EUROPEAN TECHNICAL ASSESSMENT

ETA 13/0335
Version 02
Date of issue: 2021-10-11

UBAtc Assessment Operator:
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BCCA

**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:	Firecryl FR
Product family to which the construction product belongs:	35 - Fire stopping sealant for fire stopping of linear gap seals
Manufacturer:	SOUDAL NV Everdongenlaan 18 - 20 B-2300 TURNHOUT Belgium
Manufacturing plant(s):	SOUDAL NV Plant 1 – Everdongenlaan 18-20 B-2300 TURNHOUT Belgium
Website:	www.soudal.com
This European Technical Assessment is issued in accordance with Regulation (EU) No 305/2011, on the basis of:	European Assessment Document (EAD) : EAD 350141-00-1106: "Fire stopping and fire sealing products: Linear joint and gap seals"
This version replaces:	ETA 13/0335 issued on 2017/08/07
This European Technical Assessment contains:	8 pages, including 3 annexes which form an integral part of this European Technical Assessment

EOTA

European Organisation for Technical Assessment

Legal bases and general conditions

1 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) No 305/2011 [1] 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) No 1062/2013 [2] of 30 October 2013 on the format of the European Technical Assessment for construction products
- European Assessment Document (EAD): EAD 350141-00-1106

2 Under the provisions of Regulation (EU) No 3205/2011, 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) No 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) No 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.

11 All rights of exploitation in any form and by any means of this European Technical Assessment are reserved for UBAtc and the ETA-holder, subject to the provisions of the applicable UBAtc regulations.

12 Reproduction of this European Technical Assessment including transmission by electronic means shall be in full. However, partial reproduction can be made with the written consent of UBAtc. In this case partial reproduction has to be designated as such. Texts and drawings of advertising brochures shall not contradict or misuse the European Technical Assessment.

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. A European Technical Approval (ETA) was first issued by UBAtc on 27 June 2013 and was reissued as a European Technical Assessment on 7 August 2017 without technical changes. This ETA is superseded by the current European Technical Assessment, issued 11 October 2021. New fire resistance classifications are included in the ETA.

[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 products

This European Technical Assessment is being issued for Firecryl FR on the basis of agreed data/information, deposited with the UBAtc, which identifies the product that has been assessed. 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.

1.2 Firecryl FR

Firecryl FR is a one component fire retardant sealant based on a water based acrylic dispersion with plasto-elastic properties. It is delivered in white and grey.

Installation of Firecryl FR: see clause 2.4.2.

2. Specification of the intended use in accordance with the applicable EAD

2.1 Intended use

Firecryl FR is intended to be used as a fire stopping sealant for non-movement joints and seals in rigid and flexible walls and rigid floors (see Annex III).

The specific elements of construction for which Firecryl FR may be used to provide a linear joint seal, are as follows:

- Rigid walls: the wall shall have a minimum thickness of 100 mm and comprise concrete or masonry with a minimum density of 550 kg/m3.
- Flexible walls: light weight flexible wall (≥EI 30 and ≥EI 90) conforming the provisions given in EN 1363-1:2020, clause 7.2.2.4 and EN 1366-4:2021. See details in annex III.
- Rigid floors: the floor shall have a minimum thickness of 150 mm and comprise concrete with a minimum density of 600 kg/m³.

The supporting construction shall be classified according to EN 13501-2 for the required fire resistance period.

As backfilling material, Soudafoam FR HY or a backer rod based on polyethylene (PE) or polyurethane (PU) may be used. For a specification of the suitable material see Annex II.

2.2 Use Category

The use category for Firecryl FR is $Z_{2(+5/+40)}$ intended for use the following environmental conditions

Table 1: intended use

Environmental conditions	EAD 350141-00-1106 Type
Internal conditions with humidity classes other than Z_1, excluding temperatures below 0°C	Z_2

2.3 Working life/Durability

The provisions made in this European Technical Assessment are based on an assumed intended working life of 10 years.

Indications given regarding the working life cannot be interpreted as a guarantee given by the producer or the UBAtc, but are to be regarded only as a means for choosing the appropriate product(s) in relation to the expected economically reasonable working life of the construction works.

2.4 Assumptions under which the product was assessed

2.4.1 Manufacturing directives

The fire stopping and sealing product Firecryl FR is manufactured and packaged by Soudal NV in Turnhout, Belgium.

2.4.2 Installation

Installation shall be performed by trained installers.

