contact the equipment manufacturer. Lot matching of Sikasil® IG catalyst and base is not required.

The mixer open time, i.e. the time the material can remain in the mixer without flushing or extrusion of product is significantly shorter than the snap time (pot life) indicated in the Product Data Sheets. Because of this fact and in order to maintain a long lifetime of the static mixer, the alarm on the equipment has to be set to the values shown in the following table:

Table 1: Mixer-open times and alarm times of 2-part Sikasil® IG adhesives at 23 °C / 73 °F

Product	Mixer open time*	Alarm time equipment*
Sikasil® IG-25	approx. 7 - 9 min	approx. 6 min
Sikasil® IG-25 HM Plus	approx. 5 - 7 min	approx. 4 min

Above mentioned times significantly vary with different temperatures and must be verified by tests under actual conditions. If the alarm time is set too long cured rubber particles are visible in the extruded material.

Sikasil® IG 2-part silicone adhesives are usable with commercially available two-part silicone mixing and dispensing equipment with static or dynamic mixers. For recommendations please contact the System Engineering Department of Sika Industry.

During shutdown, it is recommended to purge the dispensing and mixing equipment with non-catalyzed base (A-component) in order to retard sealant cure in the mixer. Usually, the necessary amount of A-part to purge corresponds to the threefold volume of the mixing system (for systems with a static mixer).

Alternatively, a freezer can be used for downtimes up to 24 hours (temperature of -40 °C / -40 °F or below). However, the reaction will not stop at -40 °C / -40 °F but will only be slowed down.

During prolonged production breaks additional flushing with a cleaning agent such as Sika® Mixer Cleaner is recommended. Cleaning the mixer by burning the silicone residues is not advisable.

When restarting production after shutdown, mixed silicone must be purged until obtaining a homogeneous mixture. Depending on the equipment, between 1 and 3 liters of Sikasil® IG-25 / IG-25 HM Plus are needed for that purpose if static mixers are used. The quality of the mixing and the correctness of the mixing ratio must be checked (butterfly or marble test, snake test, mixing ratio by weight, see Chapter 8, "Quality Assurance" and ff).

#### General Guideline

Insulating Glass Edge Sealing with Sikasil® and SikaGlaze® IG Sealants & Adhesives  
08.10.2018, VERSION 3

Sika Services AG  
Tueffenwies 16  
CH-8048 Zurich

### 6.1.3 APPLICATION

Sikasil® IG 2-part silicone adhesives must be applied evenly and free of air bubbles. Tooling of the joint should be carried out as soon as possible after adhesive application but not later than half the pot life (snap time) indicated in the Product Data Sheet. It must be ensured that the joint is completely filled and that the joint dimensions correspond to the calculated values.



Detergent or soap and water treatments are not recommended for tooling.

## 6.2 ONE-COMPONENT INSULATING GLASS SECONDARY SEALANTS (Sikasil® IG-16)

### 6.2.1 PREPARATORY WORK

- If working from drums open the container, cut open the welded plastic bag and attach it to the outer edge of the vessel with tape. Remove the cover foil in the inliner and any cured material from the surface. Place the drum under the follower plate and start operations carefully following the instruction of the equipment supplier.
- If working from pails cut the foil in a diameter of 150mm. Remove cut foil from the surface and any cured material from the surface. Place the pail under the follower plate and start operations carefully following the instructions of the equipment supplier.
- All 1-component Sikasil® IG secondary seals cure with atmospheric moisture. The products should not be exposed to air for more than 5 minutes. Otherwise a skin of cured material will form on top. In that case the skin has to be removed before placing the drum or pail underneath the follower plate of the pump equipment.
- If working from foil packs please follow the instructions of the application gun manufacturer.

### 6.2.2 APPLICATION

Sikasil® IG-16 is applied by equipment with a metering pump, or manually directly by unipack.

The adhesive must be applied evenly and free of air bubbles. The 1-component product forms a skin after a certain time (skin time, skin-over time), which varies with humidity and temperature. For details please refer to the product Data Sheet. Tooling and smoothing of the joints should be carried out as soon as possible after adhesive application but not later than half of the skin time indicated in the Product Data Sheet.

