EUROPEAN TECHNICAL ASSESSMENT

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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:	Modelpan®
Product family to which the construction product belongs:	35 - Fire Protective board
Manufacturer:	AK ALEV MANYEZİT LEVHA ÜRETİM SAN.VE TİC. A.Ş. Kücükbakkalkoy Mah. Vedat Gunyol Cad.Demir Sok. No1/A K:1 34758 ATASEHIR / Istanbul (Turkey)
Manufacturing plant(s):	AK ALEV production plant 01
Website:	www.modelpan.com.tr
.trThis European Technical Assessment is issued in accordance with Regulation (EU) No 305/2011, on the basis of:	Guideline for European technical approval (ETAG), used as European Assessment Document (EAD): 018-4
This European Technical Assessment contains:	16 pages, including 2 annexes which form an integral part of the document.

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) :
- Guideline for European technical approval (ETAG), used as European Assessment Document (EAD): ETAG 018-4

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.

11 All rights of exploitation in any form and by any means of this European Technical Assessment is 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 This European Technical Assessment was first issued by UBAtc on: 25/04/2016.

[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

Modelpan® is a fire protective glass fibre reinforced board, composed of magnesium based cement with mineral fillers. The board is off-white in colour and has a smooth, upper surface on one face and a sanded texture on the reverse face.

The Fire Protective Boards are manufactured AK ALEV production plant 01, Alpu Ilçesi Bozan Beldesi, Eskisehir, Turkey.

1.2 Dimensions and density

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

Table 1: Dimensions and density Modelpan®		
Density (dry 105°C): 990 kg/m³ ± 10%		
Density (23°C, 50%RH): 1100 kg/m³ ± 10%		
Thickness (mm)	**Length x width (mm)**	**Tolerances on length width (mm)**
10 ± 5% 12 ± 5%	2400 x 1200 2600 x 1200 2800 x 1200 3000 x 1200	± 5 ± 3.6

On special request other length and width dimensions, smaller than 3000 x 1200 mm may be made available; respecting the tolerances as specified in Table 1.

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), 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 boards intended for internal and external semi exposed use (ETAG 018-4 types Z_2 and Y).

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

Table 2 : Intended use	
Protection of	**ETAG 018-1 reference**
Horizontal membrane protection incl. suspended ceilings acc. to EN 13964	Type 1
Vertical membrane protection	Type 2
Load-bearing timber elements	Type 7
Fire separating assemblies with no load-bearing requirements	Type 8

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. 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 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 paragraph 2.2.1.2 of this ETA).

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

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

2.2.1 Manufacturing directives

The European technical assessment is issued for the product on the basis of agreed data/information, deposited with the approved body, 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 approved body before the changes are introduced. The approved body 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.

The raw materials are mixed in water and combined in a slurry. The boards are shaped on a moving belt, cut and stacked for curing. The boards are cured under a shelter and later dried in normal conditions. Edges are trimmed and the reverse surface sanded to the desired thickness. Each board is marked in accordance with paragraph 6.2 of this ETA. Boards are examined for visual defects and non-compliant boards are rejected.

2.2.2 Installation

2.2.2.1 General

- **Supporting structure**

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

- **Cutting and machining**

The Modelpan® boards can be broken into pieces along pre-scored grooves, cur and shortened with a handsaw, electric jigsaw or circular saw. The latter saw should operate at a low speed

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

- **Joints**

There are two different methods that may be used :
– Butted joints, using Modelpan® glue + finisher
– mm open joint filled with Modelpan® filler + finisher
Joints in adjacent boards, where possible, shall be staggered over a minimum distance of 200 mm.

- **Mechanical fasteners**

Fastening of the fire protective boards onto the support structure shall be in accordance with the assembly information provided in annex 2.

The Modelpan® panels are attached to the metal supporting structure using self-tapping; countersunk corrosion resistant screws or to a wooden supporting structure using Drywall screws or by stapling.

