

STOPRAY Smart LamiSmart

SEALANT COMPATIBILITY GUIDE



VERSION 2.0 – MAY 2022

This version of the guide replaces and cancels all previous versions.
Please regularly check www.agc-youerglass.com for updates.

AGC

CONTENTS

1. Edge deletion	3
1.1. Stopray Smart coating in contact with the secondary sealant of an insulating glass unit...	3
1.2. LamiSmart coating in contact with the PVB interlayer of the laminated glass.....	4
2. Stopray Smart and Stopray LamiSmart with ceramic frit	6
2.1. Stopray Smart and ceramic frit in contact with the secondary sealant in an IGU.....	6
2.2. Stopray LamiSmart with ceramic frit	8
3. Use of Stopray Smart products in structural glazing applications	8
4. Sealant compatibility table	9

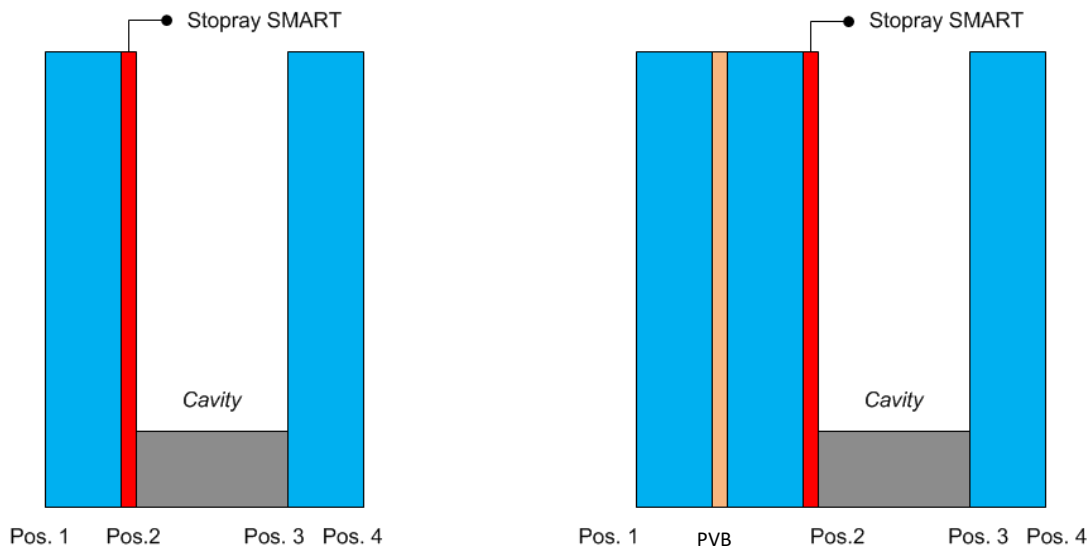
1. Edge deletion

1.1. Stopray Smart coating in contact with the secondary sealant of an insulating glass unit

When assembling panes of coated glass (where the coating contains a silver layer) in an insulating glass unit, it is usually necessary to edge-delete the coating prior to assembly.

Edge-deletion is done in order to prevent the deterioration of the coating in contact with the secondary sealant due to external moisture, thus leading to a loss of adhesion.

Tests conducted on Stopray Smart products using different sealants (see table in section 4) have shown that, under the strict conditions described in this brochure, no edge-deletion is required prior to assembly.