It must be ensured that the joint is completely filled and that the joint dimensions correspond to the calculated values.



Detergent or soap and water treatments are not recommended for tooling.

## 6.3 THERMOPLASTIC PRIMARY SEALANT SikaGlaze® IG-5 PIB

### 6.3.1 PREPARATORY WORK

Before start of application consult the manual of the extrusion melting equipment. All surfaces (glass and spacer) must be clean, dry and free from all traces of grease, oil and dust.

### 6.3.2 APPLICATION

Adjust the equipment to the required temperature range. Application temperature for SikaGlaze® IG-5 PIB:

Black: 130 – 150 °C (265 – 300 °F)

Grey: 120 – 140 °C (250 – 285 °F)

Preliminary application trials are recommended. Due to high application temperature the rule of “safety work” have to be considered.

#### General Guideline

Insulating Glass Edge Sealing with Sikasil® and SikaGlaze® IG Sealants & Adhesives  
08.10.2018, VERSION 3

Sika Services AG  
Tueffenwies 16  
CH-8048 Zurich



## 7 MOVEMENT OF BONDED ELEMENTS

Bonded units should not be exposed to stress until the edge seal has developed certain strength.

Use mechanical supports (setting blocks) to prevent shear loads acting on the joint during storage, transportation and installation.



All packaging components for storage and transportation of the insulating glass units must be compatible with the secondary seal, if entering in contact to it.

Since adhesion and strength build-up depend on the adhesive used, environmental conditions and substrates respectively, no general recommendations regarding time can be given. Depending on the factory conditions and organization of the production process, specific times for movement of insulating glass units can be agreed upon. This requires an audit of the customer's production by the Technical Department of Sika Industry.

If the IG secondary edge seal has a structural function in the sense of EOTA ETAG 002, EN 13022 or ASTM C 1249, the minimum time before transportation of the bonded units is 3 days for two component products.

Nevertheless, earlier transportation is possible if the following conditions are respected (see EOTA ETAG002, table 10 – checks during the production): the tested H-samples give the following results:

- Sikasil® IG-25:                      a) tensile strength  $\geq 0.70 \text{ N/mm}^2$   
   b)  $\geq 95\%$  cohesive break
- Sikasil® IG-25 HM Plus:           a) tensile strength  $\geq 0.95 \text{ N/mm}^2$   
   b)  $\geq 95\%$  cohesive break

For further information please contact the Technical Department of Sika Industry.

## 8 QUALITY ASSURANCE

Applicators of Sikasil® adhesives used for secondary sealing of insulating glass units are required to implement a strict quality control (QC) system for their IGU production.

Perfect results in terms of final adhesion, mechanical and aesthetical performance of the bonded assembly require that each processing step be carried out diligently. Monitoring and quality control along each step of the process are vital elements of a responsible application.

Quality control is the sole and exclusive responsibility of the applicator. On request Sika can assist customers in setting up a comprehensive QC program and train staff to perform the mandatory tests.

Test methods and QC procedures for applications of IG secondary sealing joints must always be compliant with the requirements set by the relevant existing standards, such as:

- EN 1279-6 Glass in building – Insulating Glass Units – Part 6: Factory Production Control and Periodic Tests
- EN 1279-4 Glass in building – Insulating Glass Units – Part 4: Method of tests for the physical attributes of edge seal components and inserts
- EN 13022-2 Glass in building – Structural sealant glazing – Part 2: Assembly rules
- ASTM C 1249 Standard guide for sealed insulating glass units for structural sealant glazing applications
- EOTA ETAG002 Guideline for European Technical Approval for Structural Sealant Glazing Kits

The above list is only indicative and not exhaustive.

If the secondary seal has a structural function in the sense of EOTA ETAG002 / EN 13022 or ASTM C 1249, the quality control scheme described in the document "General Guideline: Structural Silicone Glazing with Sikasil® SG Adhesives" can be used. Other local and regional regulations as well as critical applications may require that a different additional quality control scheme has to be added. Please contact the Technical Department of Sika Industry to discuss your requirements.

