

European Technical Assessment

ETA 21/0721
Version 01
Date of issue: 2021-12-03



UBAtc Assessment Operator:
Belgian Construction Certification Association
Rue d'Arlon 53 - 1040 Brussels
www.bcca.be - info@bcca.be



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:

VERMICULUX® -T

Product family to which the construction product belongs:

35 - Fire Protective board

Manufacturer:

ETEX Building Performance nv
Bormstraat 24
B-2830 Tiselt (Belgium)

Manufacturing plant(s):

ETEX Building Performance production plant 01

Website:

www.promat-international.com

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

European Assessment Document (EAD) EAD 350142-00-1106 (September 2017)

This European Technical Assessment contains:

18 pages, including 2 annexes which form an integral part of the document.



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 350142-00-1106
- 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) 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.
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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 was first issued by UBAtc on 2021-12-03.

⁽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 General

VERMICULUX®-T is a new generation of matrix engineered mineral boards for Fire Protection and High Temperature Insulation. It is produced using a new and exclusive manufacturing process that allows production of monolithic homogenous Calcium Silicate boards with thickness up to 60 mm.

VERMICULUX®-T exhibits smooth surface finishes on the front and back sides. The front and back sides of the board are white-grey coloured. The board exhibits square edges on its longitudinal and transversal sides.

VERMICULUX®-T is manufactured at ETEX Building Performance production plant 01 (known at UBAtc).

1.2 Dimensions and density

Dimensions and density of the boards are given in Table 1.

Table 1 – Dimensions and density VERMICULUX®-T

Dimensions and density	Tolerances
Apparent density (kg/m ³) : 500	± 10%
Length x width (mm x mm): 2500 x 1200	-3 / +3 mm
Thickness (mm): 20 to 60	-0,4 / +0,4 mm

Other dimensions (length and width), inferior to the above values, and other thicknesses between the above minimum and maximum thickness, may be available on special request.

1.3 Ancillary products

Ancillary products referred to in this ETA, as a part of installation provisions or in the framework of determining performances (e.g. fire resistance test), are not covered by this ETA and may not be CE-marked on the basis of it.

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

2.1 Intended uses

This ETA covers fire protective VERMICULUX®-T intended for:

- Internal use (EAD 350142-00-1106, type Z₂);
- Internal use, in high humidity environments (EAD 350142-00-1106, type Z₁)
- Internal and semi-exposed use (EAD 350142-00-1106, type Y)

VERMICULUX®-T is intended to protect elements or to be used in assemblies as specified in Table 2.

Table 2 – Intended use

Protection of	EAD 350142-00-1106 reference
Horizontal membrane protection	Type 1
Vertical membrane protection	Type 2
Load-bearing concrete elements	Type 3
Load-bearing steel elements	Type 4
Load-bearing flat concrete profiled sheet composite elements	Type 5
Load-bearing concrete filled hollow steel columns	Type 6
Load-bearing timber elements	Type 7
Fire separating assemblies with no load-bearing requirements	Type 8
Technical services assemblies in buildings	Type 9
Uses not covered by types 1-9	Type 10

Table 2 shows the possible intended uses of the boards. Not all of these have been assessed in the framework of this ETA with regard to fire resistance performance. This ETA, Annex 2, shows a list of the uses for which fire resistance assessment was carried out. This ETA covers assemblies installed in accordance with the provisions given in this ETA, Annex 2.

With regard to fire resistance performance, the other intended uses may be supported by other means at national level (as specified in the note in this ETA, clause 3.2.2).

2.2 Working life/Durability

The provisions made in this European Technical Assessment are based on an assumed intended working life of at least 25 years, provided that the assembled product is subject to appropriate use and maintenance, in accordance with this ETA.

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.

2.3 Assumptions

2.3.1 Manufacturing directives

This European Technical Assessment is issued for VERMICULUX®-T 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 raw materials are mixed in water and combined in a slurry. The boards are shaped by a filter press process and stacked for curing. The board is autoclaved under saturated steam pressure and dried. Edges are trimmed and the reverse surface sanded to the desired thickness. Each board is marked in accordance with paragraph 6 of this ETA. VERMICULUX®-T boards are examined for visual defects and non-compliant boards are rejected.

2.3.2 Installation

2.3.2.1 Supporting structure

The distance between supports shall be in accordance with the information provided in the assemblies described in Annex 2 of this ETA.

2.3.2.2 Cutting and machining

The fire protective VERMICULUX®-T shall be cut and machined using conventional woodworking equipment. The use of saw blades with hardened teeth or with tungsten carbide tipped blades is recommended. When machining the fire protective board with power tools, dust extraction shall take place and inhalation of dust should be avoided.

A safety data sheet is available from the manufacturer upon request.

2.3.2.3 Joints

The realisation of joints in adjacent boards and the use and type of joint filler shall be in accordance with the assemblies described in Annex 2 of this ETA.

2.3.2.4 Mechanical fasteners

Fastening of VERMICULUX®-T boards onto the support structure shall be in accordance with the assembly information provided in Annex 2 of this ETA.

When applied in more than one layer, VERMICULUX®-T boards may be attached to each other by staples or equivalent fasteners (screws, nails) without an adverse effect on the mechanical properties of the assembled system.

