Deutsches Institut für Bautechnik

Zulassungsstelle für Bauprodukte und Bauarten
Bautechnisches Prüfamt
Eine vom Bund und den Ländern gemeinsam getragene Anstalt des öffentlichen Rechts
Mitglied der EOTA, der UEAtc und der WFTAO

Allgemeine bauaufsichtliche Zulassung

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Approval number:
Z-70.3-153

Validity
from: **1 April 2015**
to: **1 April 2020**

Applicant:
sedak GmbH & Co. KG
Einsteinring 1
86368 Gersthofen, Germany

Subject of approval:
Glascobond® laminated safety glass

The subject of approval named above is herewith granted an *allgemeine bauaufsichtliche Zulassung* ('national technical approval'). This *allgemeine bauaufsichtliche Zulassung* ('national technical approval') contains six pages.

This *allgemeine bauaufsichtliche Zulassung* ('national technical approval') replaces national technical approval No. Z-70.3-153 of 9 March 2010. The subject of approval was fist granted an *allgemeine bauaufsichtliche Zulassung* ('national technical approval') on 9 March 2010.

Translation authorized by DIBt

I GENERAL PROVISIONS

1 With the *allgemeine bauaufsichtliche Zulassung* ('national technical approval') the fitness for use and the applicability of the subject of approval in accordance with the *Landesbauordnungen* ('Building Codes of the *Länder*') have been verified.

2 If in the *allgemeine bauaufsichtliche Zulassung* ('national technical approval') requirements are made concerning the special expertise and experience of persons entrusted with the manufacture of construction products and types of construction in accordance with the relevant provisions of the Land following Section 17, sub-section 5, of the *Musterbauordnung* ('Model Building Code'), it shall be noted that this expertise and experience can also be proven by equivalent verifications from other Member States of the European Union. If necessary, this also applies to verifications presented within the framework of the Agreement on the European Economic Area (EEA) or other bilateral agreements.

3 The *allgemeine bauaufsichtliche Zulassung* ('national technical approval') does not replace the permits, approvals and certificates prescribed by law for carrying out building projects.

4 The *allgemeine bauaufsichtliche Zulassung* ('national technical approval') is granted without prejudice to the rights of third parties, in particular private property rights.

5 Notwithstanding further provisions in the 'Special Provisions', manufacturers and distributors of the subject of approval shall make copies of the *allgemeine bauaufsichtliche Zulassung* ('national technical approval') available to the user and point out that the *allgemeine bauaufsichtliche Zulassung* ('national technical approval') shall be available at the place of use. Upon request copies of the *allgemeine bauaufsichtliche Zulassung* ('national technical approval') shall be placed at the disposal of the authorities involved.

6 The *allgemeine bauaufsichtliche Zulassung* ('national technical approval') shall be reproduced in full only. Partial publication requires the consent of Deutsches Institut für Bautechnik. Texts and drawings of advertising brochures shall not be in contradiction to the *allgemeine bauaufsichtliche Zulassung* ('national technical approval').

7 The *allgemeine bauaufsichtliche Zulassung* ('national technical approval') is granted until revoked. The provisions of the *allgemeine bauaufsichtliche Zulassung* ('national technical approval') can subsequently be supplemented and amended, in particular if this is required by new technical findings.

II SPECIAL PROVISIONS

1 Subject of approval and field of application

The subject of approval is the product 'Glascobond® laminated safety glass' from the company sedak GmbH & Co. KG. It comprises at least two glass sheets made from float glass, heat strengthened soda lime silicate glass, thermally toughened soda lime silicate safety glass (ESG) or heat soaked thermally toughened soda lime silicate safety glass (ESG-H) and an interlayer made from SentryGlas® 5000.

The glass sheets shall have maximum dimensions of 3.21 x 15.00 m.

Glascobond® laminated safety glass shall be permitted for use as laminated safety glass (VSG) within the meaning of DIN 18008[1] as well as within the meaning of the *Technische Regeln für die Verwendung von linienförmig gelagerten Verglasungen (TRLV)* ('Technical rules for the use of linearly supported glazing')[2], *Technische Regeln für die Bemessung und Ausführung punktförmig gelagerter Verglasungen (TRPV)* ('Technical rules for the design of point fixed glazing')[3] and the *Technische Regeln für die Verwendung von absturzsichernden Verglasungen (TRAV)* ('Technical rules for the use of safety barrier glass')[4].