### General Guideline

Insulating Glass Edge Sealing with Sikasil® and SikaGlaze® IG Sealants & Adhesives  
08.10.2018, VERSION 3

Sika Services AG  
Tueffenwies 16  
CH-8048 Zurich



Design, quality control and application are the sole and exclusive responsibilities of the applicator. The applicator is ultimately responsible that the bonded assembly meets the technical and functional requirements and that only fully compliant IG units are supplied to the marketplace.

### 8.1 TESTING THE MIXING RATIO (2-COMPONENT PRODUCTS ONLY)

The easiest way to check the mixing ratio is by weight.

- In normal mixing and metering systems, the two components can be fed separately via special valves.
- The balance have to be as accurate as 0.1 g
- Pump both components simultaneously. To achieve maximum accuracy, extrude at least 0.5 liter of component A.
- Weigh the components and calculate the mixing ratio.
- For the correct mixing ratio refer to the corresponding Product Data Sheet.



If the ratio by weight is outside the  $\pm 10\%$  range, stop working! Adjust the mixture to the required ratio before continuing. In case of problems with setting the mixing ratio, please contact the equipment manufacturer.

An alternative method for checking the mixing ratio is to compare the pot life (snap time) of the machine-mixed material with the pot life of a mixture weighed by hand in an exact ratio as stated in the corresponding Product Data Sheet.

### 8.2 MARBLE TEST FOR HOMOGENEITY (2-PART PRODUCTS ONLY)

The mixture must be homogeneous to ensure that the Sikasil® IG sealant and adhesive has the ideal properties. This can be tested by the marble test (glass plate test):

- Apply a cone of mixed Sikasil® IG to a transparent glass plate.
- Take a second glass pane and press it onto the pane with the adhesive, taking care to exclude air bubbles.



If you see white or deep-black stripes or distinct light-gray marbling, the adhesive is not properly mixed or an insufficient amount of material was discharged after the last shutdown. Never use such material for bonding. To eliminate the defect, follow the equipment manufacturer's instructions. If a static mixer is used, it may have to be cleaned or replaced.



Figure 2: Positive test = ideal mixing



Figure 3: Negative test = inadequate mixing

#### General Guideline

Insulating Glass Edge Sealing with Sikasil® and SikaGlaze® IG Sealants & Adhesives  
08.10.2018, VERSION 3

Sika Services AG  
Tueffenwies 16  
CH-8048 Zurich



### 8.3 BUTTERFLY TEST FOR HOMOGENEITY (2-PART PRODUCTS ONLY)

The butterfly test is an alternative to the marble test.

- Fold a paper or plastic foil along its center and open it again.
- Apply mixed Sikasil® IG over the fold
- Fold the foil again and press it so that the silicone adhesive spreads out. Always press the foil in the direction perpendicular to the fold. Hint: a cartridge can be used to roll over the paper.
- Unfold the foil. The silicone adhesive must have a homogeneous color and must not show cured particles (wrinkles).



If you see white or deep-black stripes or distinct light-gray marbling or wrinkles, the adhesive is not properly mixed or an insufficient amount of material was discharged after the last shutdown. Never use such material for bonding. To eliminate the defect, follow the equipment manufacturer's instructions. If a static mixer is in use, it has to be cleaned or replaced.

- After an adequate curing time, double-check the mixing quality by cutting open the thicker center section of the adhesive and check it for streaks, marbling and bubbles.



