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European Technical Assessment

ETA-20/0754
of 21.12.2021

General part

Technical Assessment Body issuing the ETA	Austrian Institute of Construction Engineering (OIB)
Trade name of the construction product	FINOTECH® SQ-150 FINOTECH@8000-E JS-8000 E
Product family to which the construction product belongs	Structural Sealant Glazing Kit: Structural Sealant
Manufacturer	Finotech Switzerland AG Talacherring 6a 8103 Zürich / Unterengstringen Switzerland
Manufacturing plants	Manufacturing plants of Finotech Switzerland AG Talacherring 6a 8103 Zürich / Unterengstringen Switzerland
This European Technical Assessment contains	9 pages including 1 Annex
This European Technical Assessment is issued in accordance with Regulation (EU) No 305/2011, on the basis of	Guideline for European technical approval (ETAG) No. 002 Structural Sealant Glazing Systems (SSGS) - Part 1: Structural Sealant Glazing System, edition March 2012, used as European Assessment Document (EAD)

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Translations of this European Technical Assessment in other languages shall fully correspond to the original issued document and should be identified as such.

Communication of this European Technical Assessment, including transmission by electronic means, shall be in full (except the confidential Annexes referred to above). However, partial reproduction may be made, with the written consent of the Österreichisches Institut für Bautechnik, Vienna. Any partial reproduction shall be identified as such.

In addition to the specific clauses relating to dangerous substances contained in this European Technical Assessment, there may be other requirements (e.g. trans-posed European legislation and national laws, regulations and administrative provisions).

In order to meet the provisions of the EU Construction Products Directive, these requirements need also to be complied with, when and where they apply.

Specific part

1. Technical description of the product

1.1 Definition of the construction product

The structural sealants FINOTECH® SQ-150, FINOTECH@8000-E and JS-8000 E are high-modulus two-component silicone-based sealants to be used in structural sealant glazing kits (SSGK) for use in vertical or horizontal constructions (e.g. for façades and roofs, or parts of them) according to ETAG 002 used as EAD. The similar structural sealants are only one component of the kit. The kit as such is not covered by this ETA.

2. Specification of the intended use(s) in accordance with the applicable European Assessment Document (hereinafter EAD)

2.1 Intended use

The structural sealants FINOTECH® SQ-150, FINOTECH@8000-E and JS-8000 E are to be used in structural sealant glazing kits (SSGK) within the scope of ETAG 002 used as EAD to bond glazing products on structural support frames.

FINOTECH® SQ-150, FINOTECH@8000-E and JS-8000 E can also be used to provide a hermetic structural edge seal to insulating glass units. The hermetic seal shall meet the requirements of the relevant standards. Suitable substrates are defined for the sealants in this ETA Annex 1.

Complementary European Technical Assessments for kits have to assess the fitness for use of those structural sealants in the structural sealant glazing kits.

The Basic requirements for construction works listed in clause 3, shall be fulfilled, as failure of the structural bond would cause risk to human life and/or have considerable economic consequences.

2.2 Distribution

The sealant is put on the market under following conditions.

Supplier	Trade name
Finotech Switzerland AG	FINOTECH® SQ-150 FINOTECH@8000-E JS-8000 E

2.3 Manufacturing

The European Technical Assessment is issued for the product on the basis of agreed data/information, deposited with the Österreichisches Institut für Bautechnik, which identifies the product that has been assessed and judged. Changes to the product or production process, which could result in this deposited data/information being incorrect, should be notified to the Österreichisches Institut für Bautechnik before the changes are introduced. The Österreichisches Institut für Bautechnik will decide whether or not such changes affect the European Technical Assessment and consequently the validity of the CE marking on the basis of the European Technical Assessment and if so whether further assessment or alterations to the European Technical Assessment, shall be necessary.

The sealants are manufactured by Finotech Switzerland AG~~,~~ in accordance to the provisions of this European Technical Assessment using a specific manufacturing process as identified during first audit of the plant by the Österreichisches Institut für Bautechnik and inspection by approved body. All data shall be laid down in the production control plan.

All specific provisions of these sealants about e.g. storage, transportation, installation, working time, etc. shall be taken to the technical dossier of the manufacturer.

2.4 Installation

2.4.1 Design rules of the sealant

The section of the structural sealant bead is calculated in accordance to ETAG 002-1 annex 2 where W is defined in national design codes. The maximum thickness of the seal for FINOTECH® SQ-150, FINOTECH@8000-E and JS-8000 E in case of unsupported glazing is 12 mm.

2.4.2 Suitable substrates for structural adhesion surface

The generic and/or specific types of suitable substrates are given in Annex 1 and in the technical documentation of the manufacturer. For any other substrate, the evaluation shall be performed by reference to ETAG 002 used as EAD, clause 5.1.4. For particular substrate included in a generic family, the evaluation rules are given ETAG 002-1, used as EAD, clause 5.3.

