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UBAtc Assessment Operator:
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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:	PROMATECT®-L
Product family to which the construction product belongs:	Fire Protective board
Manufacturer:	ETEX BUILDING PERFORMANCES NV Bormstraat 24 B-2830 Tisselt (Belgium)
Manufacturing plant(s):	ETEX BUILDING PERFORMANCES 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
This version replaces:	ETA 07/0296 issued on 2013/03/25
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 3501-42-00-1106

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.

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.

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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 A European Technical Approval was issued by UBAtc on 25 March 2013. Compared with this European Technical Approval, the current European Technical Assessment, issued on 25 March 2018, comprises no technical changes, but editorial changes have been made to meet the requirements of the EAD.

[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

PROMATECT®-L is a fire protective calcium silicate board, composed of a calcium silicate matrix, cement and mineral fillers. The board is white in colour and has a smooth, sanded upper surface and a lightly honeycomb-textured reverse face.

PROMATECT®-L is manufactured at ETEX BUILDING PERFORMANCES 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 PROMATECT®-L

Density (dry 105°C): 450 kg/m³ ± 15%
Density (23°C, 50%RH): 470 kg/m³ ± 15%

Thickness (mm)	Length x width (mm)		Tolerances on length and width (mm)
15 ± 0,5	-	2500 x 1200	+3/-3
20 ± 0,5	3000 x 1200	2500 x 1200	+3/-3
25 ± 0,5	3000 x 1200	2500 x 1200	+3/-3
30 ± 0,5	3000 x 1200	2500 x 1200	+3/-3
40 ± 0,5	3000 x 1200	2500 x 1200	+3/-3
50 ± 0,5	3000 x 1200	2500 x 1200	+3/-3

1.3 Ancillary products

Ancillary products refed 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 PROMATECT®-L intended for:

- Internal use (EAD 350142-00-1106, type Z_2);
- internal use high humidity (EAD 350142-00-1106, type Z_1).

PROMATECT®-L 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 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. 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 3.2.2 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 may not be interpreted as a guarantee given by the producer or the UBAtc, but shall 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

2.2.1 Manufacturing directives

This European Technical Assessment is issued for PROMATECT®-L 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 on a forming drum, cut 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. PROMATECT®-L boards are examined for visual defects and non-compliant boards are rejected.

2.2.2 Installation

2.2.2.1 Supporting structure

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

2.2.2.2 Cutting and machining

The fire protective PROMATECT®-L 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.

2.2.2.3 Joints

The fire protective PROMATECT®-L boards shall be butt jointed.

The boards have square edges.

Joints in adjacent boards, where possible, shall be staggered over a minimum distance of 300 mm.

The use and type of joint filler shall be in accordance with the assemblies described in annex 2.

2.2.2.4 Mechanical fasteners

Fastening of PROMATECT®-L boards onto the support structure shall be in accordance with the assembly information provided in annex 2.

2.2.2.5 Surface treatment

The PROMATECT®-L 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 PROMATECT®-L boards, has not been performed in the framework of this ETA.

2.2.2.6 Assembly

The PROMATECT®-L board 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, PROMATECT®-L boards should be stacked on a flat underground and covered. Storage should 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 PROMATECT®-L 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 PROMATECT®-L boards according to EAD 350142-00-1106.

3.2 Safety in case of Fire (BWR2)

3.2.1 Reaction to fire

PROMATECT®-L boards have a reaction to fire classification A1 according to EN 13501-1.

3.2.2 Fire resistance

Assemblies incorporating PROMATECT®-L boards have a resistance to fire classified according to EN 13501-2 and EN 13501-3 as presented in Annex 2.

NOTE: *This ETA covers 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, the ETA-holder should 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

This characteristic is not relevant for the intended use Z_2 (internal use) and Z_1 (internal use high humidity).

3.3.2 Release of dangerous substances

No performance assessed.

3.4 Safety in Use (BWR4)

3.4.1 Flexural strength

In accordance with EN 12467, the PROMATECT®-L boards have a modulus of rupture (MOR) of ≥ 1,7 MPa (95% confidence level).

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

3.4.2 Dimensional stability

The PROMATECT®-L boards, tested in accordance with EN 318, are dimensionally stable.