Preparation of the surface:

- Firecryl FR adheres to most substrates (concrete, masonry, gypsum, etc.) without a primer. Very porous substrates shall be pre-treated with a coating based on Firecryl FR diluted with water.
- The surface shall be clean, dry, and free of dust, oil and grease.

Joint size:

- Width: up to 30 mm;
- Depth: the same as thickness of the wall or floor.

Application of the Firecryl FR

- Application temperature: between +5°C and + 30°C
- Insert backing material if applicable.
- Apply Firecryl FR with a manual- or pneumatic caulking gun.
- Smoothen the sealant surface before skin formation with a soapy solution or Soudal Finishing Solution.

2.4.3 Packaging, transport and storage

Firecryl FR is available in cartridges (310 ml) and foil bags (600 ml).

The product has a shelf life of at least 12 months in unopened packaging when stored in a dry place between +5 °C and +25 °C.

2.4.4 Curing behaviour

- Curing rate: physical drying
- Skin formation time: Approx. 20 min.
- Volume shrinkage: 15 %
- Density according to EN 542:2003: 1,72 g/cm³

2.4.5 Use, maintenance and repair

Firecryl FR does not need any maintenance during the working life indicated in this ETA.

Local repairs may be performed according to the manufacturer instructions.

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

3.1 Safety in the case of fire (BWR2)

3.1.1 Reaction to fire

The reaction to fire classification of Firecryl FR is class E according to EN 13501-1.

3.1.2 Resistance to fire

Firecryl FR has been tested in accordance with EN 1366-4:2021, installed in linear joint seals in rigid walls and floors. As backfilling material Soudafoam FR HY, a PU or PE backer rod has been used.

In addition, Firecryl FR has been tested in accordance with EN 1366-4:2021, installed in linear joint seals in lightweight flexible wall systems according to the provisions of EN 1363-1:2020, clause 7.2.2.4.

Based upon these test results and the field of direct application specified in EN 1366-4:2021, Firecryl FR has been classified in accordance with EN 13501-2 (see Annex III).

3.2 Hygiene, health and environment (BWR3)

No performance assessed.

3.3 Safety in use (BWR4)

3.3.1 Mechanical resistance and stability.

The maximum joint width is 30 mm. According to EAD 350141-00-1106, impact tests are not required.

3.3.2 Resistance to impact/movement

This test not required as the maximum joint width is less than 150 mm.

3.3.3 Adhesion

Adhesion has been assessed according to EN ISO 11600. Firecryl FR is a sealant classified as 12,5P.

3.3.4 Durability

Firecryl FR has been assessed in accordance with EAD 350141-00-1106 for the environmental category $Z_{2(5/+40)}$.[3]

3.3.5 Movement capability

Classification according to EN ISO 11600: 12,5P

3.3.6 Cycling of perimeter seals for curtain walls

No performance assessed.

3.3.7 Compression set

No performance assessed.

3.3.8 Linear expansion on setting

No performance assessed.

3.4 Protection against noise (BWR5)

No performance assessed.

3.5 Energy economy and heat retention (BWR6)

No performance assessed.

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

For the products covered by EAD 350141-00-1106 the applicable European legal act is Decision 1999/454/EC (EU).[4]

The system is: system 1.

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

5.1 Tasks for the ETA-holder

5.1.1 Factory production control (FPC)

The manufacturer shall exercise permanent internal control of production. All the elements, requirements and provisions adopted by the manufacturer shall be documented in a systematic manner in the form of written policies and procedures, including records of results performed. This production control system shall ensure that the product is in conformity with this ETA.

The manufacturer may only use constituent materials stated in the technical documentation of this ETA.

The factory production control shall be in accordance with the "Control Plan" relating to the ETA which is part of the technical documentation of this ETA. The "Control Plan" is laid down in the context of the factory production control system operated by the manufacturer and deposited at the UBAtc and shall be in agreement with the provisions given in Table 3.2 of EAD 350141-00-1106.

The results of factory production control shall be recorded and evaluated in accordance with the provisions of the "Control Plan".

5.2 Tasks of notified bodies

The notified body (bodies) shall perform the tasks specified in Regulation (EU) N° 305/2011, Annex V, clause 1.2 (b).

The notified body (bodies) shall retain the essential points of its (their) actions referred to above and state the results obtained and conclusions drawn in (a) written report (reports).

In cases where the provisions of the ETA and its "Control Plan" are no longer fulfilled the notified body shall inform the UBAtc without delay.