Additional to metallic substrates further materials as substrates may be used after performing in dependence on an evaluation by reference to ETAG 002. In general the substrate must be defined and replicable regarding surface character, identification and quality by means of suitable testing methods. This shall be ensured by an accredited authority.

Complementary optional products of structural seal adhesion surface preparation:

- FINOTECH® primer (for surfaces according to the technical dossier of the manufacturer). Variation to mentioned complementary products shall be approved by an accredited authority.

The composition of effective cleaning and pre-treatment steps for specific bonding surfaces have to be discussed with the supplier of the structural sealant. During factory production control the operator has to produce and test specimens of the original composition that means including original substrates, original products for cleaning and pre-treating and original structural sealant.

2.4.3 Design of the Structural Sealant Glazing System

Water stagnation is not allowed in the vicinity of the structural seal. The SSGS shall be designed to provide sufficient drainage and ventilation around the sealant section.

The SSGS shall be designed to allow the realisation of a regular, rectangular structural sealant bead with and without insert or discontinuous substrate.

2.4.4 Application of the sealant

The ETA applicant provides to his clients a complete procedure for the bonding and specifications for installation including the following conditions:

- Temperature of application +5 °C to +40 °C in a dust free location
- The substrates shall be free from superficial condensation
- Procedure for cleaning the substrates
- Procedure for application of the primer when specified
- Application of the sealant itself according to technical documentation of manufacturer
- Storage according to technical documentation of manufacturer

2.4.5 Recommendation for façade cleaning product

It is recommended to use a 1 % solution in water of a neutral detergent with approximately pH 7. Nevertheless, the assessment of the façade cleaning agent has to be done in the framework of the ETA for the kit to check compatibility aspect with other components.

Cleaning products:

- Ethanol or Isopropanol (cleaning product, for glass and metals)
- de-ionized water (for glass)

2.4.6 Chemical compatibility

The chemical compatibility of all materials in contact with the structural sealant have to be assessed in the framework of the ETA for systems. No assessment has been made in the framework of the present ETA.

2.4.7 Responsibility of the manufacturer

It is the responsibility of the ETA holder to ensure that the information on the related component requirements and their fabrication and setting is given to the person concerned. This information may be made by reproduction of the relevant parts of the European technical assessment.

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

Basic requirements for construction works	
BWR 2	Reaction to fire: class E
BWR 3	Dangerous substances: The manufacturer made a declaration of conformity to the Council Directive 76/769/EEC and its amendments
BWR 4	The characteristics of the sealants have been established on the basis of test results in accordance to chapter 5.1.4 of ETAG 002-1.
BWR 6	Energy economy and heat retention: No evaluation made on the sealant. The thermal conductivity to be taken into account for further calculation on structural sealant glazing kit is λ = 0.36 W/(m*K).
BWR 7	Sustainable use of natural resources: No performance assessed

3.1 Safety in case of fire (BWR 2)

3.1.1 Reaction to fire

FINOTECH® SQ-150: class E according EN 13501-1
FINOTECH@8000-E: class E according EN 13501-1
JS-8000 E: class E according EN 13501-1

3.2 Hygiene, health and environment (BWR 3)

3.2.1 Release of dangerous substances

According to the manufacturer's declaration the sealants do not contain dangerous substances detailed in Council Directive 67/548/EEC and Regulation (EC) no 1272/2008 as well as EOTA TR 034 above the acceptable limits.

A written declaration in this respect was submitted by the ETA-holder.

In addition to the specific clauses relating to dangerous substances contained in this European Technical Assessment, there may be other requirements applicable to the products falling within its scope (e.g. transposed European legislation and national laws, regulations and administrative provisions). In order to meet the provisions of the Construction Product Regulation, these requirements need also to be complied with, when and where they apply.

3.3 Safety and accessibility in use (BWR 4)

3.3.1 Properties and characteristics of the sealant

Properties & Characteristics	FINOTECH® SQ-150, FINOTECH@8000-E, JS-8000 E
Design stress in tension σ_{des}	0,16 MPa
Design stress in dynamic shear τ_{des}	0,11 MPa
Design stress in static shear τ_{∞}	0,011 MPa
Elastic modulus in tension or compression E	0,90 MPa
Elastic modulus in shear tangential to G	0,70 MPa
Elastic modulus in tension at 12,5 % elongation $K_{12,5}$	2,23MPa (H-sample) 2,04MPa (Dumbbell)
Resistance to tearing	category 1 (ETAG 002)
Colour	black
Working time at 23 °C 50 % RH	approx. 25 min
Tack free time at 23 °C 50 % RH	60 min
Minimum time before transportation of the bonded unit	4 days
Specific mass	V_{mean} = 1,34 kg/l ±0,025
Hardness A	≥ 40
Thermogravimetric analysis	Curve kept in ETA technical file

An earlier transportation is possible on these terms: the tested H-samples give the following result: rupture ≥ 90 % cohesive and break stress ≥ 0,7 MPa

3.4 Energy economy and heat retention (BWR 6)

No evaluation made on the sealant.