3.4.3 Resistance to impact and eccentric load

No performance assessed.

3.5 Energy economy and heat retention (BWR6)

3.5.1 Thermal conductivity

No performance assessed.

3.5.2 Water vapour permeability

No performance assessed.

3.6 Protection against noise (BWR5)

3.6.1 Airborne sound insulation

No performance assessed.

3.6.2 Sound absorption

No performance assessed.

3.6.3 Impact sound insulation

No performance assessed.

3.7 Aspects of durability, serviceability and identification

3.7.1 Durability and serviceability

3.7.1.1 Resistance to deterioration caused by water

This characteristic is not relevant for the intended use Z2 (internal use).

3.7.1.2 Resistance to soak/dry

In accordance with EAD 3501-42-00-1106, the boards are resistant to water deterioration.

3.7.1.3 Resistance to freeze/thaw

This characteristic is not relevant for the intended use Z_2 (internal use) and Z_1 (internal use high humidity).

3.7.1.4 Resistance to heat/rain

This characteristic is not relevant for the intended use Z_2 (internal use) and Z_1 (internal use high humidity).

3.7.1.5 Basic durability assessment

Product performances confirm a working life of 25 years for the intended use Z_2 (internal use) and Z_1 (internal use high humidity).

3.7.2 Identification

3.7.2.1 Product properties

See §1 of this ETA.

3.7.2.2 Compressive strength

The compressive strength of the PROMATECT®-L boards, based on assessment testing in accordance with EAD 350142-00-1106 and EN 826, is 4,2 MPa. This value is a guidance value, and does not reflect a statistical evaluation, nor a minimum guaranteed value. This value is not intended to be used as a calculation value as basis for structural design.

3.7.2.3 Tensile strength

The perpendicular tensile strength of the PROMATECT®-L boards, based on assessment testing in accordance with EAD 350142-00-1106 and EN 1607, is 56 kPa.

The parallel tensile strength of the PROMATECT®-L boards, based on assessment testing in accordance with EAD 350142-00-1106 and EN 1608, is 445 kPa.

These values are guidance values, and do not reflect a statistical evaluation, nor minimum guaranteed values. These values are not intended to be used as calculation values as basis for structural design.

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 1999/07/14[3], as amended, is specified in the following Table.

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

Table 3– System of assessment and verification of constancy of performance applicable to PROMATECT®-L

Product(s)	Intended use(s)	Level(s) or class(es)	Assessment and verification of constancy of performance
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 1999/07/14[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.

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) (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)*	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[4], as amended)
**** 'No Performance Declared' in accordance with Regulation (EU) N° 305/2011, Article 6(f)[a] Systems1 and 2+ :See Regulation (EU) N° 305/2011, Annex V

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.

[4] see OJEU L267 of 1996/10/19

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 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 PROMATECT®-L

Property	Minimum frequency
Determination of organic content (reaction to fire)	1 per week[5]
Determination of dimensional stability at high temperatures (fire resistance)	1 per week
Indirect test method (small oven test)[6]	1 per year
Dimensional stability	1 per year
Identification	
length, width	1 per day[7], per dimension
thickness	1 per day, per thickness
apparent density	1 sample 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.

The results of assessment testing shall be used by notified bodies (cf. Regulation (EU) 305/2011, Annex V, clause 1.6).

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.

[5] A week represents 5 production days.
[6] Production shall be subjected to a small oven test (test performed on one thickness).
[7] 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, in Sint-Stevens-Woluwe, 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 EAD 350142-00-1106
Document title Fire protective products - 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 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 12467:2004
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 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 EN 14195:2005
Document title Metal framing components for gypsum plasterboard systems – Definitions, requirements and test methods

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 PROMATECT®-L assemblies

The fire protective assemblies in Table A.2.1 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 2.1

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
Self-supporting ceiling with independent fire resistance, composed of PROMATECT®-L fire protective boards (thickness 30 mm)	EI 90 (a↔b)	EN1364-2	Type 8	Annex 2.1	2008-03-25

Annex 2.2: Specification of a self-supporting ceiling with independent fire resistance, composed of PROMATECT®-L fire protective boards (thickness 30 mm)

A2.2.1 Date of addition to this ETA

This annex was added to ETA 07/0296 on 2008-03-25. 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 according to EN 1364-2 and classified **EI 90 (a↔b)** in accordance with EN 13501-2.