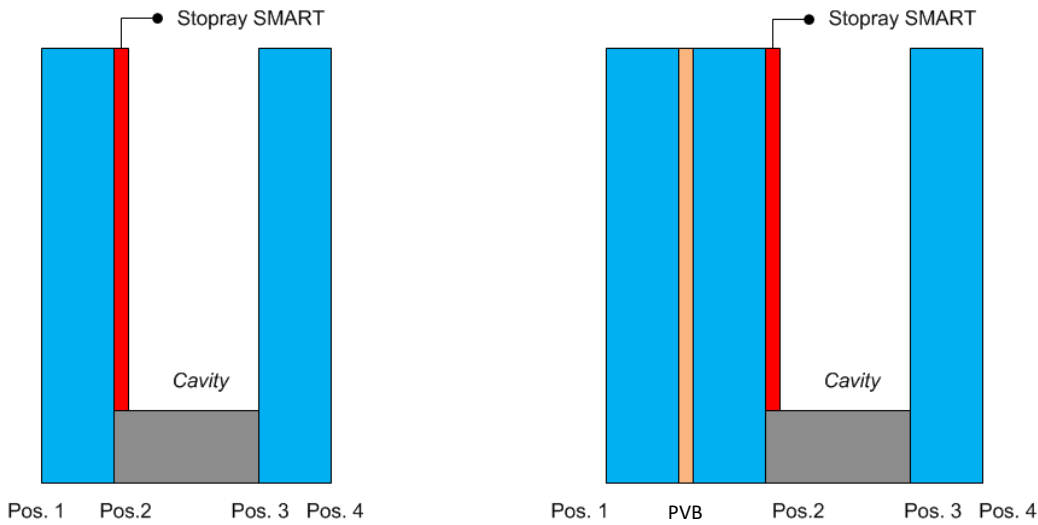
Drawing provided for illustration purposes only

Only those sealants tested with Stopray Smart and mentioned in this brochure may be used without edge-deletion.

AGC recommends a mock-up to ensure the desired aesthetics have been achieved and to validate the static load for the secondary sealant. For special applications, such as stepped insulating glass units with an exposed coated surface (roofs, glass corners, structural glazing facades, etc.), a weather sealant is always required to protect the coating.

The manufacturer of the insulating glass units is responsible for calculating and dimensioning the secondary sealant. It is recommended that regular adhesion tests be carried out to confirm that good adhesion is obtained consistently on actual substrates.

The use of any other sealant that has not been tested with Stopray Smart by AGC always requires edge-deletion.

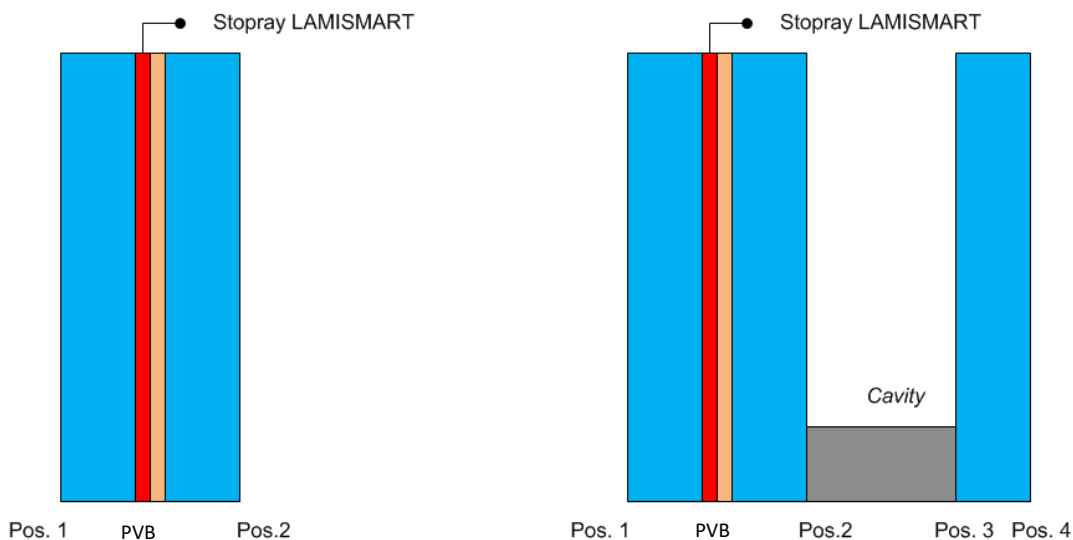


Drawing provided for illustration purposes only

1.2. LamiSmart coating in contact with the PVB interlayer of the laminated glass

IMPORTANT: Stopray LamiSmart was developed specifically to be processed in contact with the PVB interlayer in a laminated safety glass unit.

