

European Technical Approval**ETA 13/0335**

Trade Name	Firecryl FR
Holder of the approval	SOULDAL NV Everdongenlaan 18 - 20 B-2300 TURNHOUT
Website	www.soudal.com
Generic type and use of construction product	Fire stopping sealant for fire stopping of linear joint and gap seals
Validity from:	2013-06-27
to	2018-06-26
Manufacturing plant:	SOULDAL NV Everdongenlaan 18 - 20 B-2300 TURNHOUT
This European Technical Approval contains:	11 pages including 3 annexes which form an integral part of the document



European Organisation for Technical Approvals
Organisation Européenne pour l'Agrément Technique
Europäische Organisation für Technische Zulassungen

I. LEGAL BASES AND GENERAL CONDITIONS

1. This European Technical Approval is issued by UBAtc in accordance with:
 - Council Directive 89/106/EEC of 21 December 1988 on the approximation of laws, regulations and administrative provisions of Member States relating to construction products¹, modified by Council Directive 93/68/EEC² and Regulation (EC) N° 1882/2003 of the European Parliament and of the Council³,
 - Belgian law of 25 March 1996 concerning the adaptation of legislative and administrative provisions of Member States to the Construction Products Directive (89/106/EEC) for construction products⁴ and Belgian Royal Decree of 18 August 1998 concerning construction products⁵
 - Common Procedural Rules for Requesting, Preparing and the Granting of European Technical Approvals set out in the Annex to Commission Decision 94/23/EC⁶
 - ETAG 026 - Guideline for European Technical Approval for Fire Stopping and Fire Sealing Products, Part 1 - General and Part 3 - Linear joint and gap seals.
2. The UBAtc is authorized to check whether the provisions of this European Technical Approval are met. Checking may take place in the manufacturing plant(s). Nevertheless, the responsibility for the conformity of the products to the European Technical Approval and for their fitness for the intended use remains with the holder of the European Technical Approval.
3. This European Technical Approval is not to be transferred to manufacturers or agents of manufacturers other than those indicated on page 1, or manufacturing plants other than those laid down in the context of this European Technical Approval.
4. This European Technical Approval may be withdrawn by UBAtc, in particular pursuant to information by the Commission according to Article 5(1) of Council Directive 89/106/EEC.
5. Reproduction of this European Technical Approval 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 Approval.
6. Subject to the application introduced, this European Technical Approval is issued by the approval body in its official languages. These versions correspond fully to the version circulated in EOTA. Translations into other languages have to be designated as such.
7. The ETA holder confirms to guarantee that the product(-s) to which this approval 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 approval is issued under the condition that the aforementioned guarantee by the ETA holder is continuously observed.

¹ Official Journal of the European Communities N° L 40, 11.2.1989, p. 12

² Official Journal of the European Communities N° L 220, 30.8.1993, p. 1

³ Official Journal of the European Union N° L 284, 31.10.2003, p. 1

⁴ Belgian Law Gazette, 21.05.1996

⁵ Belgian Law Gazette, 11.09.1998

⁶ Official Journal of the European Communities N° L 17, 20.1.1994, p. 34

II. SPECIFIC CONDITIONS OF THE EUROPEAN TECHNICAL APPROVAL

1 Definition of product and intended use

1.1 Definition of the construction product

1.1.1 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.

1.2 Intended use and use category

1.2.1 Intended use

Firecryl FR is intended as a fire stopping sealant for non-movement joints and seals in rigid walls and 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 must have a minimum thickness of 100 mm and comprise concrete or masonry with a minimum density of 550 kg/m³.
- Rigid floors: the floor must have a minimum thickness of 150 mm and comprise concrete with a minimum density of 600 kg/m³.

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

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

1.2.2 Working life

The provisions made in this European technical approval are based on an assumed working life 10 years provided that the conditions laid down in sections 4.2, 5.1 and 5.2 for packaging, transport, storage, installation, use and repair are met. The indications given on the working life cannot be interpreted as a guarantee given by the manufacturer, 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.

1.2.3 Use category

The use category for Firecryl FR is Type Z_{2(1-5/+40)}, intended for use the following environmental conditions.

Table 1: intended use

Environmental conditions	ETAG 026-3 Type
Internal conditions with humidity classes other than Z ₁ , excluding temperatures below 0°C	Z ₂

2 Characteristics of product(s) and methods of verification

2.1 Safety in the case of fire

2.1.1 Reaction to fire

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

2.1.2 Resistance to fire

Firecryl FR has been tested in accordance with EN 1366-4:2006, installed in linear joint seals in rigid walls and floors. As backfilling material Soudafoam FR, a PU or PE backer rod has been used.