2.3.2.5 Surface treatment

The VERMICULUX®-T board surface allows for most types of decoration. When applying a surface treatment, the absorption capacity and alkalinity of the boards have to be taken into account.

Assessment of the influence of surface treatment (such as plastering, paints, tiles, wallpaper), on the performance of the VERMICULUX®-T boards, has not been performed in the framework of this ETA.

2.3.2.6 Assembly

The VERMICULUX®-T board shall be applied as specified in the assemblies in this ETA, Annex 2.

2.4 Recommendations

2.4.1 Recommendations on packaging, transport and storage

The boards are delivered on pallets.

VERMICULUX®-T boards shall be horizontally stacked on a flat surface, in a dry and well-ventilated space.

The boards shall always be manipulated from the stack by 2 persons and then be transported vertically.

2.4.2 Recommendations on use, maintenance and repair

Future modifications to the building should not adversely affect the fire protective properties of the system in which VERMICULUX®-T boards are used. Care should be taken to prevent any reduction of fire performance as a result of increased applied load to protected elements of the works (e.g. beams, columns, ceilings, floors, or walls).

The assessment is based on the assumption that damage, for example caused by accidental impact, is repaired. It is further assumed that replacement of components during maintenance/repair will be undertaken using materials specified by the ETA.

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

3.1 Mechanical resistance and stability (BWR1)

This basic requirement for construction works is not relevant for VERMICULUX®-T boards according to EAD 350142-00-1106.

3.2 Safety in case of Fire (BWR2)

3.2.1 Reaction to fire

VERMICULUX®-T boards have a reaction to fire classification **A1** according to EN 13501-1.

3.2.2 Fire resistance

The fire resistance of assemblies incorporating VERMICULUX®-T boards have been assessed according to EN 13881-4 as presented in annex 2 of this ETA.

The tested assembly is a non-loadbearing partition wall assembly composed of 2 layers of 20 mm VERMICULUX®-T, fixed on one side of vertical CW 47/48/0.55 metal profiles fixed at 600 mm centre distances. The method for processing the results is the numerical regression assessment method as presented in annex 2 of the ETA.

NOTE: In accordance with EAD 350142-00-1106 (foreword), until 10 years after the initial issuing of this ETA, or until the withdrawal of relevant national test and classification standards, CE-marking will cover a limited number of assemblies subjected to fire resistance assessment. As time progresses, the performance declaration for fire resistance covered by CE-marking should gradually be enlarged by the ETA-holder and incorporated in this ETA by amendment or revision. In the meantime, and taking into account the transitional arrangements for test and classification standards and the corresponding national legislation (see EC Guidance paper J), the ETA-holder shall be permitted to maintain and be able to use - on a national basis - his portfolio of test data for this characteristic, based on relevant national standards, next to the performance declaration covered by the CE-marking based on this ETA.

3.3 Hygiene, Health and the environment (BWR3)

3.3.1 Air and/or water permeability

No performance assessed.

3.3.2 Release of dangerous substances

No performance assessed.

3.4 Safety in Use (BWR4)

3.4.1 Flexural strength

The VERMICULUX®-T boards have a longitudinal and transversal modulus of rupture (MOR) of $\geq 3,0$ MPa when tested in accordance with EN 12467.

The VERMICULUX®-T boards have sufficient strength to support their own mass. The VERMICULUX®-T boards are not intended to support additional loads.

3.4.2 Dimensional stability

The VERMICULUX®-T boards, tested in accordance with EN 318, are dimensionally stable.

3.5 Energy economy and heat retention (BWR6)

3.5.1 Thermal conductivity

No performance assessed.

3.5.2 Water vapour permeability

In accordance with EN ISO 12572, the VERMICULUX®-T boards have a water vapour permeability coefficient μ superior to 14 for 20 mm boards and superior to 9 for 60 mm board.

3.6 Aspects of durability, serviceability and identification

3.6.1 Durability and serviceability

3.6.1.1 Resistance to deterioration caused by warm water

When tested according to EAD 350142-00-1106, the VERMICULUX®-T boards are resistant to warm water exposure.

3.6.1.2 Resistance to soak/dry

When tested according to EAD 350142-00-1106, the VERMICULUX®-T boards are resistant to soak/dry exposure.

3.6.1.3 Resistance to freeze/thaw

When tested according to EAD 350142-00-1106, the VERMICULUX®-T boards are resistant to freeze/thaw exposure.

3.6.1.4 Resistance to heat/rain

This characteristic is not relevant for the intended uses Z₂ (internal use), Z₁ (internal use high humidity) and Y (semi exposed). No performance assessed.

3.6.1.5 Basic durability assessment

Product performances confirm a working life of minimum 25 years for the intended uses Z₂ (internal use), Z₁ (internal use high humidity) and Y (semi exposed) when no more than accidental wetting is expected.

3.6.2 Identification

3.6.2.1 Length, width (see Table 1)

The width of the VERMICULUX®-T boards is not greater than 1200 mm.

The length of the VERMICULUX®-T boards is not greater than 2500 mm.

3.6.2.2 Thickness (see Table 1)

The VERMICULUX®-T boards are available in thicknesses between 20 mm and 60 mm.

3.6.2.3 Dimensional tolerances

The tolerances of the VERMICULUX®-T boards on length, width and thickness are given in Table 1.