- **Assembly**

The boards shall be applied as specified in the assemblies in annex 2.

2.3 Recommendations

2.3.1 Recommendations on packaging, transport and storage

During transport and storage, the boards shall be stacked on a flat underground and protected against rain. Storage shall take place on pallets, in a sheltered and well-ventilated space.

2.3.2 Recommendations on use, maintenance and repair

Future modifications to the building should not adversely affect the fire protective properties of the system in which the 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 of the fitness for use is based on the assumption that damaged boards, for example due to accidental impact, are replaced. 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 Modelpan® boards according to ETAG 018.

3.2 Safety in case of fire (BWR2)

3.2.1 Reaction to fire

The Modelpan® boards have a reaction to fire classification **A1** according to EN 13501-1:2007+A1:2009.

3.2.2 Resistance to fire

Assemblies incorporating Modelpan® boards have a resistance to fire classified according to EN 13501-2 as presented in Annex 2.

The tested assembly, a non-loadbearing partition wall, has fire resistance classifications **EI 60**, **EW60**, **E60** according to EN 13501-2:2007+A1:2009.

NOTE: *In accordance with ETAG 018-4 (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

In accordance with EN 12467, the Modelpan® boards are impermeable to water.

3.3.2 Release of dangerous substances

3.3.2.1 General

The Modelpan® boards comply with all relevant European and national provisions applicable for the uses for which it is brought to the market.

In addition to this ETA clause relating to dangerous substances, 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 EU Construction Products Directive, these requirements need also to be complied with, when and where they apply.

3.3.2.2 Release of formaldehyde

The Modelpan® boards have no formaldehyde containing components.

3.4 Safety in use (BWR4)

3.4.1 Mechanical resistance and Stability

3.4.1.1 Dimensional stability

The dimensional stability on width and length, and on thickness of the Modelpan® boards tested in accordance with EN 318 is given in the table below.

Relative change in length or width		
Range	**10 mm**	**12 mm**
65% to 30%	-1,0 mm/m	-1,7 mm/m
65% to 85%	0,4 mm/m	0,6 mm/m
Relative change in thickness		
Range	**10 mm**	**12 mm**
65% to 30%	-0,3%	0,2%
65% to 85%	-0,1%	-0,6%

3.4.1.2 Pull-through resistance of mechanical fasteners

The Modelpan® boards have a minimum pull through resistance of 390 N when LAFARGE Ladura 35 mm screws are used and 280 N when staples 1.25 mm x 10 mm x 40 mm are used.

3.4.1.3 Shear load resistance of mechanical fastening systems

The Modelpan® boards have a minimum shear load resistance of 880 N when LAFARGE Ladura 35 mm screws are used and 600 N when staples 1.25 mm x 10 mm x 40 mm are used.

3.4.2 Resistance to impact/movement

3.4.2.1 Resistance to functional failure from soft body impact load – 50 kg bag

Modelpan® boards with a thickness of 10 mm were tested. The tested wall meets the requirements of EOTA TR001:2003

3.4.2.2 Resistance to functional failure from hard body impact load – 0,5 kg steel ball

Modelpan® boards with a thickness of 10 mm were tested. The tested wall meets the requirements of EOTA TR001:2003

3.4.2.3 Resistance to functional failure from eccentric vertical load

Modelpan® boards with a thickness of 10 mm were tested. The tested wall meets the requirements of EOTA TR001:2003.

3.5 Protection against noise (BWR5)

3.5.1 Airborne sound insulation

The measured airborne sound insulation is expressed as a single number rating, Rw, in accordance with: EN ISO 717-1.