In this case there is no need for the coating to be edge-deleted prior to assembly in an insulating glass unit.



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Important:

The function of the secondary sealant can be clearly deduced from the facade and section drawings for the installation of the insulating glass units. This makes it possible to select the correct secondary sealant for an insulating glass unit.

Function of secondary sealant	Application	Type of sealant		
		Silicone	Polyurethane	Polysulphide
4-sided framed insulating glass unit, no UV exposure on secondary sealant	Insulating glass unit		●	●
4-sided framed insulating glass unit, no UV exposure on secondary sealant, but temperature of secondary sealant > + 65°C	Insulating glass unit	●		
Insulating glass unit, secondary sealant, no structural function, but exposed to UV radiation	Insulating glass unit	●		
Insulating glass unit used in a structural glazing facade and the secondary sealant acts as a structural sealant	Structural glazing	●		

2. Stopray Smart and Stopray LamiSmart with ceramic frit

2.1. Stopray Smart and ceramic frit in contact with the secondary sealant in an IGU

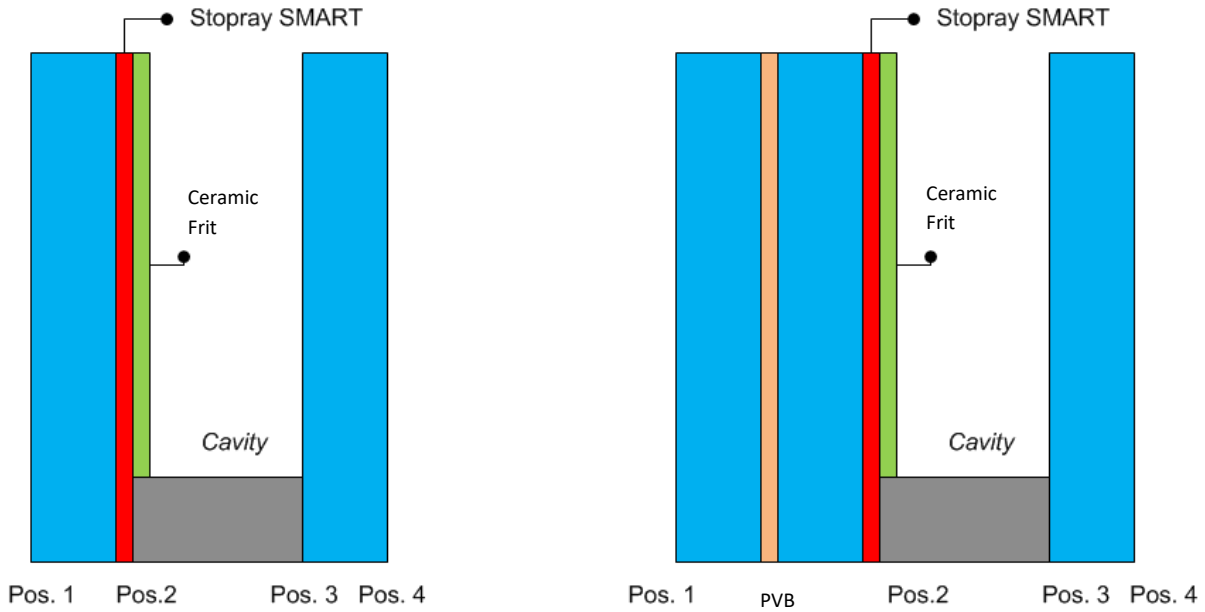
If there is ceramic frit (enamel) on the Stopray Smart coating, then **the coating must be edge-deleted** where the **ceramic frit is in contact with the secondary sealant**. Edge-deletion must be performed prior to applying the ceramic frit. The ceramic frit can be applied either by the screen printing method or the roller coating process.