3.6.2.4 Apparent density

The apparent density of the VERMICULUX®-T boards is $500 \text{ kg/m}^3 \pm 10 \%$.

3.6.2.5 Perpendicular tensile strength

The average perpendicular tensile strength of VERMICULUX®-T boards, based on testing in accordance with EAD 350142-00-1106 and EN 319 is greater than 0,6 MPa for 20 mm boards and greater than 0,5 MPa for 60 mm boards.

This value is a guidance value, and does not reflect a statistical evaluation nor a minimum guaranteed value.

3.6.2.6 Parallel tensile strength

The average longitudinal parallel tensile strength of the VERMICULUX®-T boards, based on testing in accordance with EAD 350142-00-1106 and EN 789 is greater than 1,31 MPa for 20 mm boards and greater than 0,93 MPa for 60 mm boards.

The average transversal parallel tensile strength of the VERMICULUX®-T boards, based on testing in accordance with EAD 350142-00-1106 and EN 789 is greater than 1,19 MPa for the 20 mm boards and greater than 0,92 MPa for the 60 mm boards.

This value is a guidance value, and does not reflect a statistical evaluation nor a minimum guaranteed value.

3.6.2.7 Compressive strength

The average longitudinal compressive strength of the VERMICULUX®-T boards, based on testing in accordance with EAD 350142-00-1106 and EN 789 is greater than 5,4 MPa for 20 mm boards and greater than 4,7 MPa for 60 mm boards.

The transversal compressive strength of the VERMICULUX®-T boards, based on testing in accordance with EAD 350142-00-1106 and EN 789 is greater than 4,9 MPa for 20 mm boards and greater than 4,7 MPa for 60 mm boards.

This value is a guidance value, and does not reflect a statistical evaluation nor a minimum guaranteed value.

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 system of assessment and verification of constancy of performance, specified in the Decision of the Commission 1999/454/EC of 22/06/1999 ⁽³⁾, as amended, is specified in the following Table.

Table 3 – System of assessment and verification of constancy of performance applicable to VERMICULUX®-T

Product(s)	Intended use(s)	Level(s) or class(es)	Assessment and verification of constancy of performance system(s)*
Fire Protective Products	For fire compartmentation and/or fire protection or fire performance	Any	1

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

In addition, according to the decision 1999/454/EC of 22/06/1999 ⁽³⁾ of the European Commission, as amended, the systems of assessment and verification of constancy of performance specified in table 4 apply to fire protective products with regard to reaction to fire, as amended, and Commission Delegated Regulation (EU) 2016/364 ⁽⁴⁾.

Table 4 – Systems of assessment and verification of constancy of performance with respect to the reaction to fire

Product(s)	Intended use(s)	Level(s) or class(es)	Assessment and verification of constancy of performance system(s) ^(a)
Fire Protective Products	For uses subject to regulations on reaction to fire	(A1, A2, B, C)*	1
		(A1, A2, B, C)**, D, E, F	3
		(A1 to F)***, NPD****	4

^(a): Systems 1, 3 and 4 : See Regulation (EU) N° 305/2011, Annex V
 *: Products/materials for which a clearly identifiable stage in the production process results in an improvement of the reaction to fire classification (e.g. an addition of fire retardants or a limiting of organic material)
 **: Products/materials not covered by footnote (*)
 ***: Products/materials that do not require to be tested for reaction to fire (e.g. products/materials of class A1 according to Commission Decision 96/603/EC ⁽⁵⁾, as amended)
 ****: 'No Performance Declared' in accordance with Regulation (EU) N° 305/2011, Article 6(f)

⁽³⁾: OJEU L178/52 of 14/07/1999

⁽⁴⁾: OJEU L68/4 of 15/03/2016

⁽⁵⁾: OJEU L267 of 19/10/1996

5 Technical details necessary for the implementation of the AVCP system, as foreseen in EAD 350142-00-1106

5.1 Tasks for the ETA-holder

5.1.1 Factory production control (FPC)

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

The personnel involved in the production process shall be identified, sufficiently qualified and trained to operate and maintain the production equipment. Machinery equipment shall be regularly maintained and this shall be documented. All processes and procedures of production shall be recorded at regular intervals.

The ETA-holder shall maintain a traceable documentation of the production process from purchasing or delivery of raw or basic raw materials up to the storage and delivery of finished products.

The factory production control system for the product includes relevant design specifications, including adequate drawings and written instructions for:

- type and quality of all materials
- overall dimensions
- packaging and transport protection

The production control system shall specify how the control measures are carried out, and at which frequencies.

ETA-holders which have an FPC system that complies with EN ISO 9001 and that addresses the requirements of this ETA are recognised as satisfying the FPC requirements.

Products that do not comply with requirements as specified in the ETA shall be separated from the conforming products and marked as such. The ETA-holder shall register non-compliant production and action(-s) taken to prevent further non-conformities. External complaints shall also be documented, as well as actions taken.

When materials/products are delivered for incorporation into the production process, verification of conformity with specifications in the quality manual shall take place and be recorded.

If supplied materials/components are not manufactured and tested by the supplier in accordance with agreed methods, or where the ETA-holder purchases materials/components on the open market, then where appropriate, they shall be subject to suitable documented checks/tests by the ETA-holder before acceptance.