- 10 mm board : Rw(C;Clr) = 30(-1;-2)dB
- 12 mm board : Rw(C;Clr) = 33(-2;-3)dB

3.5.2 Sound absorption

No performance determined

3.5.3 Impact sound insulation

No performance determined

3.6 Energy and heat retention (BWR6)

3.6.1 Thermal insulation

According to EN ISO 10456 the thermal resistance of the Modelpan® boards is 0,23 W/mK

3.6.2 Water vapour transmission coefficient

The water vapour transmission coefficient of Modelpan® boards is :

For 10 mm board : 38,6
For 12 mm board : 31,9

3.7 Aspects of durability, serviceability and identification

3.7.1 Durability and serviceability

3.7.1.1 Resistance to water deterioration

No performance determined. This characteristic is not relevant for the intended uses Y and Z2.

3.7.1.2 Resistance to soak/dry

No performance determined. This characteristic is not relevant for the intended uses Y and Z2.

3.7.1.3 Resistance to freeze/thaw

The Modelpan® boards meet the freeze-thaw requirements of ETAG 018-4.

3.7.1.4 Resistance to heat/rain

No performance determined. This characteristic is not relevant for the intended uses Y and Z2.

3.7.1.5 Basic durability assessment

Product performances confirm a working life of minimum 25 years of the Modelpan® boards for the intended uses Y (semi-exposed external use) and Z2 (internal use).

3.7.2 Identification

3.7.2.1 Length, Width

The width of the Modelpan® boards is 1200 mm. The maximum length is 3000 mm. Standard lengths are 2400, 2600, 2800 and 3000 mm. Other lengths, not exceeding 3000 mmm, and widths, not exceeding 1200 mm, are available on special request.

3.7.2.2 Thickness

The thickness of the Modelpan® boards is 10 mm or 12 mm.

3.7.2.3 Dimensional tolerances

The tolerances of the Modelpan® boards is on length ± 5mm and on width ± 3,6 mm. The tolerance on the thickness is ± 5%.

3.7.2.4 Shape

The straightness of the edges and the squareness of the Modelpan® boards respect the level II criteria of clause 5.3.5 in ETAG 018-4.

3.7.2.5 Apparent density

The apparent density of the boards is 1100kg/m³ ± 10%.

3.7.2.6 Perpendicular tensile strength

The Modelpan® boards have a perpendicular tensile strength of more than 1700 kPa in accordance with EN 1607.

3.7.2.7 Parallel tensile strength

The 10 mm Modelpan® boards have a minimum parallel tensile strength of 2,75 N/mm² when tested in accordance with EN 1608

The 12 mm Modelpan® boards have a minimum parallel tensile strength of 1,35 N/mm² when tested in accordance with EN 1608.

3.7.2.8 Compressive strength

The boards have a minimum compressive strength of 4800 kPa in accordance with EN 826.

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, Directive 89/106/EEC is repealed, but references to the repealed Directive shall be construed as references to the Regulation.

The system(s) of assessment and verification of constancy of performance, specified in the Decision of the Commission 1999/454/EC of 1999/07/14[3], are specified in the following Table.

Table 3 : System of assessment and verification of constancy of performance applicable for Modelpan® boards

Product(s)	Intended use(s)	Level(s) or class(es)	Assessment and verification of constancy of performance system(s) [(a)]
Fire protective products	For fire compartimentation and/or fire protection or fire performance	Any	1
[(a)] See Annex V to Regulation (EU) N° 305/2011			

In addition, according to the Commission Decision 1999/454/EC[1], as amended, and Commission Delegated Regulation (EU) 2016/364[4], the system of assessment and verification of constancy of performance given in Table 4 apply to fire protective products with regard to reaction to fire.