Figure 4: Apply the bead in the fold direction



Figure 5: Press the bead only in direction perpendicular to fold

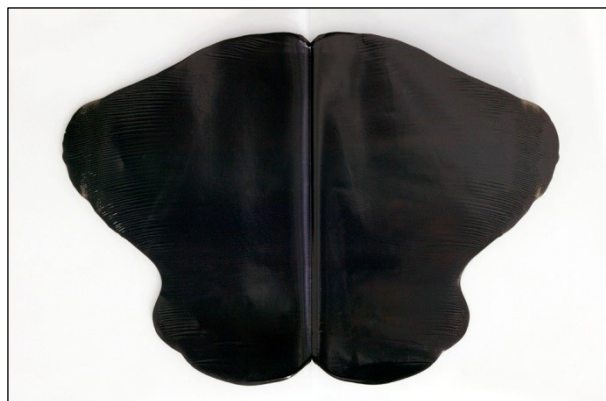


Figure 6: Unfold the foil - Positive test = ideal mixing



Figure 7: Unfold the foil - Negative test = inadequate mixing

#### General Guideline

Insulating Glass Edge Sealing with Sikasil® and SikaGlaze® IG Sealants & Adhesives  
08.10.2018, VERSION 3

Sika Services AG  
Tueffenwies 16  
CH-8048 Zurich

#### 8.4 POT LIFE (SNAP TIME) TESTING (2-PART PRODUCTS ONLY)

- Extrude 30 - 75 ml freshly mixed silicone adhesive (purge mixer sufficiently) from the machine into a small plastic cup, e.g. made of polyethylene.
- Start the timer. Then stir it briefly and vigorously with a wooden spatula.
- Repeat this operation every 5 minutes.



If the vigorous stirring is repeated too often, especially at the beginning of the test, the build-up of mechanical strength is disturbed and simulates a longer pot life.

- The pot life or snap time is the time from extrusion of the silicone adhesive until the point at which it no longer forms long strings (Figure 8) when the spatula is removed, but breaks off in short lengths (Figure 9).
- The measured value has to be in line with the recommended values for quality control. Please be aware of the fact that the snap time strongly depends on the temperature of the material. Hand mixed material can have a longer snap time than mixtures from the static mixer.

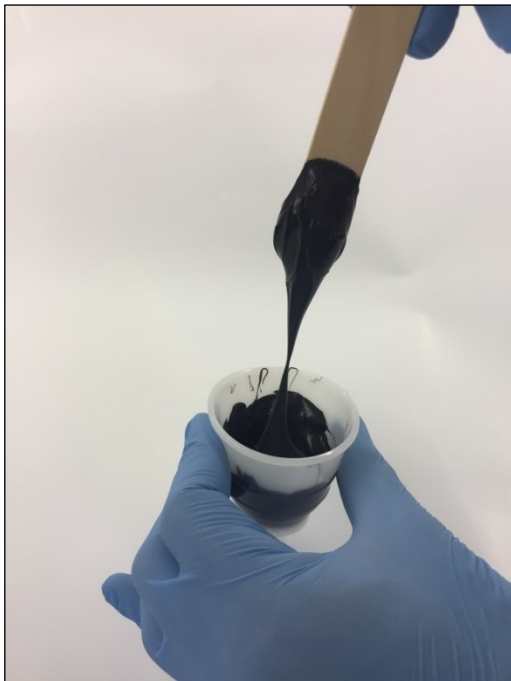


Figure 8: Material shows paste-like behavior:  
snap time not yet reached



Figure 9: Material shows rubber-like behavior:  
snap time reached

##### General Guideline

Insulating Glass Edge Sealing with Sikasil® and SikaGlaze® IG Sealants & Adhesives  
08.10.2018, VERSION 3

Sika Services AG  
Tueffenwies 16  
CH-8048 Zurich

## 8.5 SKIN-OVER TIME AND TACK-FREE TIME (1-PART PRODUCTS ONLY)

With 1-part silicone adhesives, check the skin-over time and tack-free time as follows:

- Apply with a spatula about 30 g of the adhesive on a paper or film in a thickness of about 3 to 4 mm and start the timer.
- Test every three minutes whether the adhesive surface has changed by probing with a clean fingertip.

The skin-over time is the point at which the adhesive no longer sticks to the finger (Figure 10 - Figure 14).

Tack-free time is the point at which the surface feels dry (no longer tacky).



The skin-over time and tack-free time given in the Product Data Sheets were determined under standard climatic conditions (23 °C (73 °F) / 50% relative humidity). Higher temperature and higher humidity reduce the skin-over time and tack-free time.