2 Provisions for the construction product

2.1 Characteristics and composition

2.1.1 Glass sheets

The following glass products may be used:

- float glass pursuant to *Bauregelliste* (Construction Products List)[5] A, Part 1, No. 11.10,
- heat strengthened soda lime silicate glass (TVG) pursuant to the provisions of an *allgemeine bauaufsichtliche Zulassung* ('national technical approval'),
- thermally toughened soda lime silicate safety glass (ESG) pursuant to *Bauregelliste* ('Construction Products List')[5] A, Part 1, No. 11.12,
- heat soaked thermally toughened soda lime silicate safety glass (ESG-H) pursuant to *Bauregelliste* (Construction Products List)[5] A, Part 1, No. 11.13.

The glass sheets shall also be permitted to be enamelled partially or completely on the side facing the interlayer.

2.1.2 SentryGlas® 5000 interlayer

The minimum thickness of the SentryGlas® 5000 interlayer shall be 0.9 mm and the maximum thickness 3.00 mm. The composition is deposited with Deutsches Institut für Bautechnik.

1 DIN 18008 Glass in building – Design and construction rules

2 *Technische Regeln für die Verwendung von linienförmig gelagerten Verglasungen (TRLV)*, version 08/2006, published in *Amtliche Mitteilungen* ('DIBt Official Bulletin'), issue 3/2007, 11 June 2007

3 *Technische Regeln für die Bemessung und Ausführung punktförmig gelagerter Verglasungen (TRPV)*, version 08/2006; published in *Amtliche Mitteilungen* ('DIBt Official Bulletin'), issue 3/2007, 11 June 2007

4 *Technische Regeln für die Verwendung von absturzsichernden Verglasungen (TRAV)*, version: 01/2003, published in *Amtliche Mitteilungen* ('DIBt Official Bulletin'), issue 2/2003

5 *Bauregelliste* (Construction Products List) A and B as well as List C, issue 2014/2

2.1.3 Glascobond®laminated safety glass

Glascobond® laminated safety glass shall be manufactured from at least two glass sheets as described in Section 2.1.1 and at least one SentryGlas® 5000 interlayer as described in Section 2.1.2.

For the offset between individual panes the dimensional limits specified in Section 3.2.3 of DIN EN ISO 12543-5[6] shall apply.

Glascobond® laminated safety glass meets the reaction- to-fire performance requirements for construction products corresponding to class E in accordance with DIN EN 13501-11[7]. (Class E meets the national regulatory requirement *normalentflammbar* ('normally flammable').)

2.2 Manufacture, packaging, transport, storage and marking

2.2.1 Manufacture, packaging, transport and storage

Glascobond® laminated safety glass shall be manufactured in an autoclave process from at least two glass sheets as described in Section 2.1.1 and at least one SentryGlas® 5000 interlayer as described in Section 2.1.2. Glascobond® laminated safety glass shall be manufactured in accordance with the provisions deposited with Deutsches Institut für Bautechnik.

2.2.2 Marking

Glascobond® laminated safety glass or the delivery note shall be marked by the manufacturer with the national conformity mark ('Ü mark') in accordance with the *Übereinstimmungs-zeichen-Verordnungen* ('Conformity Marking Ordinances') of the *Länder*. The mark shall only be applied if the requirements given in Section 2.3 are met. The national conformity mark ('Ü mark') shall include the short description 'Glascobond® laminated safety glass in accordance with Z-70.3-153'.

2.3 Attestation of conformity

2.3.1 General

The manufacturer shall declare the conformity of the Glascobond® laminated safety glass with the provisions of this *allgemeine bauaufsichtliche Zulassung* ('national technical approval') by issuing a declaration of conformity for every manufacturing plant based on factory production control and initial type-testing of the construction product by an testing body recognised for these purposes.

2.3.2 Factory production control

A factory production control system shall be set up and implemented at each manufacturing plant in which the SentryGlas® 5000 interlayer and/or the Glascobond® laminated safety glass are manufactured. Factory production control is understood to be continuous surveillance of production by the manufacturer to ensure that the manufactured construction products satisfy the provisions of this *allgemeine bauaufsichtliche Zulassung* ('national technical approval').

The results of factory production control shall be recorded and evaluated. The records shall at least include the following information:

- designation of the construction product or the starting material
- type of check or test
- date of manufacture and testing of the construction product or the starting material
- results of the checks and tests as well as (if applicable) comparison with requirements
- signature of the person responsible for factory production control.

