

European Technical Assessment

ETA 03/0003**Version 03**

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Technical Assessment Body issuing the European Technical Assessment: UBAtc.
UBAtc has been designated according to Article 29 of Regulation (EU) No 305/2011
and is member of EOTA (European Organisation for Technical Assessment)

Trade name of the construction product:

DOWSIL™ 3362 BLACK – GREY – WHITE

Product family to which the construction product belongs:

Bonded sealant for use in bonded glazing kit

Manufacturer:

DOW Europe GmbH
Bachtobelstrasse 3
D-8810 Horgen
Switzerland

Manufacturing plants:

Dow Silicones Belgium S.P.R.L.
Parc Industriel Zone C, B 7180 SENEFFE

Dow Silicones Deutschland GmbH, Rheingaustrasse D – 65201
Wiesbaden

Website:<http://www.dow.com>

This European Technical Assessment is issued in accordance with Regulation (EU) No 305/2011, on the basis of:

European Assessment Document (EAD): EAD 090010-00-0404 Bonded glazing kit and bonding sealants

This version replaces:

ETA 03/0003 version 2, issued on 05/12/2017

This European Technical Assessment contains:

8 pages, including 1 annex which forms an integral part of the document



European Organisation for Technical Assessment

Legal bases and general conditions

This European Technical Assessment is issued by UBAtc (Union belge pour l'Agrément technique de la construction, i.e. Belgian Union for technical Approval in construction), in accordance with:

- Regulation (EU) N° 305/2011¹ of the European Parliament and of the Council of 9 March 2011 laying down harmonised conditions for the marketing of construction products and repealing Council Directive 89/106/EEC
 - Commission Implementing Regulation (EU) N° 1062/2013² of 30 October 2013 on the format of the European Technical Assessment for construction products
 - European Assessment Document (EAD): EAD 090010-00-0404 Bonded glazing kits and bonding sealants
- 2 Under the provisions of Regulation (EU) No 305/2011, UBAtc is not authorized to check whether the provisions of this European Technical Assessment are met once the ETA has been issued.
 - 3 The responsibility for the conformity of the performances of the products with this European Technical Assessment and the suitability of the products for the intended use remains with the holder of the European Technical Assessment.
 - 4 Depending on the applicable Assessment and verification of constancy of performance (AVCP) system, (a) notified body(ies) may carry out third-party tasks in the process of assessment and verification of constancy of performance under this Regulation once the European Technical Assessment has been issued.
 - 5 This European Technical Assessment allows the manufacturer of the construction product covered by this ETA to draw up a declaration of performance for the construction product.
 - 6 CE marking should be affixed to all construction products for which the manufacturer has drawn up a declaration of performance.
 - 7 This European Technical Assessment is not to be transferred to other manufacturers, agents of manufacturers, or manufacturing plants other than those indicated on page 1 of this European Technical Assessment.
 - 8 The European Technical Assessment holder confirms to guarantee that the product(-s) to which this assessment relates, is/are produced and marketed in accordance with and comply with all applicable legal and regulatory provisions, including, without limitation, national and European legislation on the safety of products and services. The ETA-holder shall notify the UBAtc immediately in writing of any circumstance affecting the aforementioned guarantee. This assessment is issued under the condition that the aforementioned guarantee by the ETA-holder will be continuously observed.
 - 9 According to Article 11(6) of Regulation (EU) N° 305/2011, when making a construction product available on the market, the manufacturer shall ensure that the product is accompanied by instructions and safety information in a language determined by the Member State concerned which can be easily understood by users. These instructions and safety information should fully correspond with the technical information about the product and its intended use, which the manufacturer has submitted to the responsible Technical Assessment Body for the issuing of the European Technical Assessment.
 - 10 Pursuant to Article 11(3) of Regulation (EU) N° 305/2011, manufacturers shall adequately take into account changes in the product-type and in the applicable harmonised technical specifications. Therefore, when the contents of the issued European Technical Assessment do not any longer correspond to the product-type, the manufacturer should refrain from using this European Technical Assessment as the basis for their declaration of performance.
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 - 13 Subject to the application introduced, this European Technical Assessment is issued in English and may be issued by the UBAtc in its official languages. The translations correspond fully to the English reference version circulated in EOTA.
 - 14 This European Technical Assessment, ETA 03/0003 was issued on 09/10/2025 replacing version 2 issued on 05/12/2017, without any technical changes other than changing the legal reference of ETAG 002 to its' transposition EAD 090010-00-0404.