If there are drastic deviations (more than  $\pm 50\%$ ) from the values given in the certificate of analysis, stop bonding and consult the Technical Department of Sika Industry.

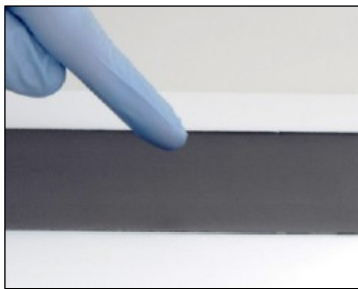


Figure 10: Start at the beginning of the bead

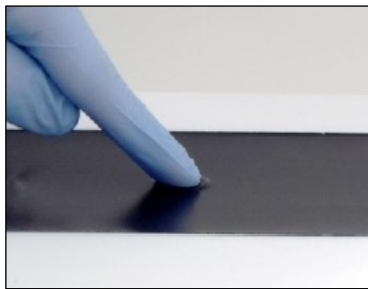


Figure 11: Touch slightly the bead with the finger

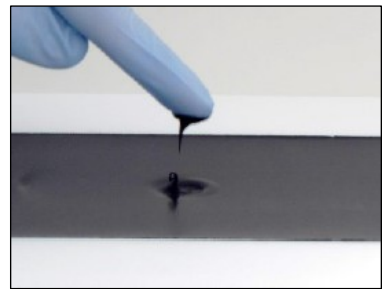


Figure 12: Remove and check for residues

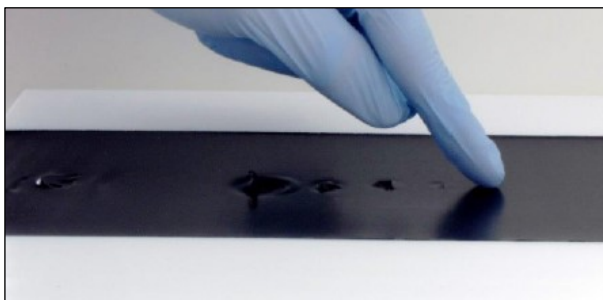


Figure 13: Always change the position for the next test

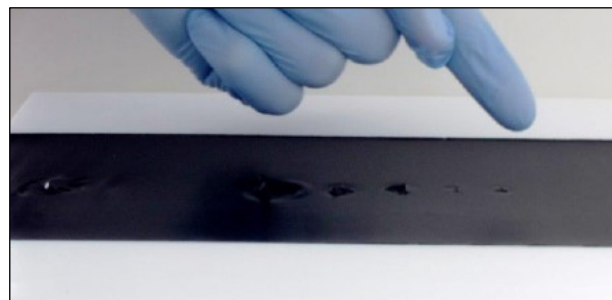


Figure 14: If no residues on your fingers are recognized the skin-over time has been reached

### General Guideline

Insulating Glass Edge Sealing with Sikasil® and SikaGlaze® IG Sealants & Adhesives  
08.10.2018, VERSION 3

Sika Services AG  
Tueffenwies 16  
CH-8048 Zurich

## 8.6 SHORE A HARDNESS

Check the Shore A hardness according to ISO 868 using a conventional trailer pointer device. The test specimens must have a smooth, flat surface and a thickness of at least 6 mm. This Shore A hardness measurement is an indication of a correct mixing ratio and speed of total vulcanization. The minimum acceptable Shore A hardness of specific Sikasil® IG secondary seal after 24 hours at room temperature (2-part adhesives) and 72 hours at room temperature (1-part adhesives) respectively is indicated in Table 2.

Table 2: Shore A hardness of Sikasil® IG adhesives after 24 hours (2-part adhesives) and 72 hours (1-part adhesives)

Product		Shore A Hardness
Sikasil® IG-25	2-part adhesives	35 - 50
Sikasil® IG-25 HM Plus		40 - 55
Sikasil® IG-16	1-part adhesives	35 - 50



The above mentioned values were determined at 23°C (73 °F) / 50% relative humidity. Since temperature – and for 1-component products also humidity – have a significant influence on the curing speed of condensation-curing silicone adhesives, actual Shore A hardness values may vary with factory conditions.