Based upon these test results and the field of direct application specified in EN 1366-4:2006, Firecryl FR has been classified in accordance with EN 13501-2:2007 (see annex III).

For details of suitable wall and floor constructions: see Annex III.

2.2 Hygiene, health and environment

2.2.1 Air permeability

No performance determined.

2.2.2 Water permeability

No performance determined.

2.2.3 Release of dangerous substances

Soudal NV has presented a Material Safety Data Sheet and a declaration that the product is in compliance with Regulation regarding the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

Soudal NV has declared that no toxic, carcinogenic, toxic for reproduction or mutagenic chemical substances of category 1 of 2 $\geq 0,1$ % w/w according to Regulation 1272/2008/EC (classification, labelling and packaging of substances and mixtures, including amendments) and listed in the "indicative list on dangerous substances" of the EC Expert Group on Dangerous Substances (EGDS) - taking into account the installation conditions of the construction product and the release scenarios resulting from there that would lead to classification T and sentences R45 and/or R46 and that all other dangerous substances have been considered for the classification of the product according to the Regulation 1272/2008/EC.

Note: In addition to the specific clauses relating to dangerous substances contained in this European Technical Approval, 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 Products Directive, these requirements need also to be complied with, when and where they apply.

2.3 Safety in use

2.3.1 Mechanical resistance and stability

The maximum joint width is smaller than 150 mm and impact tests are not required according to ETAG 026-3.

2.3.2 Resistance to impact/movement

Test not required as the maximum seal width is less than 150 mm.

2.3.3 Adhesion

The adhesion is specified through the classification in accordance with 2.6.2.2 of this ETA.

2.4 Protection against noise

2.4.1 Airborne sound insulation

No performance determined.

2.4.2 Impact sound insulation

No performance determined.

2.5 Energy economy and heat retention

2.5.1 Thermal properties

No performance determined.

2.5.2 Water vapour permeability

No performance determined.

2.6 General aspects relating to fitness for use

2.6.1 Durability

Firecyl FR has been tested in accordance with EOTA Technical Report TR 024 – Edition November 2006, table 4.1 for the use category $Z_{2(+5/+40)}$.

2.6.2 Serviceability :

2.6.2.1 Curing behaviour

- Curing rate: physical drying.
- Skin formation time: Approx. 20 min.
- Volume shrinkage: Approx. 15%

2.6.2.2 Movement capability

Classification according to EN ISO 11600: 12,5P.

3 Evaluation of conformity and CE marking

3.1 Attestation of conformity

The system of attestation of conformity, specified by the European Commission in decision is system 1, according to Council Directive 89/106/EEC Annex III.2(i), and provides for:

Certification of the conformity of the product by a notified certification body on the basis of:

- Tasks for the manufacturer:
 - Factory production control;
 - Further testing of samples taken at the factory by the manufacturer in accordance with a prescribed test plan;
- Tasks for the notified body:
 - Initial type-testing of the product;
 - Initial inspection of factory and of factory production control;
 - Continuous surveillance, assessment and approval of factory production control

3.2 Responsibilities

3.2.1 Tasks of the Manufacturer

3.2.1.1 Factory production control

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 insure that the product is in conformity with this European technical approval.

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

The factory production control shall be in accordance with the "Control Plan" of Firecyl FR relating to the European technical approval which is part of the technical documentation of this European technical approval. The "Control Plan" is laid down in the context of the factory production control system operated by the manufacturer and deposited at UBAtc.

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

3.2.1.2 Other tasks of manufacturer

Technical data sheet:

The manufacturer shall provide a technical data sheet and an installation instruction with the following minimum information:

- Field of application:

Building elements for which the linear joint and gap seal is suitable, type and properties of the building elements such as minimum thickness, density, and – in case of lightweight constructions – the construction requirements, limits in size, minimum thickness etc. of the linear joint seal.
- Construction of the linear joint seal including the backfilling material

Installation instructions:

- Steps to be followed
- Procedure in case of repair

The manufacturer shall, on the basis of a contract, involve a body (bodies) which is (are) approved for the tasks referred to in section 3.1 in the field of linear joint and gap seals in order to undertake the actions laid down in 3.2.2. For this purpose, the "Control Plan" referred to in section 3.2.1.1 and 3.2.2 shall be handed over by the manufacturer to the approved body or bodies involved.