¹ OJEU, L 88 of 2011/04/04

² OJEU, L 289 of 2013/10/31

Technical Provisions

1 Technical description of the product

1.1 Characteristics of the product

1.1.1 General

This ETA is being issued for the products specified on the cover page on the basis of agreed data/information, deposited with the UBAtc, which identifies the products that have been assessed and judged. Changes to the product/production process, which could result in the deposited data/information being incorrect, should be notified to the UBAtc before the changes are introduced. The UBAtc will decide whether or not such changes affect the ETA and consequently the validity of the CE marking on the basis of the ETA and if so whether further assessment/alterations to the ETA, shall be necessary.

Concerning product packaging, transport, storage and maintenance, replacement and repair, it is the responsibility of the manufacturer to undertake the appropriate measures and to advise his client on the transport, storage and maintenance, replacement and repair of the product as he considered necessary. It is assumed that the product will be installed according to the manufacturer's instruction or, in absence of such instruction, according to usual practice of building professionals. General considerations are given in Annex A

1.1.2 Bonding sealant DOWSIL™ 3362

The characteristics of the product declared by the manufacturer are the following:

- Design stress in tension: $\sigma_{des} = 0,14$ MPa
- Design stress in dynamic shear: $\tau_{des} = 0,11$ MPa
- Elastic modulus in tension or compression tangential to the origin: $E_0 = 2,40$ MPa
- Elastic modulus in shear tangential to the origin $G_0 = 0,80$ MPa
- Working time (at 25°C, 50% R.H.): 10 minutes
- Tack-free time (at 25°C, 50% R.H.): 30-45 minutes
- Water vapour permeability (EN 1279-4, Annex C): 20 g per m² and per day for 2 mm thickness
- Gas leakage rate (EN 1279-3): $L_i = 9,9 \cdot 10^{-3} \cdot a^{-1}$ ($L_i < 1,00\% a^{-1}$)³
- Gas permeation rate: 1,13 g/(m²h) according to EN 1279-4

Table 1 - DOWSIL™ 3362: Bonding Sealant - identification characteristics

³ This is an indication that the sealant DOWSIL™ 3362 is potentially fit of use for gas filled IGU. The value L_i can only be determined on actual edge seal design and variable from edge seal design to edge seal design

Test	EAD ref	Result
Specific mass	D.1.1	$V_{mean} = 1,36$
Hardness A	D.1.2	At least 35 after 24 hrs
Thermo-gravimetric analysis	D.1.3	Curve kept in the ETA technical file
Colour	D.1.4	Black to white and all grey scale in-between

1.1.3 Ancillary products for bonding seal adhesion surface preparation

- DOWSIL™ R40 Cleaner
- Standard Insulating Glass washing machine cleaner.

2 Specification of the intended use(s) in accordance with the applicable EAD

2.1 General

Bonding sealant DOWSIL™ 3362 is a silicone-based sealant intended to be used in bonded glazing kiy (BGK) as bonding edge seal for insulating glass. Suitable substrates are defined for each sealant in this ETA, clause 2.3.2.2.

The bi-component sealant DOWSIL™ 3362 may be used in bonding glazing system types I, II as per EAD 090010-00-0404, Table 1.1.1.1.

The essential requirements ER2 Safety in case of fire, ER3 Hygiene, health and environment, ER4 Safety in use, ER6 Energy economy and heat retention shall be fulfilled. Failure of the bond might cause risk to human life and/or have considerable economic consequences.

The provisions made in this European Technical Assessment are based on the assumed working life of the Bonded glazing kit (BGK) of 25 years⁴.

2.2 Provisions related to manufacturing, packaging and storage

The DOWSIL™ 3362 is manufactured and packaged on the following plants :

- Dow Silicones Belgium S.P.R.L. - Parc Industriel Zone C, B 7180 SENEFFE
- Dow Silicones Deutschland GmbH, Rheingastrasse D – 65201 Wiesbaden

The total shelf life of the sealant is 14 months after the fabrication date in its original unopened packaging, when stored below 30°C.

Storage outside or in freezing condition and above 30°C should be avoided

⁴ The indications given as to the working life of the products cannot be interpreted as a guarantee given by the ETA-holder or the assessment body. It should only be regarded as a means for specifiers to choose the appropriate criteria for this product in relation to the expected, economically reasonable working life of the works.