The characteristics of incoming material and components, for which the supplier demonstrates documented compliance with a product specification, for an intended use that is appropriate for its use as a raw material or component of the product, shall be considered satisfactory and need, except in justified doubt, no further checking, unless the control plan specifies differently.

⁽⁶⁾: A week represents 5 production days.

⁽⁷⁾: Production shall be subjected to a small oven test (test performed on one thickness).

5.1.2 Testing of samples taken at the factory

5.1.2.1 General

At least the following minimum information shall be recorded:

- date and time of manufacture
- type of product produced (boards)
- material specification (dimensions and thickness)
- all results of the verifications performed within the agreed upon control plan

5.1.2.2 Maintenance, checking and calibration of equipment

All testing equipment shall be maintained, calibrated and/or checked against equipment or test specimens traceable to relevant international or nationally recognised reference test specimens (standards). In case no such reference test specimens exist, the basis used for internal checks and calibration shall be documented.

The ETA-holder shall ensure that handling, preservation and storage of test equipment is such that the performances are maintained.

When production is intermittent, the ETA-holder shall ensure that any test equipment which may be affected by the interruption is suitably checked and/or calibrated before use. The calibration of all test equipment shall be repeated if any repair or failure occurs which could upset the calibration of the test equipment.

5.1.2.3 Testing as part of Factory Production Control

Table 5 specifies minimum requirements for testing as part of FPC.

If constituent materials or components are supplied by other manufacturers to the ETA-holder, the supplier shall perform FPC on those constituent materials or components. If that is the case, those suppliers should submit the relevant records to the ETA-holder.

Table 5 – FPC test plan for VERMICULUX®-T

Property	Minimum frequency
Determination of organic content (reaction to fire)	1 per week ⁽⁶⁾
Determination of dimensional stability at high temperatures (fire resistance)	1 per week
Indirect test method (small oven test) ⁽⁷⁾	1 per year
Dimensional stability	1 per year
Identification	
length, width	1 per day ⁽⁸⁾ , per dimension
Thickness	1 per day, per thickness
apparent density	1 sample per 250 boards
Flexural strength	1 sample per 250 boards

⁽⁸⁾: A day represents a 24 h time period in which production is considered to be as usual for the production facility concerned.

5.2 Initial Type Testing

The assessment tests will have been conducted by the UBAtc or under its responsibility (which may include a proportion conducted by an independent laboratory or by the ETA-applicant, witnessed by the UBAtc). The UBAtc will have assessed the results of these tests in accordance with chapter 3 of this ETA, as part of the ETA issuing procedure.

6 Other marking and/or information

Each board shall at least be marked with product name and a traceability code. Each package is marked with the product name, traceability code, thickness of the boards, and dimensions of the boards.

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 Operator, BCCA.

On behalf of UBAtc asbl,

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



Eric Winnepenninckx
secretary general



Benny De Blaere,
director



Olivier Delbrouck,
director general

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

Annexes

Annex I: References

Reference number EAD 350142-00-1106

Document title *Fire protective products - Fire protective board, slab and mat products and kits.*

Reference number EN 13501-1:2007+A1:2009

Document title Fire classification of construction products and building elements - Part 1: Classification using test data from reaction to fire tests

Reference number EN 13501-2:2016

Document title Fire classification of construction products and building elements - Part 2: Classification using data from fire resistance tests, excluding ventilation services

Reference number EN 12467:2012

Document title Fibre-cement flat sheets - Product specification and test methods

Reference number EN 318:2002

Document title Wood based panels - Determination of dimensional changes associated with changes in relative humidity

Reference number EN 319:1993

Document title Particleboards and fibreboards - Determination of tensile strength perpendicular to the plane of the board

Reference number EN 789:2004

Document title Timber structures - Test methods - Determination of mechanical properties of wood based panels

Reference number EN ISO 9001:2008/AC:2009

Document title Quality management systems - Requirements

NOTE: The editions of reference documents given above are those which have been adopted by the UBAtc for its specific use when establishing this ETA. When new editions become available, these supersede the editions mentioned only when confirmed by the UBAtc.

Annex II : Fire resistance performances and assembly methods for uses of boards covered by this ETA

A 2.1 Overview of fire resistance performances for VERMICULUX®-T assemblies

Table A2.1					
Assemblies assessed within the framework of this ETA	Classification according to EN 13501-2	Test Standard	Intended use category according to EAD 350142-00-1106	Installation details	Date of addition to this ETA
Non-loadbearing shaft wall with double layer cladding of VERMICULUX®-T, 20 mm thick	E 120 EI 45 EW 120	EN 1364-1	Type 8	Annex 2.2	2021-12-03

Annex 2.2: Specification of a non-loadbearing shaft wall with single layer cladding (intended use type 8) by a 2 x 20 mm protection of VERMICULUX®-T boards

A2.2.1 Date of addition to this ETA

This annex was added to ETA 21/0721 on 2021-12-03. This assembly was not covered by this ETA prior to the addition of this annex.

A2.2.2 Classification

The assembly described in this annex has been tested to EN 1364-1 and classified **E 120, EI 45 and EW 120** in accordance with EN 13501-2.

A2.2.3 Fire protection system

The fire protection system is presented in the following clauses. The installation provisions given in paragraph 2.3.2 of this ETA shall be taken into account.

