Deutsches Institut für Bautechnik

Public-law institution jointly founded by the federal states and the Federation

European Technical Assessment Body for construction products

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European Technical Assessment ETA-05/0068 of 28 March 2025

English translation prepared by DIBt - Original version in German language

General Part

Technical Assessment Body issuing the European Technical Assessment:	Deutsches Institut für Bautechnik
Trade name of the construction product	Sikasil® IG-25
Product family to which the construction product belongs	Structural Sealant for use in Insulating glass units
Manufacturer	SIKA SERVICES AG Tüffenwies 16 8048 ZÜRICH SCHWEIZ
Manufacturing plant	Sika Polyurethan Manufacturing S.R.L. Via L. Einaudi 6 20068 Peschiera Borromeo (MI) ITALIEN Sika Polyurethan Manufacturing S.R.L. Via Crosa 23/31 28065 Cerano (NO) ITALIEN
This European Technical Assessment contains	7 pages including 1 annex which form an integral part of this assessment
This European Technical Assessment is issued in accordance with Regulation (EU) No 305/2011, on the basis of	EAD 090010-00-0404
This version replaces	ETA-05/0068 issued on 20 January 2016

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Specific Part

1 Technical description of the product

The structural sealant Sikasil® IG-25 is a two-component silicone-based sealant to be used in insulating glass units that have a structural function. The structural sealant is only one component of the kit. The kit as such is not covered by this ETA.

2 Specification of the intended use in accordance with the applicable European Assessment Document

The structural sealant Sikasil® IG-25 is to be used in structural sealant glazing systems (SSGK) within the scope of the European Assessment Document (EAD Nr. 090010-00-0404[1]) to fabricate insulating glass units by structurally bonding two glass panes together. Each glass pane in the insulating glass unit must be supported to transfer the dead load (Type I and II). This European Technical Assessment expressly does not cover the bonding of glass with other building materials.

The fitness for use of systems (or kits) in which the structural sealant is used will have to be verified separately, in particular by means of a complementary ETA for kits based on EAD Nr. 090010-00-0404[1] used as European Assessment Document (EAD).

The sealant Sikasil® IG-25 may be used in structural sealant glazing kits of either of the following two types referred to in EAD Nr. 090010-00-0404[1] and shown in Figure 1. Whether devices to reduce danger in the event of bond failure are required or not depends on national regulations that are applicable at the location of use.

Type I: Mechanical transfer of the dead load of the infill to the sealant support frame and from there to the structure. The structural seal transfers all other actions. Devices are used to reduce danger in the event of a bond failure.

Type II: Mechanical transfer of the dead load of the infill to the sealant support frame and thence to the structure. The structural seal transfers all other actions and no devices are used to reduce danger in the event of bond failure.

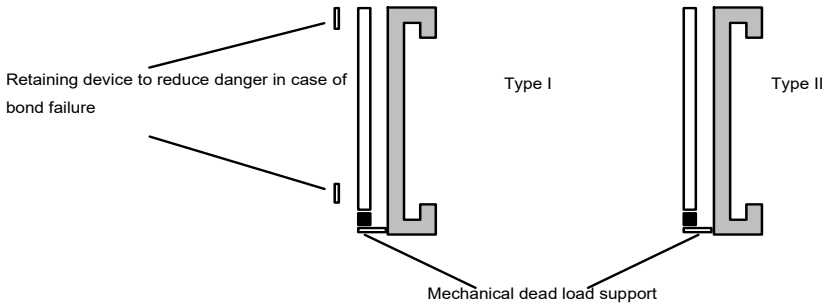

Figure 1 - Schematic examples of the different types of kits for bonded glass constructions types of SSGK

[1] EAD Nr. 090010-00-0404:2018-09 Bonded glazing kits and bonding sealants

The performances given in Section 3 are only valid if the structural sealant Sikasil® IG-25 is used in compliance with the specifications and conditions given in Section 3.

The verifications and assessment methods on which this European Technical Assessment is based lead to the assumption of a working life of the structural sealant Sikasil® IG-25 of at least 25 years. The indications given on the working life cannot be interpreted as a guarantee given by the producer, but are to be regarded only as a means for choosing the right products in relation to the expected economically reasonable working life of the works.

3 Performance of the product and references to the methods used for its assessment

3.1 Safety in case of fire (BWR 2)

Essential characteristic	Assessment method	Performance
Reaction to fire	EAD, 2.2.2	NPA*

* No performance assessed

The resistance to fire shall be assessed for the whole construction for the kit.

3.2 Hygiene, health an d the environment (BWR 3)

Essential characteristic	Assessment method	Performance
Contents and/or release of dangerous substances	EAD, 2.2.7	The chemical composition of the structural sealant has to be in compliance with the composition deposited at the Technical Assessment Body (DIBt).

Within the scope of this European Technical Assessment there may be other requirements applicable to the product (e.g., due to national laws, regulations and administrative provisions). These requirements need also to be complied with if applicable.