[3] see also EOTA Technical Report TR 024 – Edition November 2006, clause 4.2.7

[4] OJEU, L 178/52 of 1999/07/14, p.3

Annex I: Reference documents

References to standards mentioned in the ETA:

EAD 350141-00-1106:2017	Fire stopping and fire sealing products: linear joint and gap seals
EN 206:2013+A1:2016	Concrete - Specification, performance, production and conformity
EN 520:2004+A1:2009	Gypsum plasterboards - Definitions, requirements and test methods
EN 542:2003	Adhesives - Determination of density
EN 1363-1:2020	Fire resistance tests - Part 1: General requirements
EN 1366-4:2021	Fire resistance tests for service installations - Part 4: Linear joint seals
EN 13501-1:2018	Fire classification of construction products and building elements – Part 1: Classification using test data from reaction to fire tests
EN 13501-2:2016	Fire classification of construction products and building elements – Part 2: Classification using test data from fire resistance tests
EN ISO 11600:2004+A1:2011	Building construction — Jointing products — Classification and requirements for sealants

Other reference documents:

EOTA TR 024:2006	Characterization, Aspects of Durability and Factory Production Control for Reactive Materials, Components and Products

Annex II: Description of the products

1. coating based on firecryl diluted in water

Coating based on Firecryl FR diluted with water for pre-treatment of very porous surfaces.

2. Soudal Finishing Solution

Soapy solution for smoothening the sealant surface before skin formation.

3. Backfilling materials

3.1 General

The backfilling materials only serve to limit the thickness of the sealant and have no influence on the fire resistance of the sealant.

3.2 Soudafoam FR HY

Soudafoam FR HY is one-component self-expanding fire retardant polyurethane foam, as specified in ETA 21/0659.

3.3 PE-backer rod

Round profiles from closed-cell polyethylene used as a non-adhesive backfilling to ensure the correct dimension of the joint.

Diameter: 10 – 25 mm.

3.4 PU-backer rod

Round profiles from open cell polyurethane foam used as a non-adhesive backfilling to ensure correct dimension of the joint.

Diameter: 15 – 50 mm.

Annex III: Resistance to fire classification of linear joint seals made with Firecryl FR

1. Linear joints in rigid walls made of concrete or brick

1.1 Firecryl FR with Soudafoam FR HY as specified in Annex II as backfilling material

Thickness of the wall (mm)	Density (kg/m³)	Orientation of the joint	Symmetrical / Asymmetrical	Composition of the joint seal	Classification
100	550	Vertical	Asymmetrical	The exposed side is filled throughout a depth of 20 mm with Firecryl FR and the unexposed (*) side is further filled with Soudafoam FR HY up to the sealant	EI120 – V – X – F – W0 to W10
100	550	Vertical	Asymmetrical	The exposed side is filled throughout a depth of 20 mm with Firecryl FR and the unexposed (*) side is further filled with Soudafoam FR HY up to the sealant	EI90 – V – X – F – W0 to W20
100	550	Vertical	Asymmetrical	The unexposed (*) side is filled throughout a depth of 20 mm with Firecryl FR and the exposed side is further filled with Soudafoam FR HY up to the sealant	EI90 – V – X – F – W0 to W20
100	550	Vertical	Symmetrical	The exposed and unexposed (*) side is filled throughout a depth of 3 mm with Firecryl FR the empty space in between is filled up with Soudafoam FR HY (94 mm)	EI90 – V – X – F – W0 to W30
200	550	Vertical	Asymmetrical	The exposed side is filled throughout a depth of 20 mm with Firecryl FR and the unexposed (*) side is further filled with Soudafoam FR HY up to the sealant	EI240 – V – X – F – W0 to W30
(*) The unexposed side is the side that is on the opposite side of the fire.					

1.2 Firecryl FR with a PE-backer / PU-backer rod as specified in Annex II as backfilling material

Thickness of the wall (mm)	Density of the wall (kg/m³)	Orientation of the joint	Symmetrical / Asymmetrical	Composition of the joint seal	Classification
200	550	Vertical	Symmetrical	Both the exposed and the unexposed (*) sides are filled with 20 mm Firecryl FR with a PU backer rod	EI240 – V – X - W0 to W20
100	550	Vertical	Symmetrical	Both the exposed and the unexposed (*) sides are filled with 20 mm Firecryl FR with a PU backer rod	EI180 – V – X - W0 to W21 E240 – V – X – W0 to W21
100	550	Vertical	Symmetrical	Both the exposed and the unexposed (*) sides are filled with 10 mm Firecryl FR with a PU backer rod	EI180 – V – X - W0 to W11 E240 – V – X - W0 to W11
115	600	Vertical	Asymmetrical	The unexposed (*) side is filled throughout a depth of 20 mm and is further provided with a compressed PU backer rod	EI60 – V – X – F - W0 to W20 E90 – V – X – F – W0 to W20
200	550	Vertical	Asymmetrical	The unexposed (*) side is filled throughout a depth of 15 mm and is further provided with a compressed PE backer rod.	EI240 – V – X – W0 to W15
(*) The unexposed side is the side that is on the opposite side of the fire.					