AGC recommends assessing the aesthetics by means of a mock-up sample.

The manufacturer of the insulating glass units is responsible for calculating and dimensioning the secondary sealant. It is recommended that regular adhesion tests be carried out to confirm that good adhesion is obtained consistently on actual substrates.

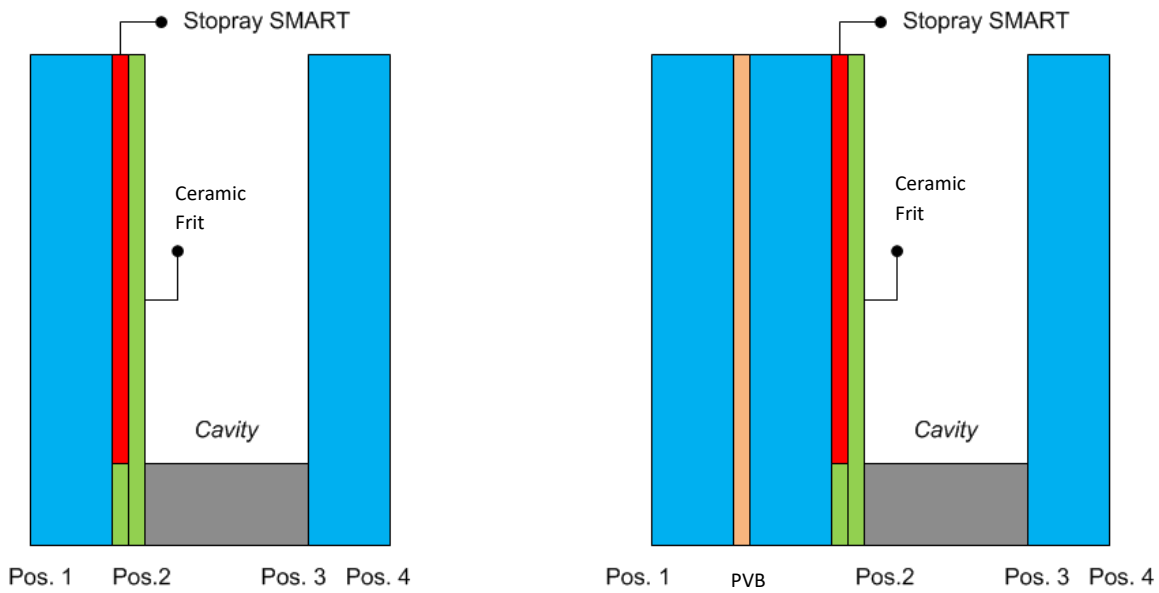
If the ceramic frit is in contact with the secondary sealant, then the manufacturer of the insulating glass units is responsible for ensuring that the secondary sealant, structural joints and weather seals are compatible with the ceramic frit paint used. This should be assessed in cooperation with the sealant supplier. Additional measures and quality checks will probably be necessary to verify the quality of the enamel.

2.1.1. Ceramic frit not in contact with the secondary sealant



Drawing provided for illustration purposes only

2.1.2. Ceramic frit in contact with the secondary sealant



Drawing provided for illustration purposes only

2.2. Stopray LamiSmart with ceramic frit

A ceramic frit may be applied to Stopray LamiSmart laminated safety glass. This means that:

- the Stopray LamiSmart coating is in contact with the PVB interlayer
- the ceramic frit is in position 2, facing the cavity.

Two cases are possible:

1) *The ceramic frit is in contact with the secondary sealant.*

In this case, the manufacturer of the insulating glass units is responsible for ensuring that the sealant joint, structural joints and weather seals are compatible with the ceramic frit and interlayer. This should be assessed in cooperation with the sealant supplier.