2.3 Provisions related to the design and use of the product

2.3.1 Design rules

2.3.1.1 In case of edge seal of insulating glass unit subjected to cavity loads (cavity pressure resulting from temperature, atmospheric pressure variations) and transferring external loads (e.g. wind)

See method of calculation: Dow Design & Joint Dimensioning Guidelines

2.3.1.2 In case of edge seal of insulating glass unit subjected only to cavity loads (cavity pressure resulting from temperature, atmospheric pressure variation)

The EN 1279 series of standards applies on each insulating glass edge seal design.

2.3.2 Suitable substrates for bonding adhesion surface

2.3.2.1 Generic types of suitable substrates

The generic types of suitable substrates for adhesion to the bonding sealant DOWSIL™ 3362 are:

- The float glass conforms to EN 572-1, -2, -4 and -5
- The thermally treated glass made from, conform to EN 1863-1 and -2 and EN 12150-1 and -2.
- The coated glass if compliance with the requirements of the EAD 090010-00-0404 clause D.3.1.1.4 is demonstrated, if not, it shall be totally removed from the seal adhesion surface.
- Anodized aluminium

2.3.2.2 Specific type of suitable substrates

The following specific types of coated glass substrates have been assessed in the framework of the present ETA by passing the following set of tests referenced in the EAD 090010-00-0404 Bonded glazing kits and bonding sealants, clauses 2.2.14.3.2, 2.2.14.4.1, 2.2.14.4.2, 2.2.14.4.3, 2.2.15.1.6 and 2.2.15.1.7.

Table 2 - Specific type of suitable substrates

Specific type of substrates	DOWSIL™ 3362
Coated glass SOLARBEL SS 20 (AGC)	Suitable
Coated glass SGG COOL-LITE SS 108 (SGG)	
Coated glass SGG COOL-LITE PB 114 N (SGG)	
Coated glass Stopsol Classic (AGC)	
Coated glass Stopsol Phoenix (AGC)	
Coated glass Stopsol Supersilver (AGC)	
Coated glass Sunergy	

From the Table 2, suitable coated glass for bonding adhesion can be extrapolated according to the rules mentioned in the EAD 090010-00-0404 clause D.3.1.1.4.3.

2.3.3 Transfer of the infill loading on the building structure via the bonding seal.

Under the scope of this ETA, the DOWSIL™ 3362 is suitable to be used in BGK type I or II as defined in EAD 090010-00-0404. This means that the bonded glazing system must be equipped with mechanical self-weight support device in order to transfer the self-weight of the glass to the façade structure.

2.3.4 Resistance to tearing

DOWSIL™ 3362 is use category A sealant according to EAD 090010-00-0404, clause 2.2.15.1.8. Inserts in the edge seals are allowed.

2.3.5 Application of the sealant

2.3.5.1 Description of the bonding sealant application

The ETA's for bonded glazing kits describe the sealant application, in particular, the ETA's give the cleaning product to be used as well as the primer, if needed, and method of application.

2.3.6 Recommendation for façade cleaning

It is recommended to use the following product for façade cleaning:

Cleaning agent EXTRAN 02 Neutral MERCK dilution 2%

Nevertheless, the assessment of the façade cleaning product must be done in the framework of the ETA for the BGK kit in order to check that those cleaning agents do not affect other kit products (gaskets, weather sealant, ...).

2.3.7 Chemical compatibility

The chemical compatibility has to be assessed in the framework of the ETA for bonded glazing kits as required by the EAD 090010-00-0404, clause 2.2.15.1.7

In the assessment procedure of the present ETA, the following products combinations were evaluated as required:

The DOWSIL™ 3362 Insulating Glass sealant is compatible with the DOWSIL™ 993, DOWSIL™ 895, DOWSIL™ 995 and DOWSIL™ 791.

2.3.8 Responsibility of the manufacturer

It is the responsibility of the ETA-holder to ensure that the information on the sealant characteristics and on the sealant extrusion is given to the person(s) concerned. This information may be provided by reproduction of the relevant parts of this European Technical Assessment.

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

General

The assessment of the fitness for use of the bonding sealant for the intended use in relation to the requirements for safety in case of fire; safety in use; hygiene health and environment; energy economy and heat retention; in the sense of the Essential Requirements 2, 3, 4 and 6, has been made in accordance with the EAD 090010-00-0404 Bonded glazing kits and bonding sealants.