The manufacturer shall make a declaration of conformity, stating that the construction product is in conformity with the provisions of the European technical approval.

3.2.2 Tasks of notified bodies

The notified body (bodies) shall perform the

- Initial type-testing of the product,
- Initial inspection of factory and of factory production control,
- Continuous surveillance, assessment and approval of factory production control in accordance with the provisions laid down in the "Control Plan" of Firecryl FR relating to the European technical approval.

The approved 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).

The approved certification body involved by the manufacturer shall issue an EC certificate of conformity of the product stating the conformity with the provisions of this European technical approval.


In cases where the provisions of the European technical approval and its "Control Plan" are no longer fulfilled the certification body shall withdraw the certificate of conformity and inform the UBAtc without delay.

3.3 CE marking

The CE marking shall be affixed to the packaging and/or the accompanying documents. The marking „CE" shall be followed by the identification number of the approved certification body and be accompanied by the following additional information:

- The name and address or identifying mark of the producer (legal entity responsible for the manufacturer)
- The last two digits of the year in which the CE marking was affixed
- The number of the EC certificate of conformity for the product
- The number of the European technical approval,
- The number of the guideline for European technical approval (ETAG N° 026 part 3)
- The use category $Z_{2(+5/+40)^{\circ}C}$
- The designation of the product (trade name)
- "see ETA 13/0335 for other relevant characteristics"

Example of CE marking and accompanying information for Firecryl FR:

 nnnn	"CE" Symbol Identification number of notified certification body
SOUDAL NV Everdongenlaan 18-20 B - 2300 Turnhout 13 nnnn-CPD-XXXX	Name and address of the ETA-holder and production plant Two last digits of year of affixing CE marking Number of the EC certificate of conformity
ETA 13/0335 ETAG N° 026 part 3 FIRECRYL FR Linear Joint and Gap Seal Use category $Z_{2(-5/+40)}$	ETA number ETAG number Designation of the product (trade name)
See ETA 13/0335 for other relevant characteristics	Use category Other relevant characteristics

4 Assumptions under which the fitness of the product(s) for the intended use was favourably assessed

4.1 Manufacturing

The European technical approval is issued for the product on the basis of agreed data/information, deposited with UBAtc, 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 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 or alterations to the ETA, shall be necessary.

4.2 Installation

Installation of the Firecryl FR shall be conducted as follows:

- The bonding surfaces need to be dry, clean and free of oil, grease and dust.
- 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.
- Insert backing material.
- Apply the sealant. The minimal thickness of the joint is 5 mm.
- Application temperature: between +5°C and + 30°C.
- Smooth the sealant surface before skin formation with a moist brush or spatula.

5 Indications to the manufacturer

5.1 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.

The following measures should be adopted with regard to handling and storage:

Handling

- Information for safe handling: no special precautions required;
- Information about protection against explosions and fires: No special precautions required.

Storage

- Recommended storage and transport temperature: 5 °C to 25 °C;
- Information about storage in one common storage facility: not required.
- Further information about storage conditions: none.

The date of use is printed on the cartridges and foil packs.

5.2 Use, maintenance, repair

Firecryl FR should be installed and used as described earlier in this document.

In the area covered by this ETA, the product does not need any maintenance in the working life indicated in the ETA if the installation instructions have been followed.

The assessment of the fitness for use is based on the assumption that damage, for example caused by accidental impact, is repaired. The relevant manufacturer instructions shall be followed.

Annex I Reference documents

References to standards mentioned in the ETA:

ETAG 026-1	Fire Stopping and Fire Sealing Products - Part 1- General
ETAG 026-3	Fire Stopping and Fire Sealing Products - Part 3 - Linear Joint and Gap Seal
EN 1026	Windows and doors – Air permeability – Test method
EN 1366-4	Fire resistance tests for service installations - Part 4: Linear joint seals
EN 13501-1	Fire classification of construction products and building elements – Part 1: Classification using test data from reaction to fire tests
EN 13501-2	Fire classification of construction products and building elements – Part 2: Classification using test data from fire resistance tests
EN ISO 140-3	Acoustics – Measurement of sound insulation in buildings and of building elements – Part 3: Laboratory measurements of airborne sound insulation of building elements
EN ISO 140-10	Acoustics – Measurements of sound insulation in buildings and of building elements – Part 10: Laboratory measurement of airborne sound insulation of small building elements
EN ISO 717-1	Acoustics – Rating of sound insulation of buildings and of building elements – Part 1: Airborne sound insulation
EN 15651-1:	Sealants for joints in building construction – Definitions, requirement and evaluation of conformity – Part 1: Sealants for facade
EN 15651-2:	Sealants for joints in building construction – Definitions, requirement and evaluation of conformity – Part 2: Sealants for glazing
EN ISO 11600	Building construction — Jointing products — Classification and requirements for sealants