Table 4 : the system of assessment and verification of constancy of performance applicable fire protective products with respect to reaction to fire

Product(s)	Intended use(s)	Level(s) or class(es) (reaction to fire)	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)[b]	1
		(A1, A2, B, C)[c], D, E, F	3
		(A1 to F)[d] , NPD[e]	4

[a] System 1, 3 and 4 : See Regulation (EU) N° 305/2011, Annex V

[b] 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)

[c] Products/materials not covered by footnote (*)

[d] 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[4], as amended)

[e] 'No Performance Declared' in accordance with Regulation (EU) N° 305/2011, Article 6(f)

[3] OJEU L178/52 of 1999/07/14

[4] OJEU L 68/4 of 2016.3.15

For initial type testing of the product the task for the notified body is limited to the following characteristics:

- Reaction to fire
- Resistance to fire
- Mechanical resistance and stability
- Release of dangerous substances

For initial inspection of the factory and of FPC, and for continuous surveillance, judgment and assessment of the FPC, parameters related to the following characteristics are of interest to the notified body:

- Reaction to fire
- Mechanical resistance and stability

The system of Assessment and verification of constancy of performance is specified in the EC Decision 99/454/EC, as amended by EC Decision 2001/596/EC[5], is system 1, 3 or 4, depending on the classes declared.

For Fire protective Products under systems 1 and 3, regarding the initial type testing of the product, the task for the notified laboratory is limited to the assessment of the Euroclass characteristics for reaction to fire, as indicated in the Commission Decision 94/611/EC[6].

For Fire Protective Products under system 1, for initial inspection of the factory and of FPC, and for continuous surveillance, assessment and approval of the FPC, parameters related to the Euroclass characteristics for reaction to fire, as indicated in the Commission Decision 94/611/EC are of interest of the notified body.

5 Technical details necessary for the implementation of the AVCP system, as foreseen in ETAG 018-1 and ETAG 018-4

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 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.

[5] OJ L209 of 2001/08/02

[6] OJ L241/25 of 1996/09/16

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.

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 its accuracy and fitness for purpose is 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 Modelpan® boards

Property	Minimum frequency
Determination of organic content (reaction to fire)	1 per week[7]
Determination of dimensional stability at high temperatures (fire resistance)	1 per week
Indirect test method (small oven test)[8]	1 per year
Water impermeability	1 per 3 years
Dimensional stability	1 per year
Identification	
length, width	1 per day[9], per dimension
thickness	1 per day, per thickness
apparent density	1sample per n-boards
Flexural strength	1 sample per n-boards

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.

[7] A week represents 5 production days.
[8] Production shall be subjected to a small oven test (test performed on one thickness).
[9] A day represents a 24h time period in which production is considered to be as usual for the production facility concerned.

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,

Peter Wouters,
director

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

Benny De Blaere,
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 ETAG 018-1 (edition 2004)
Document title Fire protective products - Part 1: General.

Reference number ETAG 018-4 (edition 2004)
Document title Fire protective products - Part 4: Fire protective board, slab and mat products and kits.

Reference number EN 13964:2004
Document title Suspended ceilings - Requirements and test methods.

Reference number EN 12467:2004
Document title Fibre-cement flat sheets - Product specification and test methods

Reference number EN 13501-1:2002
Document title Fire classification of construction products and building elements - Part 1: Classification using test data from reaction to fire tests

Reference number EN 13501-2:2003
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 1364-1:1999
Document title Fire resistance tests for non-loadbearing elements- Part 1: Walls

Reference number EN 318:2002
Document title Wood based panels - Determination of dimensional changes associated with changes in relative humidity

Reference number EN 826:1996
Document title Thermal insulating products for building applications - Determination of compression behaviour

Reference number EN 1607:1996
Document title Thermal insulating products for building applications - Determination of tensile strength perpendicular to faces

Reference number EN 1608:1996
Document title Thermal insulating products for building applications - Determination of tensile strength parallel to faces

Reference number prEN 14566 (September 2002)
Document title Mechanical fasteners for gypsum plasterboard systems – Definitions, requirements and test methods.

Reference number prEN 14353 (Dec 2001)
Document title Metal beads and feature profiles for use with gypsum plasterboards – Definitions, requirements and test methods

Reference number EN 338:2003
Document title Structural timber - Strength classes

Reference number EN 13162:2001
Document title Thermal insulation products for buildings - Factory made mineral wool (MW) products – Specification

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

Annex 2.0: Overview of fire resistance performances for Modelpan® assemblies

The fire protective assemblies in Table A.2.0.1 have been assessed within the framework of this ETA. Assemblies installed according to the provisions given in this annex are covered by this ETA.