2) *The ceramic frit is not in contact with the secondary sealant.*

In this case, no assessment is required.

AGC recommends assessing aesthetics by means of a mock-up sample.

The manufacturer of the insulating glass units is responsible for calculating and dimensioning the secondary sealant. It is recommended that regular adhesion tests be carried out to confirm that good adhesion is obtained consistently on actual substrates.

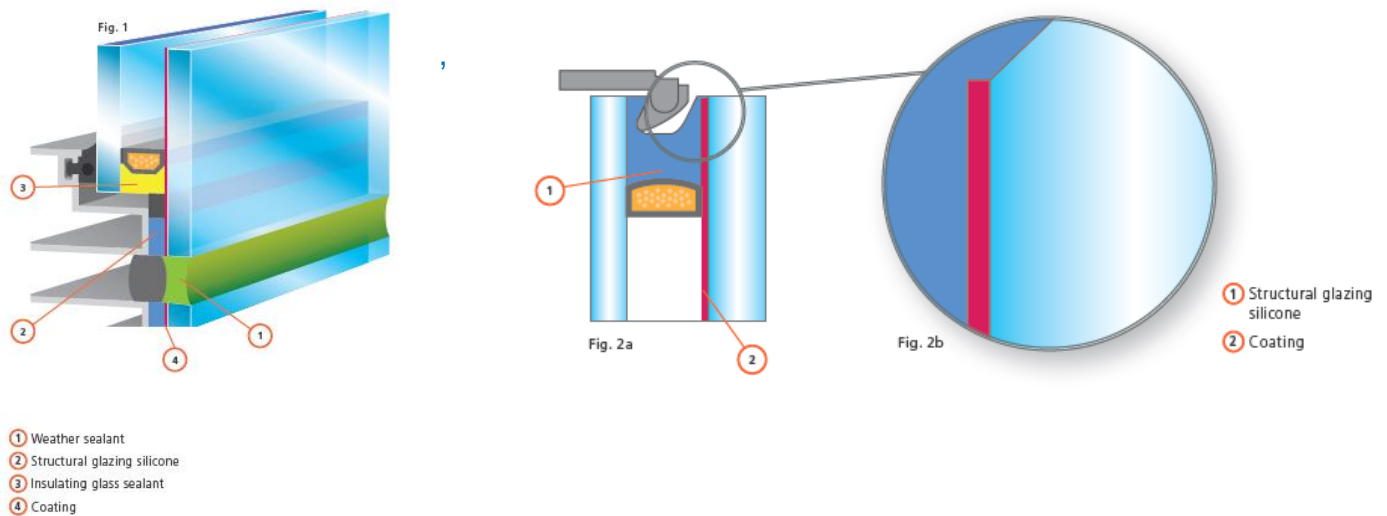
3. Use of Stopray Smart products in structural glazing applications

Structural glazing is a curtain wall technique that involves bonding glass to a building's structural aluminium or stainless steel framework. Structural glazing allows opaque and/or transparent infill materials to be bonded to a building structure where glazing and weather sealant are only visible from the exterior side. Structural glazing is a specific technique that requires special care and attention.

AGC recommends that its customers contact AGC's Technical Advisory Service (TAS) for technical inquiries. The glazier, in cooperation with the sealant supplier, is responsible for calculating the structural sealant joint.

- In structural glazing, the glass elements are bonded to the structural framework using specially developed silicone sealants (Fig. 1).
- For stepped insulating glazed units and insulating glass units with integrated mechanical fixings in the secondary sealant, the following must be considered:
 - Weather sealant joint: The glass processor and/or curtain wall company is responsible for ensuring the coating is protected from environmental elements (dust, moisture, etc.) by means of a weather sealant. This means that the gap between two adjacent insulating glazed units must be sealed using a weather sealant.