A2.2.4 Supporting structure

The non-loadbearing shaft wall which is composed of a single layer cladding of VERMICULUX®-T, 2 x 20 mm thick, applied on one side of a metal framework is defined as a non-loadbearing wall with fire separation function. The overall dimension of the tested shaft wall (height x width x thickness) are 3020 x 3040 x 40 mm with vertical and horizontal joints. The maximum dimensions of the boards (height x width x thickness) are 2500 x 1200 mm.

The VERMICULUX®-T board are fixed to vertical profiles in two layers (2 x 20 mm) with dry wall screws 3,9 x 35 mm in the first layer and with dry wall screws 3,9 x 55 mm in the second layer - both layers each 205 mm to CW profiles 47/48,5/0,55 and UW profiles 50/36/0,55 in maximum spacing of 600 mm.

These profiles are fixed to a reinforced concrete lintel with turbo-screws 7,5 x 68 mm at the top of the wall in spacing of 500 mm and to aerated concrete blocks Ytong (thickness 250 mm, density 500 kg/m³) with screws 6 x 80 mm on the two sides of the perimeter in spacing of 500 mm.

All joints between boards are without jointing tape or any filler.

Details on the wall constructions can be found in the figures in clause A2.2.7

A2.2.5 Details

All mounting and fixing details shall be executed according to the drawings presented in the figures in paragraph A2.2.7.

A2.2.6 Field of application

The classification is valid for the following end use applications:

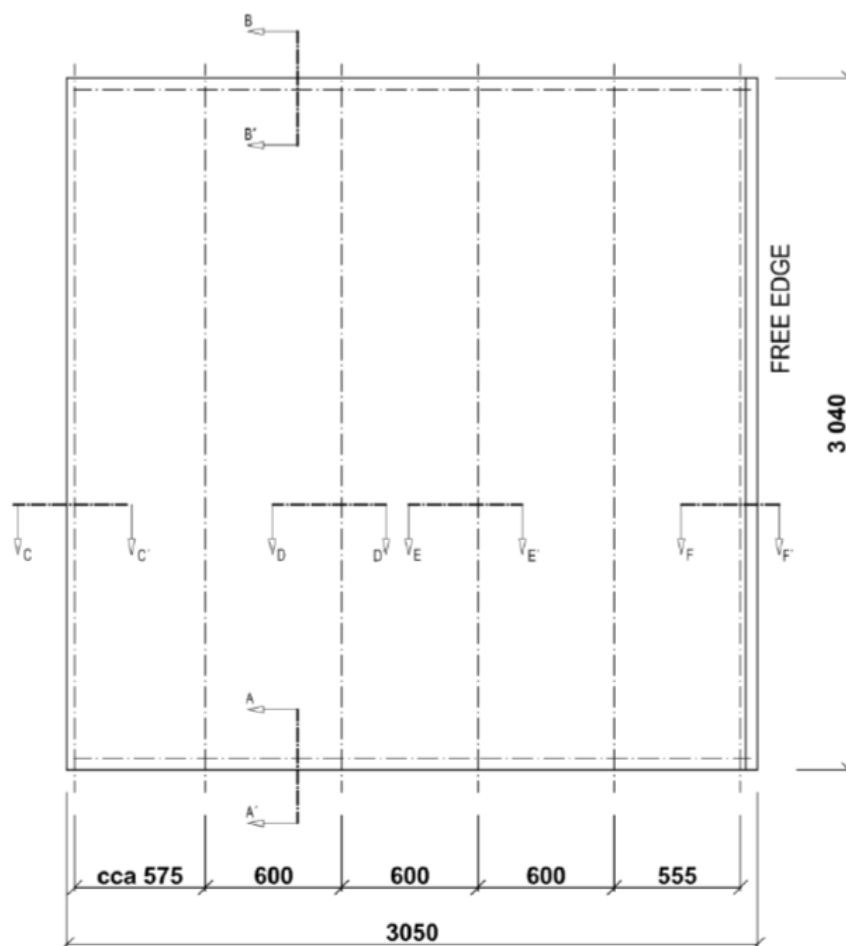
- Decrease in height of the wall
- Increase in the thickness of the wall
- Increase of the thickness of component materials
- Decrease of the length and width of the VERMICULUX®-T boards, but not of their thickness. The maximal dimensions of the boards are 2500 mm x 1200 mm
- Decrease the stud spacing
- Decrease in distance of fixing centres
- Increase of number of horizontal joints, of the type tested.
- Increase of number of vertical joints, of the type tested.
- The width of an identical construction may be increased
- Increase in height of the wall by 1,0 m, if the expansion allowances are increased pro-rata
- In case of EW-classification, an increase in width and height of an identical construction is only allowed when the average unexposed surface temperature of any discrete area of the test specimen remains below 300 °C or the measured radiation remains below 6 kW.m²
- The classification is applicable to high density rigid supporting constructions with at least the same fire resistance as the test specimen.