## 8.7 TENSILE ADHESION TESTS ON H-SPECIMENS

H-specimens with a joint dimension of 12 x 12 x 50 mm are produced for the tensile test. For this purpose, use original materials that have been pre-treated like on the production line.

- Fix the glass and/or metal (spacer bars) test specimens to be bonded, with spacers. If applicable, distance pieces (Figure 15 - Figure 16) so that a joint measuring 12 x 12 x 50 mm can be filled (Figure 17).
- Prepare at least 2 bubble-free test specimens per test series with Sikasil® IG silicone adhesive. Remove excess material with a spatula or other tool (Figure 18).
- Remove the molds from the test specimen after storage at room temperature (remove spacers, adhesive tape or clamps, Figure 19).
- Determine the mechanical parameters (tensile strength) after at least 72 hours (2-part products) or 21 days (1-part products) by means of a tensile testing equipment (pulling speed: 5 mm/min) or other suitable apparatus (e.g. Roman Scale).



If a tensile strength of less than 0.7 N/mm<sup>2</sup> (0.95 N/mm<sup>2</sup> for Sikasil® IG-25 HM Plus) is attained respectively, consult the Technical Department of Sika Industry before continuing. The failure mode have to be at least 95% cohesive.

For details regarding this tensile adhesion test please refer to Sika's Corporate Quality Procedure CQP 555-1 which is available upon request.

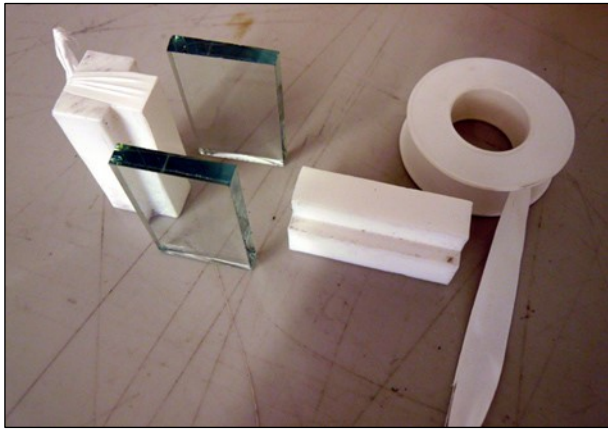


Figure 15: Spacers, e-PTFE tape (tape necessary for 1-component adhesives) and substrate pieces (e.g. glass)