A2.2.3 Installation requirements

The installation provisions given in paragraph 2.2.2 of this ETA shall be taken into account.

A2.2.4 Supporting structure

The self-supporting ceiling, composed of PROMATECT®-L boards (thickness 30 mm), is supported by steel profiles fixed to the surrounding construction, as shown in figure A.2.1.9.1.

L profiles with minimum dimensions 50/50/5 (mm) are fixed onto two facing walls using plugs with minimum dimensions Ø 8 x 60 mm and screws with minimum dimensions Ø 6 x 50 mm, at maximum 500 mm centers.

Hollow steel sections with minimum dimensions 80/80/4,5 (mm) are installed onto the L profiles in perpendicular direction, without fixing, at maximum 1200 mm centres (board width). The maximum span of the steel hollow sections is 4,4 m.

The dimensions of the hollow steel sections guarantee that a bending stress of 35 N/mm² is not exceeded.

Specifications for the protected steel beam are given in Table A.2.2.4.1.

Table A.2.2.4.1

Element	Identification	Characteristics	Mounting and fixing
L profiles	Galvanized steel profiles according to EN 14195 or equivalent	Dimensions:≥ 50/50/5 (mm)	Installed along two facing walls
Hollow steel sections	Galvanized steel sections according to EN 14195 or equivalent	Dimensions: ≥ 80/80/4,5 (mm) Length: ≤ 1200 mm	Installed onto the L profiles without fixing
Plugs	Plastic plug	≥ Ø 8 x 60 mm	Fixing of the L profiles at ≤ 500 mm centers
Screws	Galvanized steel screws according to prEN 14566 or equivalent	≥ Ø 6 x 50 mm	Fixing of the L profiles at ≤ 500 mm centers

A.2.2.5 Insulation

None.

A2.2.6 Fire protective boards

The PROMATECT®-L boards (thickness 30 mm) are installed along top and bottom of the hollow steel sections as shown in figures A.2.2.9.2 and A.2.2.9.3. The longitudinal board joints are situated at the centre of the hollow steel sections.

The boards are fixed onto a double layer of PROMATECT®-L strips with staples with minimum dimensions 63/11,2/1,53 (mm), at maximum 250 mm centres, or screws with minimum dimensions Ø 5 x 80 mm, at maximum 300 mm centres.

The PROMATECT®-L strips (thickness 30 mm) with a minimum width of 85 mm are applied vertically in a double layer along the hollow steel sections, as shown in figures A.2.1.9.2 and A.2.1.9.2. The strips are fixed to each other with staples with minimum dimensions 50/11,2/1,53 (mm), at maximum 350 mm centres, or screws with minimum dimensions Ø 4 x 50 mm, at maximum 400 mm centres.

Specifications for the components are given in Table A.2.2.6.

Table A.2.2.6			
Element	**Identification**	**Characteristics**	**Mounting and fixing**
Boards	Fire protective board PROMATECT®-L	Length: 2500 mm Width: 1200 mm Thickness: 30 mm	Installed on both sides of the steel sections to form a self-supporting ceiling construction
Strips	Fire protective board PROMATECT®-L	Width: 85 mm Thickness: 30 mm	Installed along the board joints to connect the two layers of boards
Staples	Galvanized steel wire staples according to prEN 14566 or equivalent	Dimensions: ≥ 63/11,2/1,53 (mm)	Fixing of the boards at ≤ 250 mm centres
Screws	Galvanized steel screws according to prEN 14566 or equivalent	Dimensions: ≥ Ø 5 x 80 mm	Fixing of the boards at ≤ 300 mm centres
Staples	Galvanized steel wire staples according to prEN 14566 or equivalent	Dimensions: ≥ 50/11,2/1,53 (mm)	Fixing of the PROMATECT®-L strips at ≤ 350 mm centres
Screws	Galvanized steel screws according to prEN 14566 or equivalent	Dimensions: ≥ Ø 4 x 50 mm	Fixing of the PROMATECT®-L strips at ≤ 400 mm centres

A.2.2.7 Joints

For the top layer of boards, the gap between the surrounding construction and the boards (and, where applicable, the board strips) is filled with PROMASEAL®-PL, which is fixed to the surrounding construction with PROMAT® K84 glue, as shown in the details in figures A.2.2.9.2 and A.2.2.9.3.