3.3 Safety and accessibility in use (BWR 4)

Essential characteristic	Assessment method		
Mechanical performance of the bonding sealant bead			
Initial mechanical strength of the bond	EAD, 2.2.14.3		
Tension, rupture	EAD, 2.2.14.3.2	$R_{u,5}$	0.84 MPa
Shear, rupture	EAD, 2.2.14.3.3	$R_{u,5}$	0.61 MPa
Residual mechanical strength of the bond after artificial ageing	EAD, 2.2.14.4		
Immersion in water at high temperature with or without solar radiation	EAD, 2.2.14.4.1	$X_{mean,UV}$	0.85 MPa
Humidity and NaCl atmosphere	EAD, 2.2.14.4.2	$X_{mean,NaCl}$	0.79 MPa
Humidity and SO_2 atmosphere	EAD, 2.2.14.4.3	$X_{meanSO2}$	0.86 MPa

Essential characteristic	Assessment method	Performance	
Physical properties of bonding sealant bead	EAD, 2.2.15		
Modulus of elasticity in tension or compression tangential to the origin E_0	EAD, 2.2.15.1.5	E_0	2.20 MPa
Façade cleaning agent (Cleaning agent “Pril” as 1% dilution in water)	EAD 2.2.15.1.6	$X_{mean\ Clean}$	0.79 MPa
Resistance to tearing	EAD 2.2.15.1.8.3		Category A

- Working time (at 23 °C, 50 % r.h.): 20 minutes
- Tack-free time (at 23 °C, 50 % r.h.): 180 to 300 minutes
- Minimum time before transportation of the bonded unit: 3 days*

  * Earlier transportation to the place of use is possible if the following two conditions are observed: Checks during manufacture (see Table 3.4.1.2.2.1 of EAD No. 090010-00-04041) and if the tested H-samples give the following results: Fracture 90 % cohesive and fracture stress ≥ 0.7 MPa.

Sealant characteristics for identification:

- Specific mass (mixing ratio 13/1): V_{mean} = 1.36 g/cm³
- Hardness Shore A: Mean of 42 (minimum value: 34)
- Thermogravimetric analysis: Curve kept in the technical file of the European Technical Assessment
- Thermal conductivity: 0.35 W/(m K)
- Color: Black

This European Technical Assessment is issued for the adhesive Sikasil® IG-25 on the basis of the agreed data and information, deposited with DIBt, which identify the assessed and judged product. DIBt must be notified of any changes to the product and the manufacturing process that could result in the data and information provided not matching before the changes are made. DIBt shall decide whether the modifications affect the European Technical Assessment and thus the validity of the CE marking on the basis of the European Technical Assessment and, if so, whether a modification of the European Technical Assessment is necessary.

The following product is to be used as a cleaning agent for glass-to-glass bonding:

- Sika® Cleaner G+M or
- Sika® Cleaner P.

3.4 General aspects

The verification of durability is part of testing the essential characteristics. Durability is only ensured if the specifications of intended use of this ETA are taken into account.

SIKA should ensure that the essential information concerning the structural sealant Sikasil® IG-25 is circulated to the applier of the structural sealant.

The structural sealant Sikasil ® IG-25 are fabricated in the manufacturing plants mentioned on page 1.

The maximum storage life of the sealant is given in the date sheet and the labelling.

The structural sealant Sikasil ® IG-25 shall be mixed at a ratio base (A) / catalyst (B) by weight of 13/1. It shall be applied between 5 °C and 35 °C under workshop conditions.

The bonding shall be tooled before the working time has been reached, preferably within 10 minutes after the extrusion. It is important to realise that the working time may vary depending on temperature and relative humidity. For details the technical service of SIKA should be contacted.

No relative displacement of the panes in the insulating glass units may occur once the working time has been reached.

In all cases it should be checked that there is no condensation on the substrates prior to the sealant application.

Water stagnation in the vicinity of structural seal shall be eliminated constructively.

For facade cleaning it is recommended to use a 1 % (approx.) solution in water of a neutral detergent with pH-value of 7 approximately.

Nevertheless, the assessment of the facade cleaning product shall be done within the framework of the European Technical Assessment (ETA) for the kit in order to check that those cleaning agents do not affect other kit products (gaskets, weather sealant, etc).

The whole kit, respectively the façade system, in which the structural sealant is used, will have to be verified. For this purpose, a complementary European Technical Assessment for the kit according EAD Nr. 090010-00-0404[1] and an associated control plan are required. In the European Technical Assessment of the kit additional components of the kit, such as mechanical devices, should be assessed and the essential controls should be defined.

4 Assessment and verification of constancy of performance (AVCP) system applied, with reference to its legal base

According to Decision of the Commission 96/582/EC of 24 June 1996 (Official Journal of the European Communities L 254 of 8. October 1996) the system of assessment and verification of constancy of performance (AVCP) (see Annex V and Article 65 Paragraph 2 to Regulation (EU) No 305/2011) given in the following table applies.

Product	Intended use(s)	Level or class	System
Structural sealant glazing kits	Type II and Type IV	-	1
	Type I and Type III	-	2+

System 1 applies due to the reason that the intended use of the structural sealant is not known at the time the sealant is put on the market.

5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD

Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited with Deutsches Institut für Bautechnik.

Issued in Berlin on 28 March 2025 by Deutsches Institut für Bautechnik

LBD Dipl.-Ing. Andreas Kummerow
Head of Department

beglaubigt:
Schult

Deutsches Institut für Bautechnik DIBt

Sikasil® IG-25 **Annex 1**

Indications for design calculation

The following indications for design calculation could be followed and are based on EOTA ETAG 002 part 1.

For the calculation of the structural bond the total safety factor γ_{tot} = 6.0 is recommended and for permanent loads a creep factor of 10. The following values for calculation result from this:

- Design stress in tension: σ_{des} = 0.14 MPa
- Design stress in dynamic shear: τ_{des} = 0.101 MPa
- Design stress in static shear: $\tau_{des\infty}$ = 0.01 MPa
- Modulus of elasticity in shear tangential to the origin: G_0 = 0.73 MPa
  (see EOTA ETAG 002 - part 1, Annex 2 "Method of calculation")