[6] DIN EN ISO 12543-5:1998-08 Glass in building – Laminated glass and laminated safety glass – Part 5: Dimensions and edge finishing

[7] DIN EN 13501-1:2007-05 Fire classification of construction products and building elements

Factory production control in the manufacturing plant for the SentryGlas® 5000 interlayer shall be carried out in accordance with the work instructions deposited with DIBt and shall at least include the following measures:

- moisture content measurements performed on the sheet, once a day, max. moisture content: 0.15%
- pummel test performed on the laminate: once a day (2.1-mm-thick float glass)
- thickness check every 12 hours.

Factory production control in the manufacturing plant for Glascobond® laminated safety glass shall at least include the following measures:

- check or inspection of starting material (e.g. interlayer thickness)
- documentation of storage conditions for SentryGlas® 5000 interlayer sheets with packaging opened
- documentation of relevant production parameters used in the manufacture of the Glascobond® laminated safety glass (e.g. pressure and temperature control in the autoclave); production parameters shall correspond to the specifications deposited with Deutsches Institut für Bautechnik
- regular visual inspection of Glascobond® laminated safety glass in accordance with DIN EN ISO 12543-6[8]
- high-temperature test in accordance with Section 4.1 of DIN EN ISO 12543-2[9] on specimens composed of 3 mm float glass / 1.52 mm SentryGlas® 5000 / 3 mm float glass at least once a month
- ball drop test as per DIN 52338[10] from a height of 4 m on at least five test specimens composed of 3 mm float glass / 1.52 mm SentryGlas® 5000 / 3 mm float glass at least once a month
- pummel test in accordance with work instructions deposited with DIBt.

The records shall be kept for at least ten years. They shall be submitted to Deutsches Institut für Bautechnik and the competent supreme building authority upon request.

If the test result is unsatisfactory, the manufacturer shall immediately take the necessary measures to resolve the defect. Construction products which do not meet the requirements shall be handled in such a manner that they cannot be confused with compliant products. After the defect has been remedied, the relevant test shall be repeated immediately, where technically feasible and necessary to show that the defect has been eliminated.

2.3.3 Initial type-testing of Glascobond® laminated safety glass

The following checks and tests shall be performed within the framework of initial type-testing of Glascobond® laminated safety glass:

- regular visual inspection of Glascobond® laminated safety glass as per DIN EN ISO 12543-6[8]
- high-temperature test in accordance with Section 4.1 of DIN EN ISO 12543-2[7] on specimens composed of 3 mm float glass / 1.52 mm SentryGlas® 5000 / 3 mm float glass
- ball drop test as per DIN 52338[8] from a height of 4 m on at least five test specimens composed of 3 mm float glass / 1.52 mm SentryGlas® 5000 / 3 mm float glass.

8	DIN EN ISO 12543-6:1998-08	Glass in building – Laminated glass and laminated safety glass – Part 6: Appearance
9	DIN EN ISO 12543-2:2006-03	Glass in building – Laminated glass and laminated safety glass – Part 2: Laminated safety glass
10	DIN 52338:1985-09	Test methods for flat glass in building - Ball drop test for laminated glass

3 Provisions for design and dimensioning

For execution in accordance with DIN 18008[1], the specifications given therein shall be observed for the design and dimensioning of the Glascobond® laminated safety glass.

Alternatively, the Glascobond® laminated safety glass shall be dimensioned in accordance with the provisions of the 'Technical rules for the use of linearly supported glazing (TRVL)' [2]. For overhead use Glascobond® laminated safety glass shall be supported linearly on all sides with a support width of more than 1.20 m.

For point fixed glazing the 'Technical rules for the design of point fixed glazing (TRPV)' [3] shall be observed.

If the laminated safety glass is used for retaining glass barriers, the 'Technical rules for the use of safety barrier glazing (TRAV)'[4] shall apply. The less stringent verification requirements given there for laminated safety glass with PVB film, such as 'Glazing with verified impact resistance' as described in Section 6.3, shall also apply to the Glascobond® laminated safety glass described in this *allgemeine bauaufsichtliche Zulassung* ('national technical approval').

4 Execution provisions

For manufacture in accordance with DIN 18008[1], the design provisions defined therein shall be observed for Glascobond® laminated safety glass.

Alternatively, for the manufacture of linearly supported Glascobond® laminated safety glass the provisions of the 'Technical rules for the use of linearly supported glazing (TRVL)'[2] shall apply. For the manufacture of point fixed Glascobond® laminated safety glass, the provisions of the 'Technical rules for design of point fixed glazing (TRPV)'[3] shall be observed.

It shall be ensured that the glass or film edges are only in contact with adjacent materials which are long-term compatible with the SentryGlas® 5000 interlayer used.

Andreas Schult
Head of Section

Beglaubigt