Table A.2.0.1

Assembly assessed within the framework of this ETA	Classification according to EN 13501-2	Test standard	Intended use type according to ETAG 018	Installation details	Date of addition to this ETA
Partition, composed of a double layer of Modelpan® fire protective boards (nominal thickness 9 mm) , exposed to fire from both sides	EI 60 EW 60 E 60	EN1364-1	Type 8	Annex 2.1	2016-04-25

Annex 2.1: Specification of a partition (intended use type 8), composed of single layer of Modelpan® fire protective board (thickness 10 mm), exposed to fire from both sides

A.2.1.1 Date of addition to this ETA

This annex was added to ETA 16/0XXX on 2016-04-25. This assembly was not covered by this ETA prior to the addition of this annex.

A.2.1.2 Classification

The assembly described in this annex has been tested according to EN 1364-1 and classified EW 60, EI 60 and E 60 in accordance with EN 13501-2.

A.2.1.3 Installation requirements

Installation requirements in paragraph 2.2 of this ETA shall be taken into account.

A.2.1.4. Supporting structure

The supporting structure consists of galvanized steel U- and C- profiles, as presented in Table A2.1.1. and as shown in the figures in paragraph A.2.1.9.

Specifications for the components are given in Table A.2.1.1.

Table A.2.1.1

Element	Identification	Characteristics	Mounting and fixing
U-profiles	Galvanized steel Type NPH50	Dimensions: ≥ (40x50x40) mm Thickness ≥ 0.6 mm	Horizontal edge connection Fixing : nail plugs : steel nail (length 57mm, diameter 3,6 mm) with PVC plug (length 53 mm, diameter 5,5 mm), Fixing : centre to centre distance : 330 mm
Acoustic strip	Polyethylene : PE/30	Dimensions 6mm x 30 mm	Self-adhesive fixing at the base of the edge profiles
C-profiles	Galvanized steel Type NPV50	Dimensions: ≥ (64 x 48 x 49 x 51 x 6) mm Thickness ≥ 0.6 mm	Vertical edge connection Fixing : nail plugs : steel nail (length 57 mm, diameter 3,6 mm) with PVC plug (length 53 mm, diameter 5,5 mm), Fixing : centre to centre distance : 330 mm
C-profiles	Galvanized steel Type NPV50	Dimensions: ≥ (64 x 48 x 49 x 51 x 6) mm Thickness ≥ 0.6 mm	Vertical placed between horizontal U-profiles Centre to centre distance : 600 mm Fixing by means of perforation pliers Clearance between the extremities of the C-profiles and the U-profiles : Above : 15 mm Bottom : 15 mm

The height of the tested partition is 3 m. One vertical edge and both horizontal edges are fixed, the other vertical edge is free.

A.2.1.5. Fire protective boards

The fire protective boards (nominal thickness 10 mm, reported thickness 9 mm) are placed on both sides of the C- and U-profiles. The boards are fixed to the steel profiles with self-drilling steel screws with minimum dimensions of Ø 3.8 x 30 mm, at maximum 200 mm centres and a distance from the board edge of ca 15 mm.

The vertical joints between the boards are staggered over a distance of 625 mm.

Specifications for the components are given in table A.2.1.2.

Table A.2.1.2

Element	Identification	Characteristics	Mounting and fixing
Boards	Fire protective board Modelpan®	Width: 1200 mm Length: 3000 mm Thickness: 9 mm (reported)	Applied on both sides of the C- and U-profiles by gluing and screw fixing with staggered joints (vertical joints ≥ 625 mm.
Screws board/frame	Galvanized steel screws according to prEN14566 or equivalent	≥ Ø 3.8 x 30 mm	Used for fixing of the boards at ≤ 200 mm centres. Distance from the edges ca 15 mm.
Joint adhesive	Polyurethane based, type Modelpan®		Vertical joints between the boards

A.2.1.6 Insulation

Mineral wool, type Rockwool 431 Rockfit Adapt thickness 50 mm is placed in the partition wall, over the entire surface. The insulation material is clamped between the profiles of the steel structure.