- Covering the coated surface: The coating on the sealant joint or on the stepped part must be covered by an all-weather silicone. The sealant must cover the coated surface up to the front end of the glass substrate. The bevel (edge processing) helps to effectively protect the coating from moisture. Figures 2a and 2b show an example where the insulating glass is supported within the secondary sealant by mechanical means and the secondary sealant has a structural function. We recommend always filling the edge after assembling the insulating glass unit.



4. Sealant compatibility table

AGC provides a limited warranty on Stopray Smart products, but does not provide any warranty on further processing or the end product. This remains the full responsibility of the processor and/or curtain wall company.

Important

Only those sealants tested with the Stopray Smart and Stopray LamiSmart products and mentioned in this brochure may be used without edge-deletion. All other sealants require edge-deletion.

Compatible insulating glass sealants and structural glazing silicones for Stopray Smart 51/33, Stopray Smart 30/20 and Stopray LamiSmart 24

Sealant	Type	Application	Smart 51/33	Smart 30/20	LamiSmart 24
Dow Corning					
DOWSIL™ 993	Silicone	Structural glazing	✓ ⁽¹⁾	✓	✓ ⁽²⁾
DOWSIL™ 895	Silicone	Insulating glass unit	-	-	✓ ⁽²⁾
DOWSIL™ 3362	Silicone	Insulating glass unit	✓ ⁽¹⁾	✓	✓
DOWSIL™ 3362 HD	Silicone	Insulating glass unit	✓ ⁽¹⁾	✓ ⁽¹⁾	-
DOWSIL™ 3793	Silicone	Insulating glass unit	✓	✓	✓
DOWSIL™ 756	Silicone	Weather sealant	-	-	✓
DOWSIL™ 768	Silicone	Weather sealant	-	-	✓
DOWSIL™ 791	Silicone	Weather sealant	✓	✓	✓
DOWSIL™ 791T (with primer)	Silicone	Weather sealant	✓	✓	✓
Fenzi					
Thiover	Polysulphide	Insulating glass unit	✓	✓	✓
Thiover F1	Polysulphide	Insulating glass unit	✓	✓	-

Sealant	Type	Application	Smart 51/33	Smart 30/20	LamiSmart 24
Kömmerling					
GD 677	Polyurethane	Insulating glass unit	✓	✓	✓
GD 116	Polysulphide	Insulated glass	✓	✓	✓
PS 200	Polysulphide	Insulated glass	✓	✓	-
SIKA					
Sikasil® SG-500	Silicone	Structural glazing	✓ ⁽¹⁾	✓	✓ ⁽²⁾
Sikasil® IG-25	Silicone	Insulated glass	✓	✓	✓
Sikasil® IG-25 HM Plus	Silicone	Insulated glass	✓	✓	✓
Tremco					
JS 442	Polyurethane	Insulated glass	✓	✓	✓
Proglaze II	Silicone	Structural glazing	✓ ⁽¹⁾	✓	✓

Table [1] Compatible insulating glass sealants and structural glazing silicones for Stopray Smart 51/33, Stopray Smart 30/20 and Stopray LamiSmart 24

Symbols used in the table

✓	Tested
-	Neither tested nor approved
(1)	tested according to ETAG-002
(2)	Stopray LamiSmart was developed specifically to be processed in contact with the PVB interlayer in a laminated safety glass unit. The secondary sealant will adhere to the glass surface and will not impact the coating's durability.

Important

The processor and curtain wall company are always responsible for ensuring proper protection for Stopray Smart coatings.

The processor is responsible for inspecting the processed coated glass adequately before and after each step of fabrication and prior to installation. Failure to apply all professional standards, customary instructions and processing instructions written in this processing guide and related links will automatically void any warranty on AGC coated glass. We advise the processor to carry out preliminary trials with the typical glass compositions for the project in question prior to making any further commitment to its customer. The processor alone is responsible for the quality of the final product.

If necessary, AGC's Technical Advisory Service (TAS) is available to supply additional products or provide information.