Other reference documents:

EOTA TR 024	Characterisation, Aspects of Durability and Factory Production Control for Reactive Materials, Components and Products
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Annex II Description of the products

Soudafoam FR

Soudafoam FR is one-component self-expanding fire retardant polyurethane foam. The product is supplied in an aerosol can of 750 ml. This product is covered by ETA 13/0280.

PE-backer rod

Round profiles from closed-cell polyethylene used as a non adhesive backfilling to ensure the correct dimension of the joint. The PE-backer rod does not have a fire retardant function.

Diameter: 10 – 25 mm.

PU-backer rod

Round profiles from open cell polyurethane foam used as a non adhesive backfilling to ensure correct dimension of the joint. The PU-backer rod does not have a fire retardant function.

Diameter: 15 – 50 mm.

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

Linear joints in rigid walls made in concrete or brick

Firecryl FR with Soudafoam FR as specified in Annex II as backfilling material:

Thickness of the wall (mm)	Density of the wall (kg/m ³)	Orientation of the joint	Symmetrical / Asymmetrical	Composition of the joint seal	Classification	Fig.
115	600	Horizontal	Asymmetrical	The unexposed ¹ side is filled throughout a depth of 20 mm with Firecryl FR and is further filled with Soudafoam FR	EI 120 – T – X – F – W 00 to 20	1
115	600	Horizontal	Symmetrical	Both the exposed and the unexposed ¹ sides are filled with 3 mm Firecryl FR and is further filled with Soudafoam FR	EI 120 – T – X – F – W 00 to 50	2
115	600	Vertical	Asymmetrical	The unexposed ¹ side is filled throughout a depth of 25 mm with Firecryl FR and is further filled with Soudafoam FR	EI 120 – V – X – F – W 00 to 30	3
115	600	Vertical	Symmetrical	Both the exposed and the unexposed ¹ sides are filled with 3 mm Firecryl FR and is further filled with Soudafoam FR	EI 120 – V – X – F – W 00 to 40	4
115	600	Vertical	Symmetrical	Both the exposed and the unexposed ¹ sides are filled with 3 mm Firecryl FR and is further filled with Soudafoam FR	EI 60 – V – X – F – W 00 to 50	5
200	550	Vertical	Asymmetrical	The unexposed ¹ side is filled throughout a depth of 25 mm with Firecryl FR and is further filled with Soudafoam FR	EI 240 – V – X – W 00 to 25	6
200	550	Horizontal	Asymmetrical	The unexposed ¹ side is filled throughout a depth of 15 mm with Firecryl FR and is further filled with Soudafoam FR	EI 240 – V – X – W 00 to 15	7

¹ The unexposed side is the side that is on the opposite side of the fire

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/m ³)	Orientation of the joint	Symmetrical / Asymmetrical	Composition of the joint seal	Classification	Fig.
200	550	Vertical	Symmetrical	Both the exposed and the unexposed ¹ sides are filled with 20 mm Firecryl FR with a PU backer rod	EI 240 – V – X – W 00 to 20	8
100	550	Vertical	Symmetrical	Both the exposed and the unexposed ¹ sides are filled with 20 mm Firecryl FR with a PU backer rod	EI 180 – V – X – W 00 to 21 E240 – V – X – W 00 to 21	9
100	550	Vertical	Symmetrical	Both the exposed and the unexposed ¹ sides are filled with 10 mm Firecryl FR with a PU backer rod	EI 180 – V – X – W 00 to 11 E240 – V – X – W 00 to 11	10
115	600	Vertical	Asymmetrical	The unexposed ¹ side is filled throughout a depth of 20 mm and is further provided with a compressed PU backer rod	EI 60 – V – X – F – W 00 to 20 E 90 – V – X – F – W 00 to 20	11
200	550	Vertical	Asymmetrical	The unexposed ¹ side is filled throughout a depth of 15 mm and is further provided with a compressed PE backer rod.	EI 240 – V – X – W 00 to 15	12