A2.2.7 Drawings

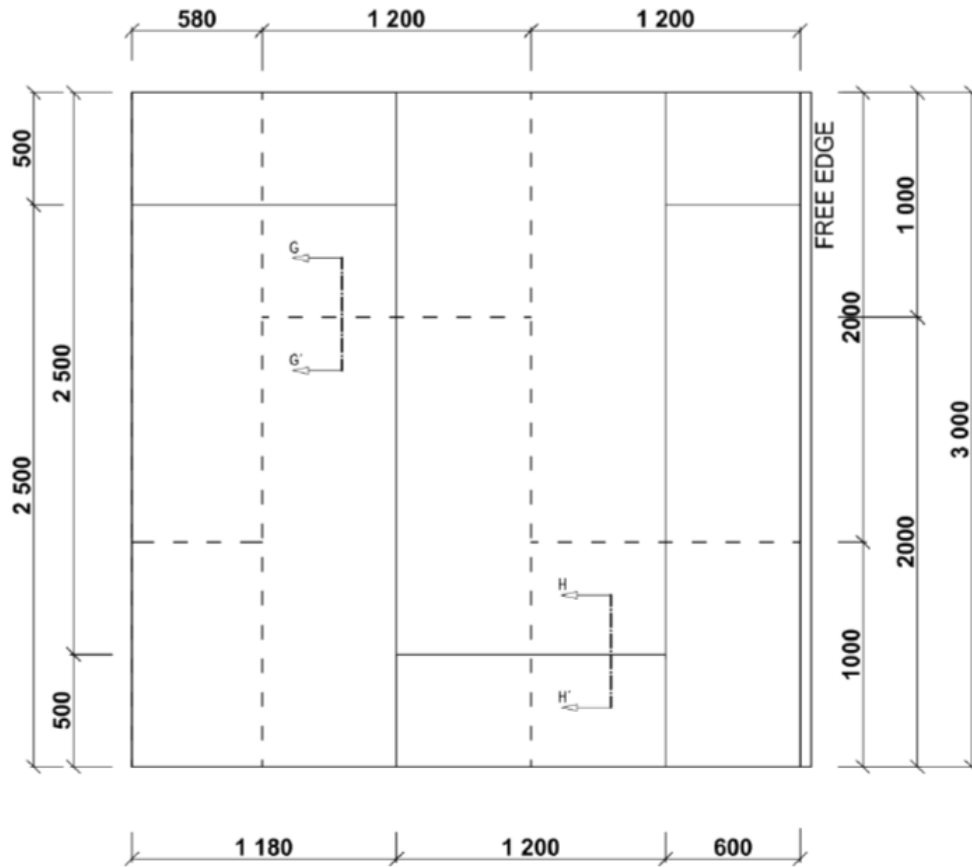
LEGEND

- 1 - Board VERMICULUX-T, th. 20 mm (format 1200 x 2500 mm)
- 2 - Profile CW 47/48,5/0,55 (EN 14195)
- 3 - Profile UW 50/36/0,55 (EN 14195)
- 4 - Screw 6 x 80 mm in case of aerated concrete or turbo-screw 7,5 x 68 mm in case of reinforced concrete lintel; spaced 500 mm
- 5 - Screw 3,9 x 35, spaced 250 mm
- 6 - Screw 3,9 x 55, spaced 250 mm
- 7 - Mineral wool - sealing
- 8 - Joint of the boards (without jointing tape and filler)
- 9 - Free edge