2. Linear joints in lightweight flexible walls

The lightweight flexible wall is build-up according to the provisions of EN 1363-1:2020, clause 7.2.2.4 and EN 1366-4:2021.

Build-up of the walls:

1. Lightweight partition walls ≥EI 30 (height = 3000 mm; width = 1200 mm; thickness = 75 mm)
   - Metal framework made of U- and C-shaped sections (Group A: width 50 mm)
   - A single layer of plasterboard (type F according to EN 520) with thickness: 12.5 mm on both sides
   - Insulation of rock wool (thickness: 50 mm, density: 35 kg/m³).
2. Lightweight partition walls ≥EI 90 (height = 3000 mm; width = 1200 mm; thickness = 100 mm)
   - Metal framework made of U- and C-shaped sections (Group A: width 50 mm)
   - Double layer of plasterboard (type F according to EN 520) with thickness: 12.5 mm on both sides
   - Insulation of rock wool (thickness: 50 mm, density: 90 kg/m³).

Thickness of the wall (mm)	Orientation of the joint	Symmetrical / Asymmetrical	Composition of the joint seal	Classification
75	Vertical	symmetrical	Both the exposed and the unexposed (*) sides are completely (12,5 mm) filled with Firecryl FR.	EI60 – V – X – F – W0 to W20
75	horizontal	symmetrical	Both the exposed and the unexposed (*) sides are completely (12,5 mm) filled with Firecryl FR.	EI60 – T – X – F – W0 to W20
100	Vertical	symmetrical	Both the exposed and the unexposed (*) sides are completely (25 mm) filled with Firecryl FR.	EI120 – V – X – F – W0 to W20
100	horizontal	symmetrical	Both the exposed and the unexposed (*) sides are completely (25 mm) filled with Firecryl FR.	EI120 – T – X – F – W0 to W20
(*) The unexposed side is the side that is on the opposite side of the fire.				

3. Linear joints in concrete floor constructions

3.1 Firecryl FR with Soudafoam FR HY as specified in Annex II as backfilling material

Thickness of the floor (mm)	Density (kg/m³)	Orientation of the joint	Symmetrical / Asymmetrical	Composition of the joint seal	Classification
150	550	Horizontal	Asymmetrical	The exposed side is filled throughout a depth of 20 mm with Firecryl FR and the unexposed (*) side is further filled with Soudafoam FR HY up to the sealant	EI120 – H – X – F – W0 to W30
150	550	Horizontal	Asymmetrical	The unexposed (*) side is filled throughout a depth of 20 mm with Firecryl FR and the exposed side is further filled with Soudafoam FR HY up to the sealant	EI120 – H – X – F – W0 to W30
150	550	Horizontal	Symmetrical	The exposed and unexposed (*) side is filled throughout a depth of 3 mm with Firecryl FR the empty space in between is filled up with Soudafoam FR HY (144 mm)	EI60 – H – X – F – W0 to W30
(*) The unexposed side is the side that is on the opposite side of the fire.					

3.2 Firecryl FR with a PE-backer / PU-backer rod as specified in Annex II as backfilling material

Thickness of the floor (mm)	Density of the floor (kg/m³)	Orientation of the joint	Symmetrical / Asymmetrical	Composition of the joint seal	Classification
150	600	Horizontal	Asymmetrical	The unexposed (*) side is filled throughout a depth of 20 mm and is further provided with a compressed PU backer rod	EI120 – H – X – F W0 to W20
(*) The unexposed side is the side that is on the opposite side of the fire.					

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 on the basis of the technical work carried out by the Assessment Operator, BCCA.

On behalf of UBAtc asbl,

Eric Winnepenninckx
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Benny De Blaere
Director

On behalf of the Assessment Operator, BCCA, responsible for the technical content of the ETA,

Olivier Delbrouck,
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The most recent version of this European Technical Assessment may be consulted on the UBAtc website (www.ubatc.be).