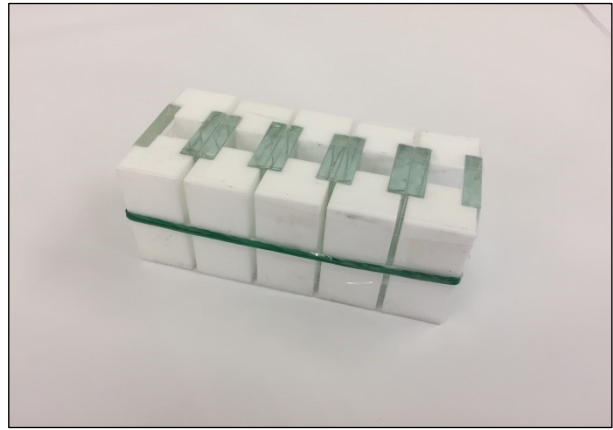


Figure 16: Arrangement and fixation of the samples with a rubber band and tape

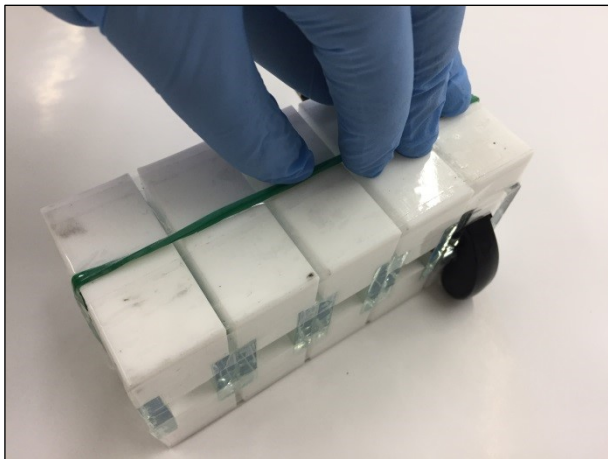


Figure 17: Injection of the silicone adhesive into the joint

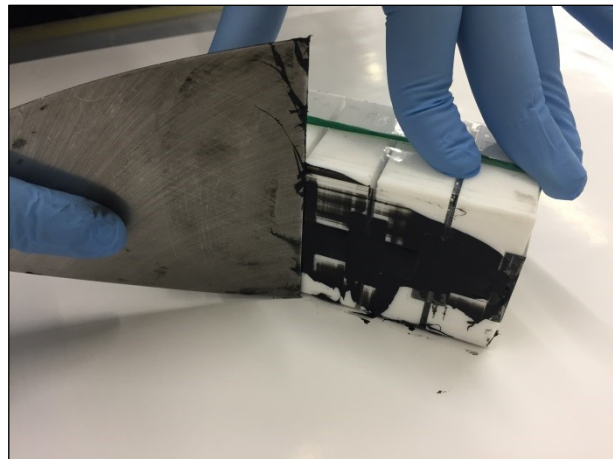


Figure 18: Removal of excess of silicone adhesive



Figure 19: Remove spacers after 1 day, remove e-PTFE tape after 7 days (1-part adhesives).

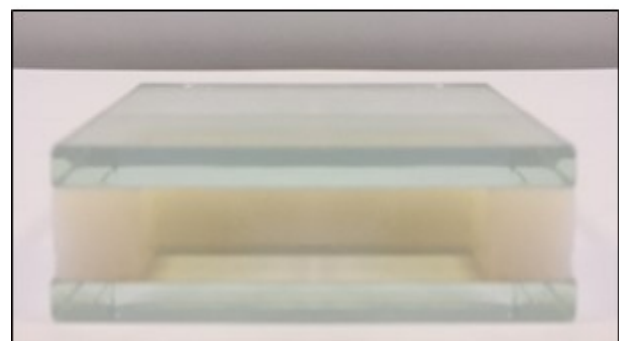
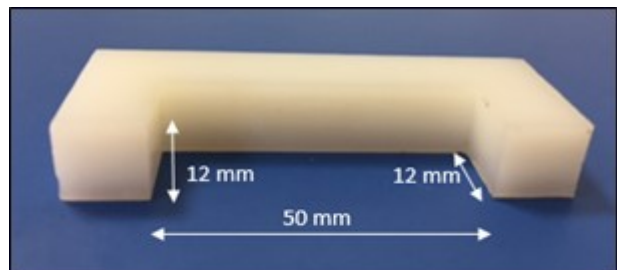


Figure 20: Alternative test arrangement

#### General Guideline

Insulating Glass Edge Sealing with Sikasil® and SikaGlaze® IG Sealants & Adhesives  
08.10.2018, VERSION 3

Sika Services AG  
Tueffenwies 16  
CH-8048 Zurich

[illegible]

Sika Services AG  
Tueffenwies 16  
CH-8048 Zurich





## 10 LEGAL NOTE

The information contained herein and any other advice 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 accordance with Sika's recommendations. The information only applies to the application(s) and product(s) expressly referred to herein and is based on laboratory tests which do not replace practical tests. In case of changes in the parameters of the application, such as changes in substrates etc., or in case of a different application, consult Sika's Technical Service prior to using Sika 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 accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

**Version given by**  
Sika Services AG  
Phone: +41 58 436 40 40  
Mail : ctd@ch.sika.com

© 2018 Sika Services AG

### General Guideline

Insulating Glass Edge Sealing with Sikasil® and SikaGlaze® IG Sealants & Adhesives  
08.10.2018, VERSION 3

Sika Services AG  
Tueffenwies 16  
CH-8048 Zurich