Specifications for the insulation materials are given in Table A.2.1.3

Table A.2.1.3

Element	Identification	Characteristics	Mounting and fixing
Insulation material	Mineral wool Rockwool 431 Rockfit Adapt	Thickness: ≥ 50 mm	Installed in the partition wall, over the entire surface. clamped between the profiles of the steel structure

A.2.1.7 Details

All installation details shall be executed as presented in paragraph A.2.1.9.

A.2.1.8 Field of direct application

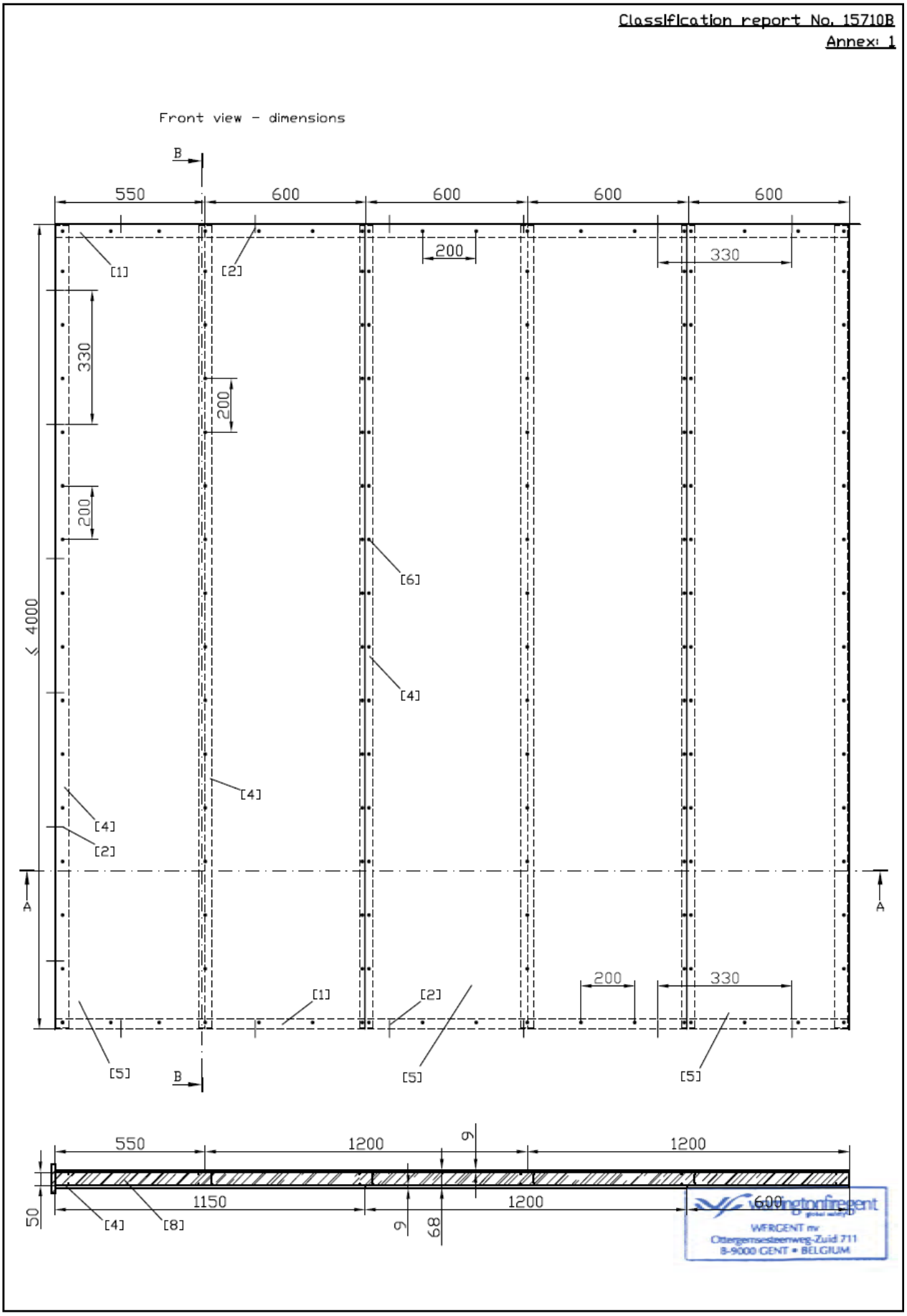
The results of the fire test are directly applicable to similar constructions where one or more of the changes listed below are made and the construction continues to comply with the appropriate design code for its stiffness and stability.