Legend

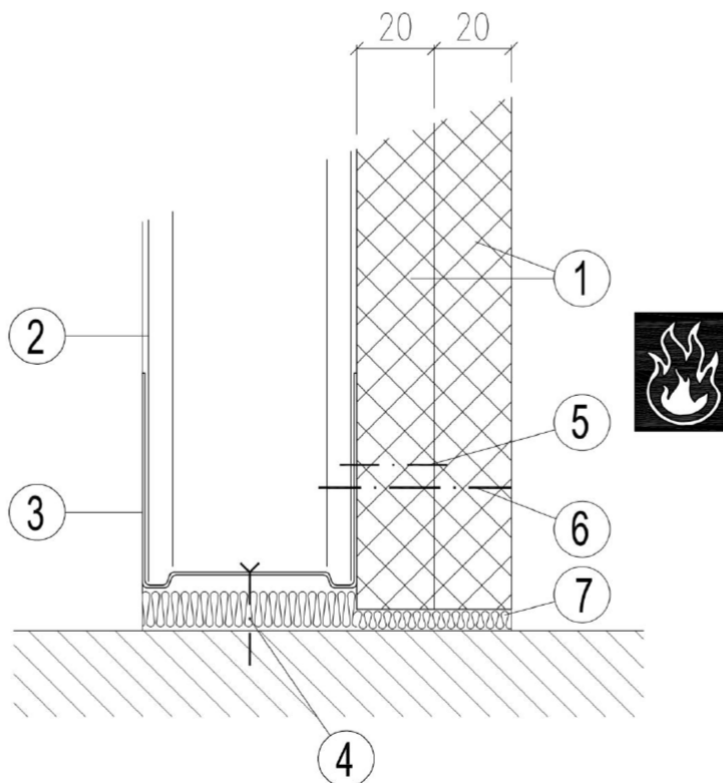


View from the unexposed side - profiles position

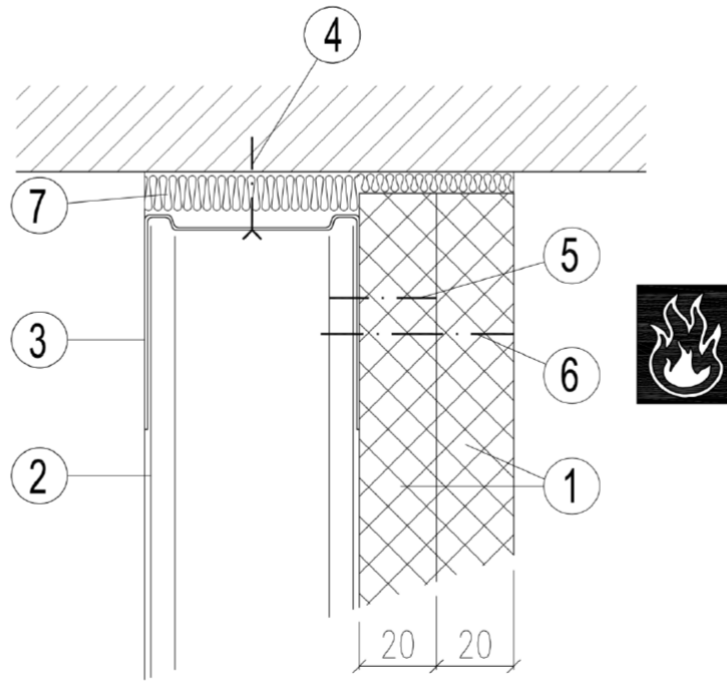


————— UNEXPOSED SIDE
 - - - - - EXPOSED SIDE

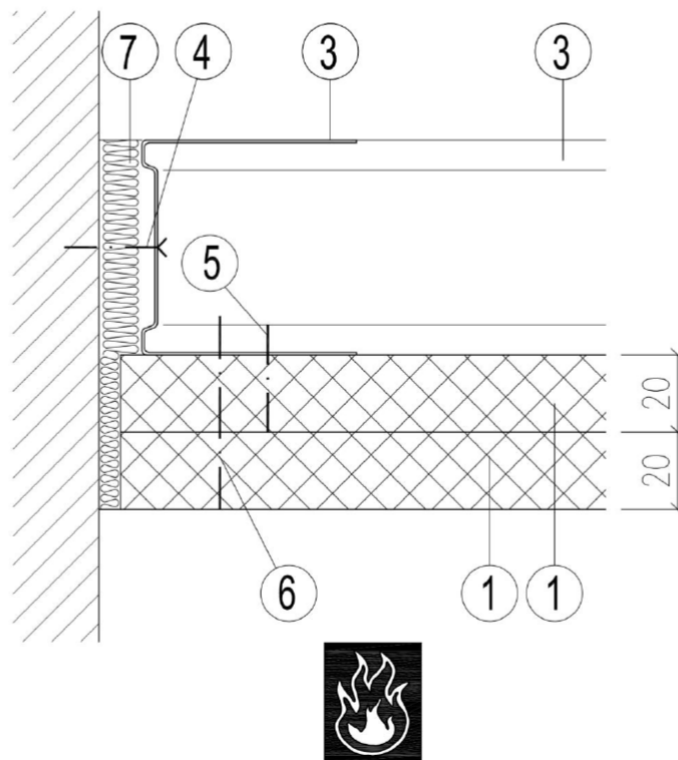
View from the unexposed side - boards position



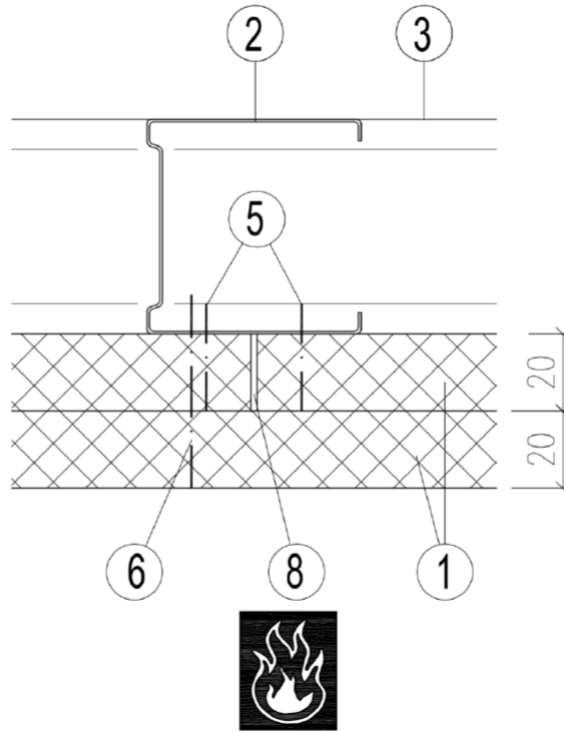
Cross section A-A' - Connection to the bottom