3.5 Sustainable use of natural resources (BWR 7)

No performance assessed.

3.6 General aspects relating to fitness for use

All the specific aspects of durability of the fitness for use of the sealants are particularly covered at ER4 according to ETAG002, used as EAD.

Nevertheless, earlier transportation on work site is possible if the following two conditions are respected (see ETAG Table 10: checks during the production): The tested H-samples give the following result: rupture 100 % cohesive and break stress ≥ 0,7 MPa.

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

4.1 AVCP system

According to the Decision 1999/454/EC of the European Commission the system of assessment and verification of constancy of performance (see Annex V of Regulation (EU) No 305/2011) given in the following table apply:

Product	Intended uses	Level or Class	System
FINOTECH® SQ-150, FINOTECH@8000-E, JS-8000 E	for SSGS kits Types II	Any	System 1
FINOTECH® SQ-150, FINOTECH@8000-E, JS-8000 E	for SSGS kits Types I and III	Any	System 2+

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

5.1 Tasks of the manufacturer

5.1.1 Factory production control

The manufacturer has a factory production control system in the plant and exercises permanent internal control of production. All the elements requirements and provisions adopted by the manufacturer are documented in a systematic manner in the form of written policies and procedures. The production control ensures that the product is in conformity with the European technical assessment. The incoming materials are subjected to controls and tests by the manufacturer before acceptance according to a prescribed test plan. The manufacturer proceeds to controls during the production according to specific policies. Those controls include:

- Base: colour, appearance, flow, viscosity, specific gravity
- Catalyst: colour, appearance, flow
- Mixture: snap time, shore A hardness, tensile and elongation at rupture according to ETAG 002-1: 2012 8.3.2.4.1.

The results and details of the extent, nature and frequency of controls be performed within the factory production control shall be recorded and evaluated in accordance with the provisions of the control plan.

The records include at least the following information:

- Designation of the product
- Batch number
- Type of testing
- Results of testing and comparison with the requirements.

5.1.2 Other tasks of the manufacturer

The manufacturer shall make a declaration of performance, stating that the construction product is in conformity with the provisions of this European Technical Assessment.

The manufacturer shall provide a technical data sheet and a technical documentation. This technical literature shall be handed over to the Österreichisches Institut für Bautechnik.

The manufacturer shall, based on a contract, involve a notified product certification body, which is notified for the tasks referred to in clause 4.1 of the ETA in the field of Assessment product. For this purpose, the control plan referred to in clause 5.1 and 5.2 of the ETA shall be handed over by the manufacturer to the notified product certification body involved.

5.2 Tasks of notified product certification body

The Notified Body shall retain the essential points of its actions referred to clause 5.2.1 to 5.2.3, state the results obtained and conclusions drawn in written report.

These tasks shall be performed in accordance with the provisions laid down in the control plan of this European Technical Assessment.

5.2.1 Determination of the product type

Notified bodies undertaking tasks under Systems 1 shall consider the European Technical Assessment issued for the construction product in question as the assessment of the performance of that product. Notified bodies shall therefore not undertake the tasks referred to in point 1.2 (b)(i), in Annex V of Regulation (EU) No 305/2011, unless there are changes in the manufacture or manufacturing plant. In such cases, the necessary initial type testing shall be agreed between the Österreichisches Institut für Bautechnik and notified product certification body involved.

5.2.2 Initial inspection of the manufacturing plant and of factory production control

The notified product certification body shall ascertain that, in accordance with the control plan, the manufacturing plant, in particular personnel and equipment, and the factory production control are suitable to ensure a continuous and orderly manufacturing of the kit according to the specifications given in clause 2 and in the Annexes of the European Technical Assessment.

5.2.3 Continuous surveillance, assessment and evaluation of factory production control

The notified product certification body shall visit the factory at least once a year for surveillance of the manufacturer.

It shall be verified that the system of factory production control and the specified manufacturing process are maintained taking into account the control plan.

Continuous surveillance and assessment of factory production control have to be performed according to the control plan.

The results of continuous surveillance shall be made available on demand by the notified product certification body or the Österreichisches Institut für Bautechnik. In cases where the provisions of the European Technical Assessment and the control plan are no longer fulfilled, the certificate of constancy of performance shall be withdrawn.

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The original document is signed by:

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Managing Director

Annex 1

List of suitable substrates among others for structural adhesion surface

A. Glass products

Float glass according to EN 572-2
Thermally toughened safety glass according to EN 12150
Semi-tempered safety glass according to EN 1863-1

B. Metal products

Anodized aluminum (EN 5005 H14 (AlMg1))
Anodized aluminum (EN AW 6060, T66)
Stainless steel (1.4301 (X5CrNi19-10), grinded)

For detailed list of manufacturers see technical dossier of the ETA-holder