For the bottom layer of boards, the gap between the boards and the surrounding construction is filled with PROMAT®-Spachtelmasse, as shown in the details in figures A.2.2.9.2 and A.2.2.9.3.

Specifications for the components are given in Table A.2.2.7.

Table A.2.2.7			
Element	**Identification**	**Characteristics**	**Mounting and fixing**
Strips	Fire protective strips PROMASEAL®-PL	Width: 120 mm Thickness: 2,5 mm	Filing of the gap between the surrounding construction and the top layer boards (and, where applicable, the board strips)
Glue	PROMAT® glue K84	Viscous glue based on sodium silicate with addition of inorganic charges. It is grey or off-white in color and intumesces slightly in case of fire.	Fixing of the fire protective strips to the surrounding construction
Joint filler	PROMAT®-Spachtelmasse	Very moldable white dry mortar that forms a strong adhering mass after hardening. The powder is mixed with tap water.	Filing of the gap between the bottom layer boards and the surrounding construction

A2.2.8 Details

A.2.2.8.1 General

All installation details shall be executed as presented in the figures A.2.2.9.1 to A.2.2.9.3.

A.2.2.8.2 Inspection hatch

The maximum dimensions of an inspection hatch in the self-supporting ceiling are 480 x 800 mm. Mounting and fixing of the inspection hatch is shown in figure A.2.2.9.1, figure A.2.2.9.2 view A-A and figure A.2.2.9.3 view E-E.

At the bottom side of the self-supporting ceiling construction, the inspection hatch is composed of a PROMATECT®-L board (thickness of 30 mm) with maximum dimensions of 800 x 480 mm. The board is fixed to a frame of PROMATECT®-L strips (thickness 30 mm) with a width of 50 mm, with staples with minimum dimensions 50/11,2/1,53 (mm), at maximum 350 mm centres, or screws with minimum dimensions Ø 4 x 50 mm, at maximum 400 mm centres, as shown in figure A.2.2.9.1, figure A.2.2.9.2 view A-A and figure A.2.2.9.3 view E-E.

At the top side of the self-supporting ceiling construction, the inspection hatch is composed of a PROMATECT®-L board (thickness 30 mm) with maximum dimensions of 800 x 600 mm. The board is fixed to the double layer of vertically installed PROMATECT®-L strips (thickness 30 mm), with staples with minimum dimensions 50/11,2/1,53 (mm), at maximum 350 mm centres, or screws with minimum dimensions Ø 4 x 50 mm, at maximum 400 mm centres, as given in figure A.2.1.9.1, figure A.2.2.9.2 view A-A and figure A.2.2.9.3 view E-E.

A.2.2.8.3 Lighting case

The maximum dimensions of a lighting case (for the mounting of lamps) is 420 x 1300 mm with a depth of 115 mm. Mounting and fixing of the lighting case is shown in figure A.2.2.9.1, figure A.2.2.9.2 view B-B and figure A.2.2.9.3 view F-F.

At the bottom side of the self-supporting ceiling construction, an opening with maximum dimensions of 420 mm x 1300 mm and a depth of 115 mm is made for the insertion of lighting, as shown in figure A.2.2.9.1, figure A.2.2.9.2 view B-B and figure A.2.2.9.3 view F-F.

At the top side of the self-supporting ceiling construction, an additional layer of PROMATECT®-L (thickness 30 mm) with maximum dimensions of 540 x 1420 mm is installed on top of the upper layer of boards, with staples with minimum dimensions 50/11,2/1,53 (mm), at maximum 350 mm centres, or screws with minimum dimensions Ø 4 x 50 mm, at maximum 400 mm centres, as shown in figure A.2.2.9.1, figure A.2.2.9.2 view B-B and figure A.2.1.9.3 view F-F.