a) The height of the wall may be increased up to 4 meter, if the expansion allowances are increased pro-rata.
b) The height of the wall may be decreased
c) The width of the wall may be increased or decreased
d) The thickness of the wall may be increased
e) The thickness of each of the component materials may be increased
f) The linear dimensions of the boards may be decreased, but not the thickness
g) The stud distance may be decreased
h) The number of vertical joints may be increased
i) No horizontal joints are allowed.

Other changes are not permitted

Extended field of application is not applicable.

A.2.1.9 Figures



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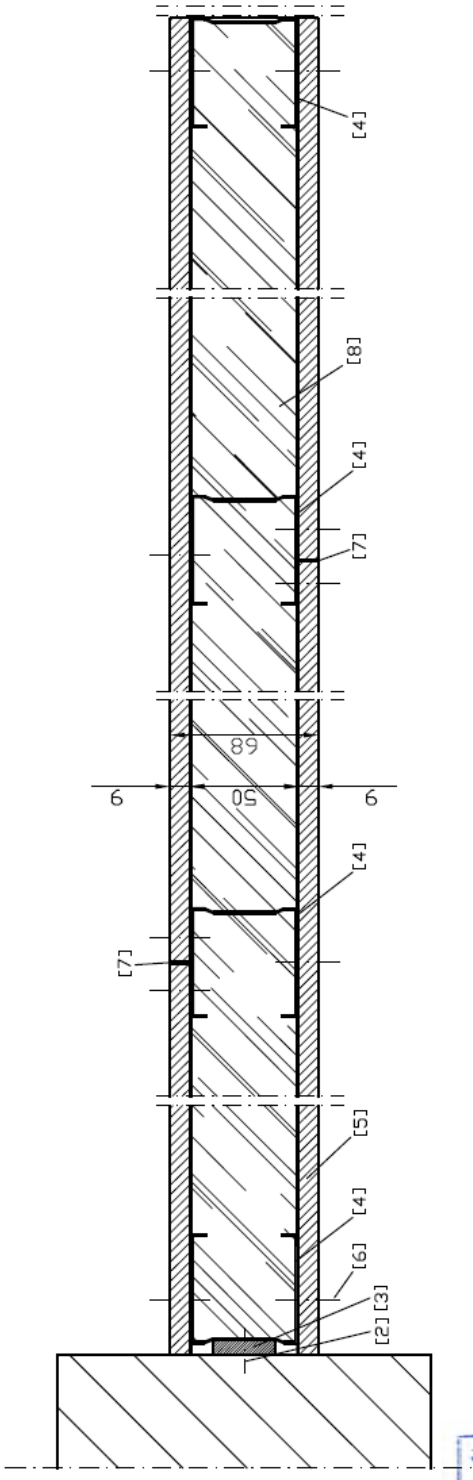

Horizontal section A-A

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Vertical section B-B