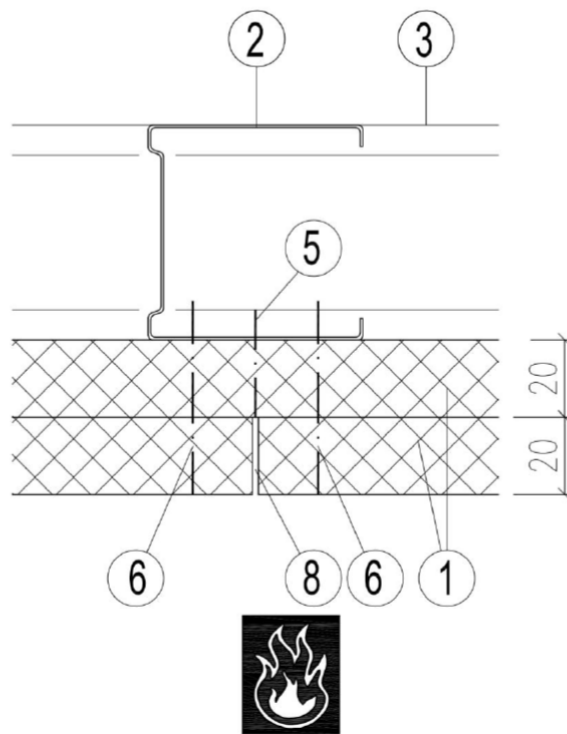
Cross section B-B' - Connection to the top



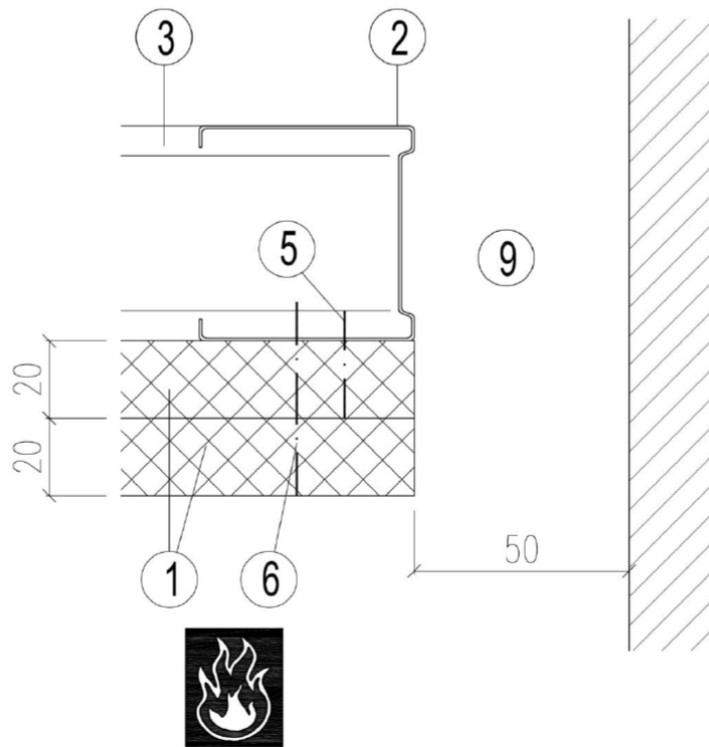
Cross section C-C' - Connection to the wall



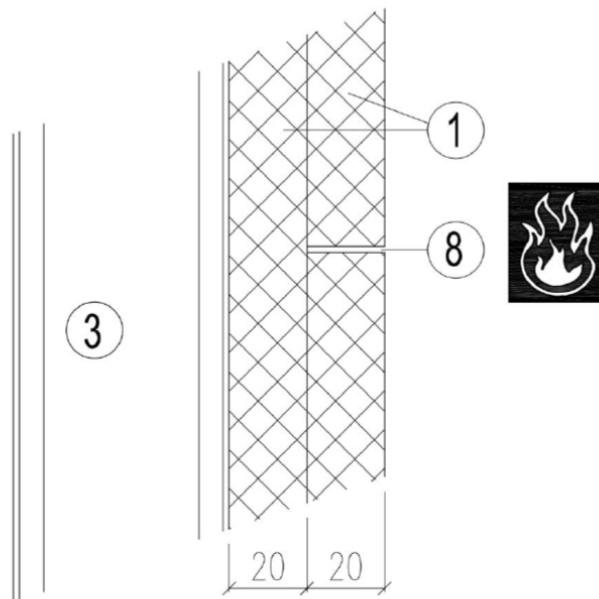
Cross section D-D' - Board connection to the CW profile



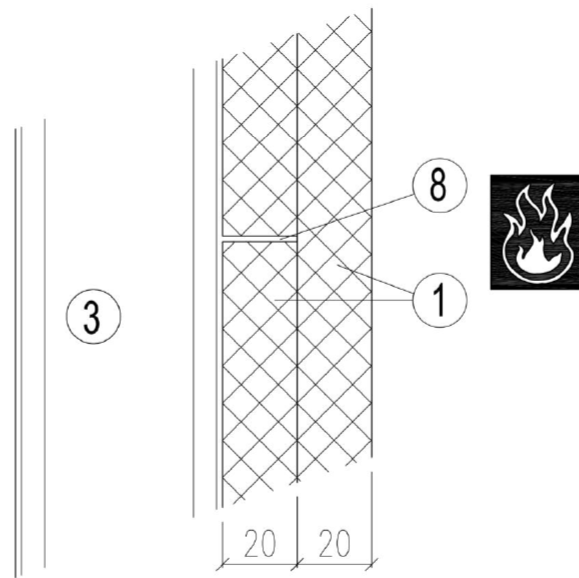
Cross section E-E' - Board connection to the CW profile



Cross section F-F' - Unanchored edge



Cross section G-G' - Horizontal joint of the boards



Cross section H-H' - Horizontal joint of the boards