A2.2.9 Figures

Key

1. PROMATECT®-L boards, thickness 30 mm
2. PROMATECT®-L strips, width 50 mm or 80 mm, thickness 30 mm
3. PROMASEAL®-PL strips, width 120 mm, thickness 2,5 mm
4. PROMAT® glue K84
5. PROMAT®-Spachtelmasse
6. Hollow steel sections, dimensions ≥ 80/80/4,5 (mm)
7. Steel L profiles, dimensions ≥ 50/50/5 (mm)
8. Galvanized steel wire staples, dimensions ≥ 63/11,2/1,53 (mm), at ≤ 250 mm centres
9. Galvanized steel wire staples, dimensions ≥ 50/11,2/1,53 (mm), at ≤ 350 mm centres
10. Plastic plug ≥ Ø 8 x 60 mm with screw ≥ Ø 6 x 50 mm, at ≤ 500 mm centres
11. Galvanized steel screws, dimensions ≥ Ø 5 x 80 mm, at ≤ 300 mm centres
12. Galvanized steel screws, dimensions ≥ Ø 4 x 50 mm, at ≤ 400 mm centres

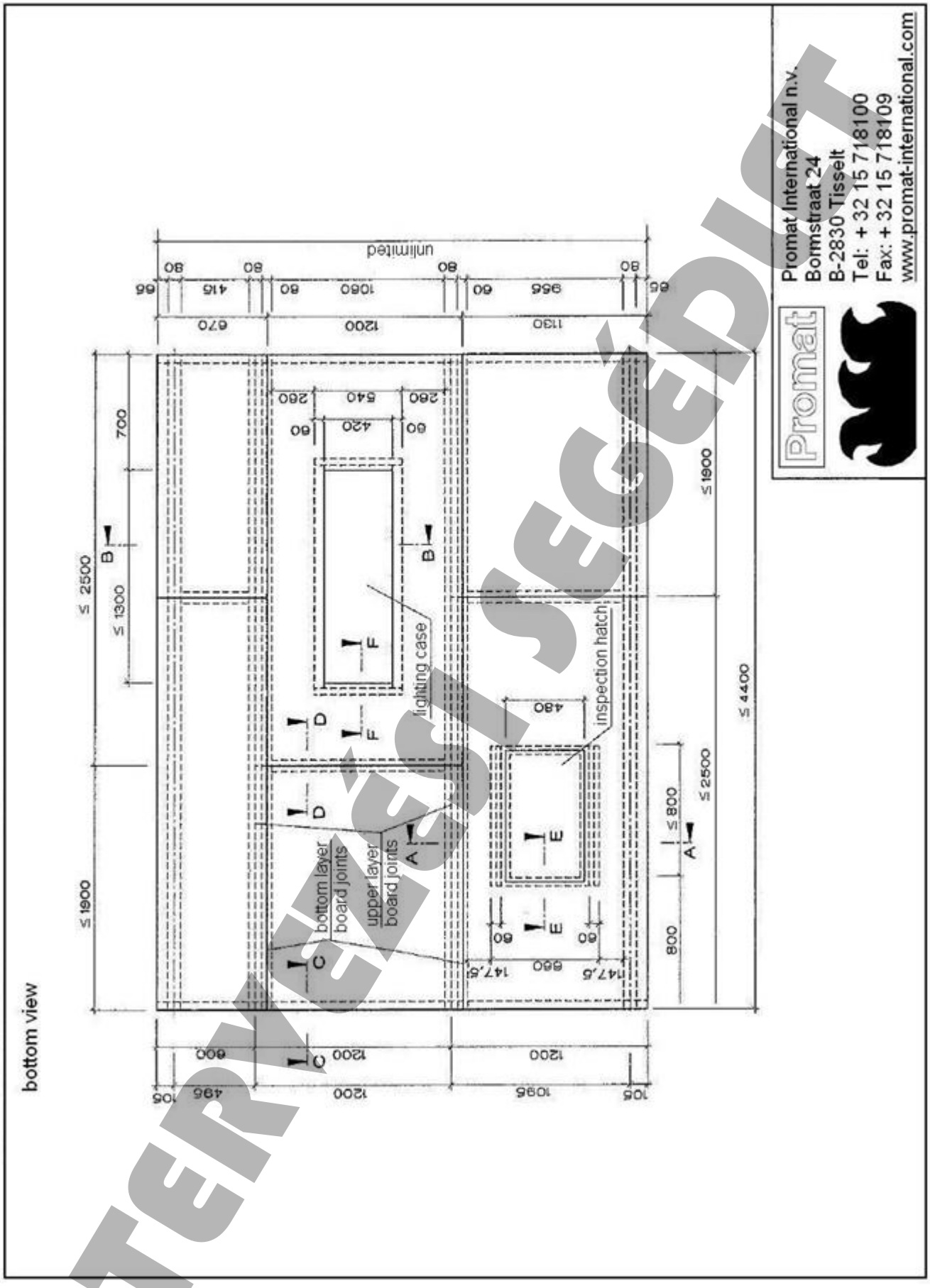

Figure A.2.2.9.1

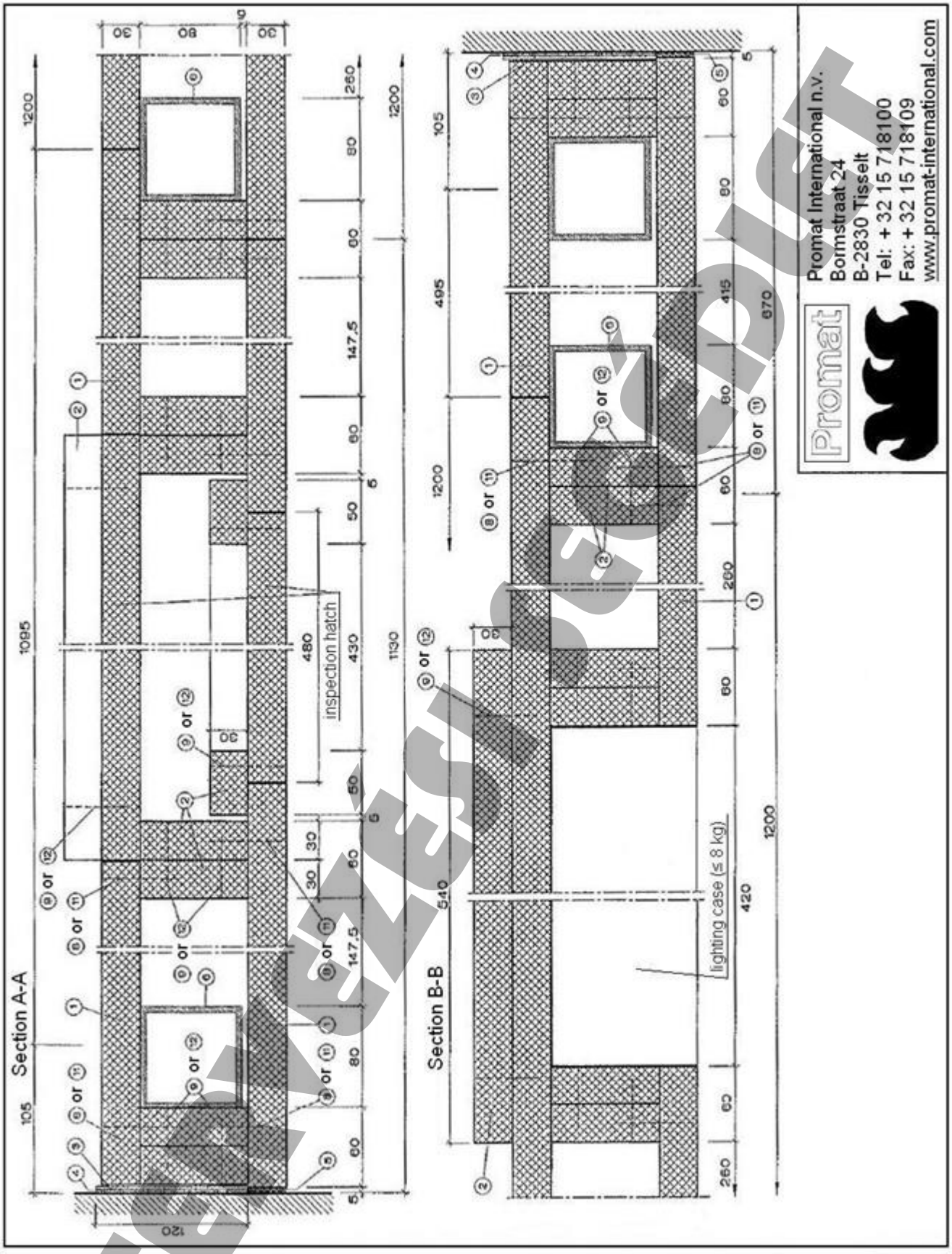

Figure A.2.2.9.2

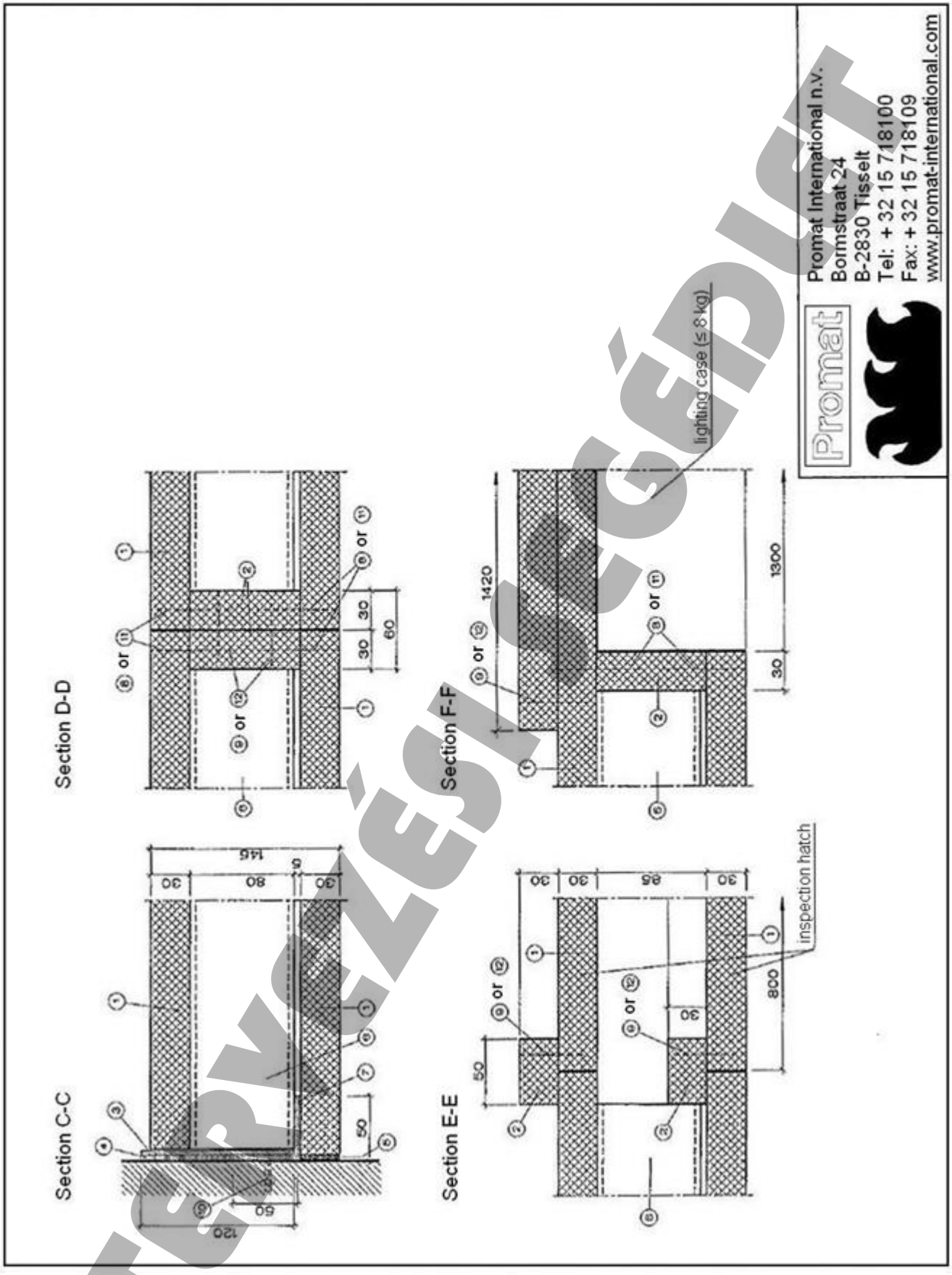

Figure A.2.2.9.3