¹ The unexposed side is the side that is on the opposite side of the fire

Linear joints in floor constructions made in concrete

Firecryl FR with Soudafoam FR as specified in Annex II as backfilling material:

Thickness of the floor (mm)	Density of the floor (kg/m ³)	Orientation of the joint	Symmetrical / Asymmetrical	Composition of the joint seal	Classification	Fig.
150	600	Horizontal	Symmetrical	Both the exposed and the unexposed ¹ sides are filled with 3 mm Firecryl FR and is further filled with Soudafoam FR	EI 120 – H – X – F W 00 to 50	13
150	600	Horizontal	Asymmetrical	The unexposed ¹ side is filled throughout a depth of 25 mm with Firecryl FR and is further filled with Soudafoam FR	EI 120 – H – X – F W 00 to 30	14

¹ The unexposed side is the side that is on the opposite side of the fire

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/m ³)	Orientation of the joint	Symmetrical / Asymmetrical	Composition of the joint seal	Classification	Fig.
150	600	Horizontal	Asymmetrical	The unexposed ¹ side is filled throughout a depth of 20 mm and is further provided with a compressed PU backer rod	EI 120 – H – X – F W 00 to 20	15

¹ The unexposed side is the side that is on the opposite side of the fire

Fig. 1

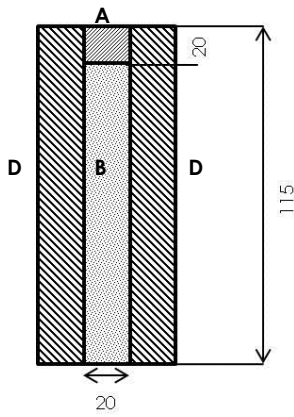


Fig. 2

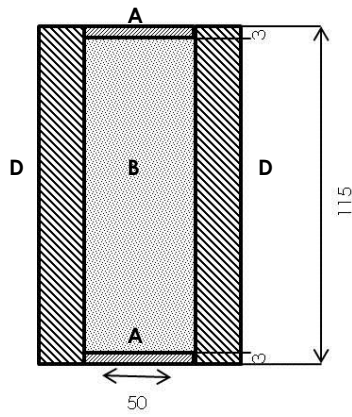


Fig. 3

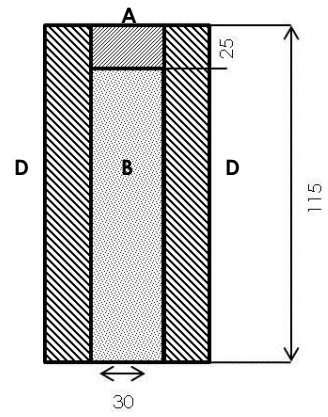


Fig. 4

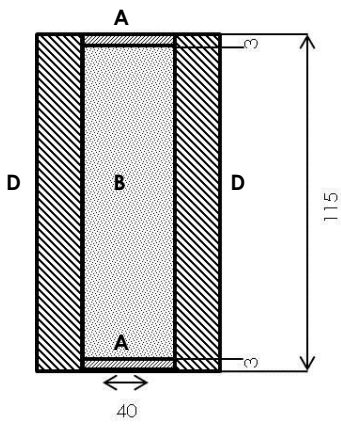


Fig. 5

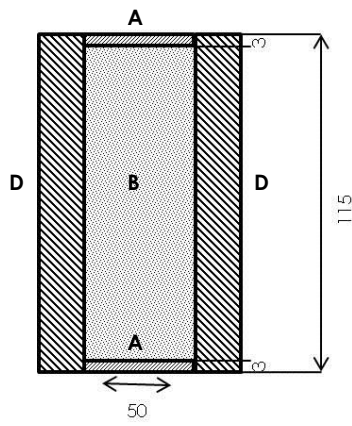


Fig. 6

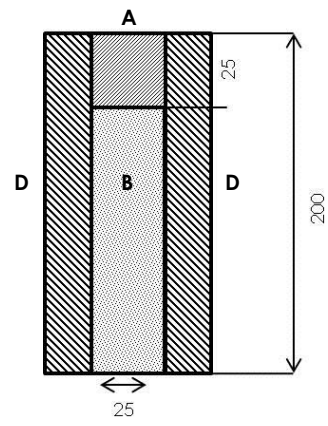


Fig. 7

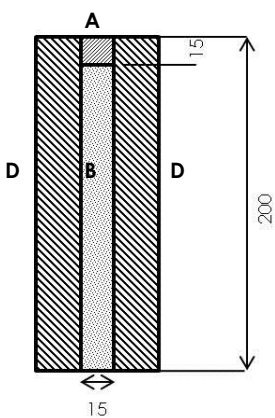


Fig. 8

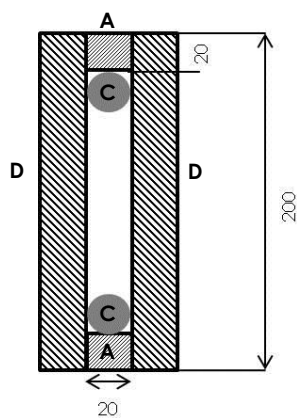
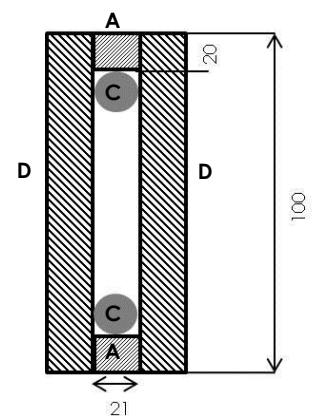


Fig. 9



A= Firecryl FR
 B = Soudafoam FR
 C= PU/PE Backer
 D=Cellular concrete wall

Fig. 10

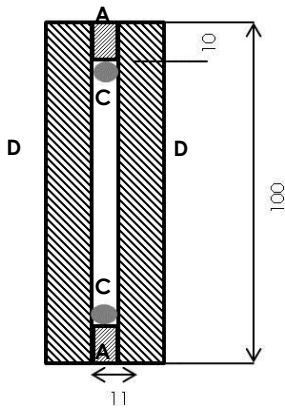


Fig. 11

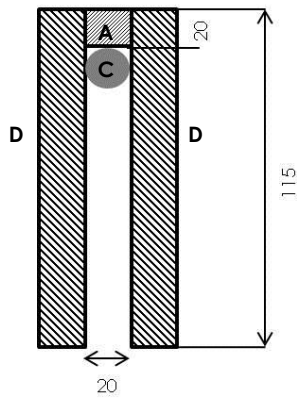


Fig. 12

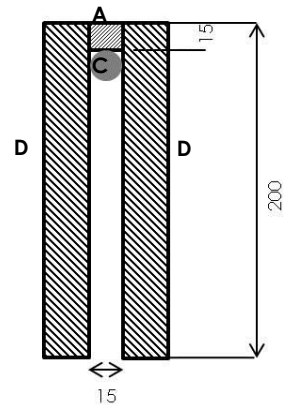


Fig. 13

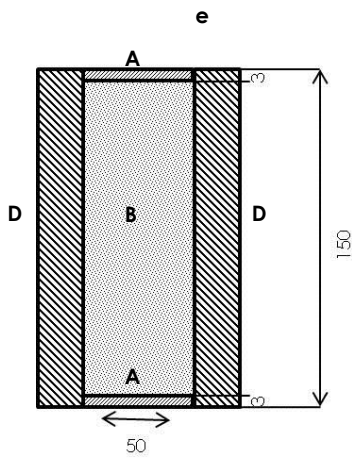


Fig. 14

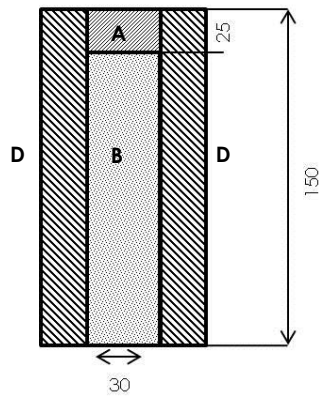
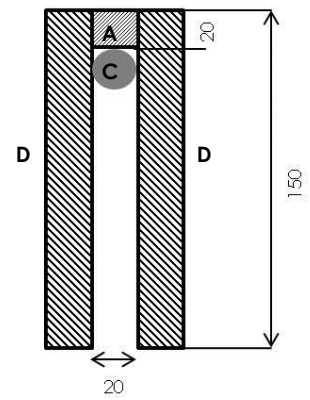


Fig. 15



A= Firecryl FR
 B = Soudafoam FR
 C= PU/PE Backer
 D=Cellular concrete wall