Where the EAD allows for classifications and/or choice, the selection specified below has been made.

ER2 Safety in case of fire

The behaviour in case of fire shall be assessed in the framework of the ETA for the bonding sealant glazing kit

ER3 Hygiene, health and environment

The sealant manufacturer made a declaration of conformity with the Council Directive 76/769/EEC published in "Official Journal of the European Communities" of 27/07/1976 and its amendments.

ER4 Safety in use

The product has been successfully subjected to the following tests, which are relevant for sealant: EAD 090010-00-0404, clauses 2.2.14.1, 2.2.14.2, 2.2.14.3, 2.2.14.4, 2.2.15.1.1, 2.2.15.1.2, 2.2.15.1.3, 2.2.15.1.4, 2.2.15.1.5, 2.2.15.1.7, 2.2.15.1.8, and 2.2.15.1.9,

ER6 Energy economy and heat retention

Determination of thermal insulation and susceptibility to condensation - Calculation method

As a function of the design and the glazing chosen for the BGK kits, thermal modelling may be undertaken with various computer software packages. To use the results of these programmes, it is necessary to ensure that they are at least two-dimensional and cover all the required parameters.

The generally accepted value of the thermal conductivity (λ -value) of the bonding sealant to be used in thermal modelling for assessment of the thermal performance is 0,35 W/m K (EN ISO 10456).

Durability

The durability of the fitness for use of the bonding sealants has been demonstrated as follows:

All the specific aspects of durability have been covered under the headings above, more particularly ER4 Safety in use.

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

In accordance with Regulation (EU) N° 305/2011, Article 65, Directive 89/106/EEC is repealed, but references to the repealed Directive shall be construed as references to the Regulation.

The systems of assessment and verification of constancy of performance specified by the European Commission detailed in EC Decision 96/582/EC⁵ are as follows:

- System 1 (without audit testing of samples) for BGK kits Type II and IV;
- System 2+ (first possibility, including certification of the factory production control (FPC) by an approved body on the basis of its continuous surveillance, assessment and assessment) for BGK kits Type I and III

The system(s) of assessment and verification of constancy of performance are shown in the following Table.

Table 3 – System(s) of assessment and verification of constancy of performance

Product(s)	Intended use(s)	Level(s) or class(es)	Assessment and verification of constancy of performance system(s)*
Bonded glazing kits type II and IV	External walls and roofs	none	1
Bonded glazing kits type I and III		none	2+

* See Annex V to Regulation (EU) N° 305/2011

The bonding sealant being a component put on the market as such, it is impossible to determine in advance the Type of the kits in which the sealant is to be used. Consequently, only system 1 applies.

⁵ Commission decision of 24/06/96, published in the EC Official Journal L254 of 08/10/96

5 Technical details necessary for the implementation of the AVCP system

5.1 Tasks for the ETA-holder

5.1.1 Factory production control (FPC)

5.1.1.1 General

The manufacturer shall establish, document and maintain a FPC system to ensure that the products placed on the market conform to the stated performance characteristics. The FPC system shall consist of procedures, regular inspections and tests and/or assessments and the use of the results to control raw and other incoming materials or components, equipment, the production process and the product.

A FPC system conforming with the requirements of EN ISO 9001, and made specific to the requirements of this ETA, is considered to satisfy the above requirements.

The results of inspections, tests or assessments requiring action shall be recorded, as shall any action taken. The action to be taken when control values or criteria are not met shall be recorded.

5.1.1.2 Equipment

All weighing, measuring and testing equipment shall be calibrated and regularly inspected according to documented procedures, frequencies and criteria.

5.1.1.3 Raw materials and components

The specifications of all incoming raw materials and components shall be documented, as shall the inspection scheme for ensuring their conformity.

5.1.1.4 Non-conforming products

In the event of any non-conformity of any product, that product shall be placed into quarantine and action taken to rectify the cause of the non-conformity. Products may not subsequently be dispatched until the problem has been resolved.

5.1.1.5 Tests and frequencies

All the elements, requirements and provisions adopted by the manufacturer are documented in a systematic manner in the form of written policies and procedures. This production control system ensures that the product is in conformity with the European Technical Assessment (ETA).

The FPC involves the following tests: Appearance, flow, specific gravity, application rate, curing, hardness, elongation at break, tensile at break, modulus at 50% and 100% elongation, peel adhesion and cohesive failure.

In the context of bonding sealants, it is necessary for the manufacturer to undertake adhesion/cohesion tests to rupture after thermal conditioning as described in EAD 090010-00-0404, clauses 3.2.1, 3.4.1 The testing of "H" pieces, peel tests, as part of FPC provides the necessary evidence.

5.2 Tasks for the Technical Assessment Body

5.2.1 Initial Type Testing

Assessment tests on the sealant have been conducted under the responsibility of the assessment body (UBA^{tc}) in accordance with Chapter 2 of the EAD 090010-00-0404 as part of the ETA issuing procedure. The results of assessment testing shall be used by notified bodies (cf. Regulation (EU), Annex V, clause 1.6).

As required by the System 1, this work should be validated by the notified body for Certification purposes.

5.2.2 Assessment of the factory production control - Initial inspection and continuous surveillance

Assessment of the FPC is the responsibility of a notified body.

An assessment shall be carried out on the required manufacturing steps of each manufacturing plant to demonstrate that the factory production control is in conformity with the ETA and any subsidiary information. This assessment is based on an initial inspection of the factory.

Subsequently continuous surveillance of factory production control is necessary to ensure continuing conformity with the ETA. This continuous surveillance is performed as per this ETA, clause 5.1.1.

It is recommended that surveillance inspections should be conducted at least twice a year at each identified manufacturing plant.

6 Bibliography

EAD 090010-00-0404 Bonded glazing kits and bonding sealants – September 2018.

EN 572-1, -2, -3, -4 and -5 Glass in building - Basic soda lime silicate glass products

EN 1863-1 and -2 Glass in building - Heat strengthened soda lime silicate glass

EN 1279-4 Glass in building - Insulating glass units - Part 4: Methods of test for the physical attributes of edge seals

EN 12150-1 and -2 Glass in building - Thermally toughened soda lime silicate safety glass

EN ISO 10456 Building materials and products - Hygrothermal properties - Tabulated design values and procedures for determining declared and design thermal values

UBAtc asbl is a non-profit organization according to Belgian law. It is a Technical Assessment Body notified by the Belgian notifying authority, the Federal Public Services Economy, SMEs, Self-Employed and Energy, on 17 July 2013 in the framework of Regulation (EU) No 305/2011 of the European Parliament and of the Council of 9 March 2011 laying down harmonised conditions for the marketing of construction products and repealing Council Directive 89/106/EEC and is member of the European Organisation for Technical Assessment, EOTA (www.eota.eu).

This European Technical Assessment has been issued by UBAtc asbl, in Sint-Stevens-Woluwe, on the basis of the technical work carried out by the Assessment Operators, Buildwise and SECO Belgium.

On behalf of UBAtc asbl,

On behalf of the Assessment Operator,
Buildwise and SECO Belgium, responsible for
the technical content of the ETA,



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The most recent version of this European Technical Assessment may be consulted on the UBAtc website (www.butgb-ubadc.be).

Annex A - General consideration on bonding sealant application

A.1. General technical conditions

The DOWSIL™ 3362 glazing sealant has to be prepared and applied between 5 and 35°C in a dust free location. The seal needs to be tooled before the snap time has been reached, preferably within 10 minutes after the extrusion. It is important to realise that the snap time can vary with temperature and relative humidity. However, it is strongly recommended not to apply the sealant below 15°C in order to avoid risks on surface condensation.

After the snap time has been reached, there can't be further relative movement induced between the glasses of the insulating unit.

The FPC criteria to take into account by the manufacturer of IGU used in bonding application are the following:

- In case of IGU (insulating glass unit) not transferring external load (e.g. the wind), the hardness of the sealant must be min 30 SHORE A before transport.
- In case of IGU transferring external loads (e. g. the wind), the transportation of the insulating glass is allowed if the following two conditions are respected (see EAD 090010-00-0404 Table 3.4.1.2.2.1 Checks during the production): the tested H-samples give a 100% cohesive rupture and a breaking stress $\geq 0,7$ MPa

A.2. Drainage and ventilation

Water stagnation is not allowed in the vicinity of the bonding seal. Therefore, the (bonded) sealing glazing system shall be designed with an efficient water tightness, assisted by drainage and ventilation or by the absence of any void or cavity close to the insulating glass unit seal.