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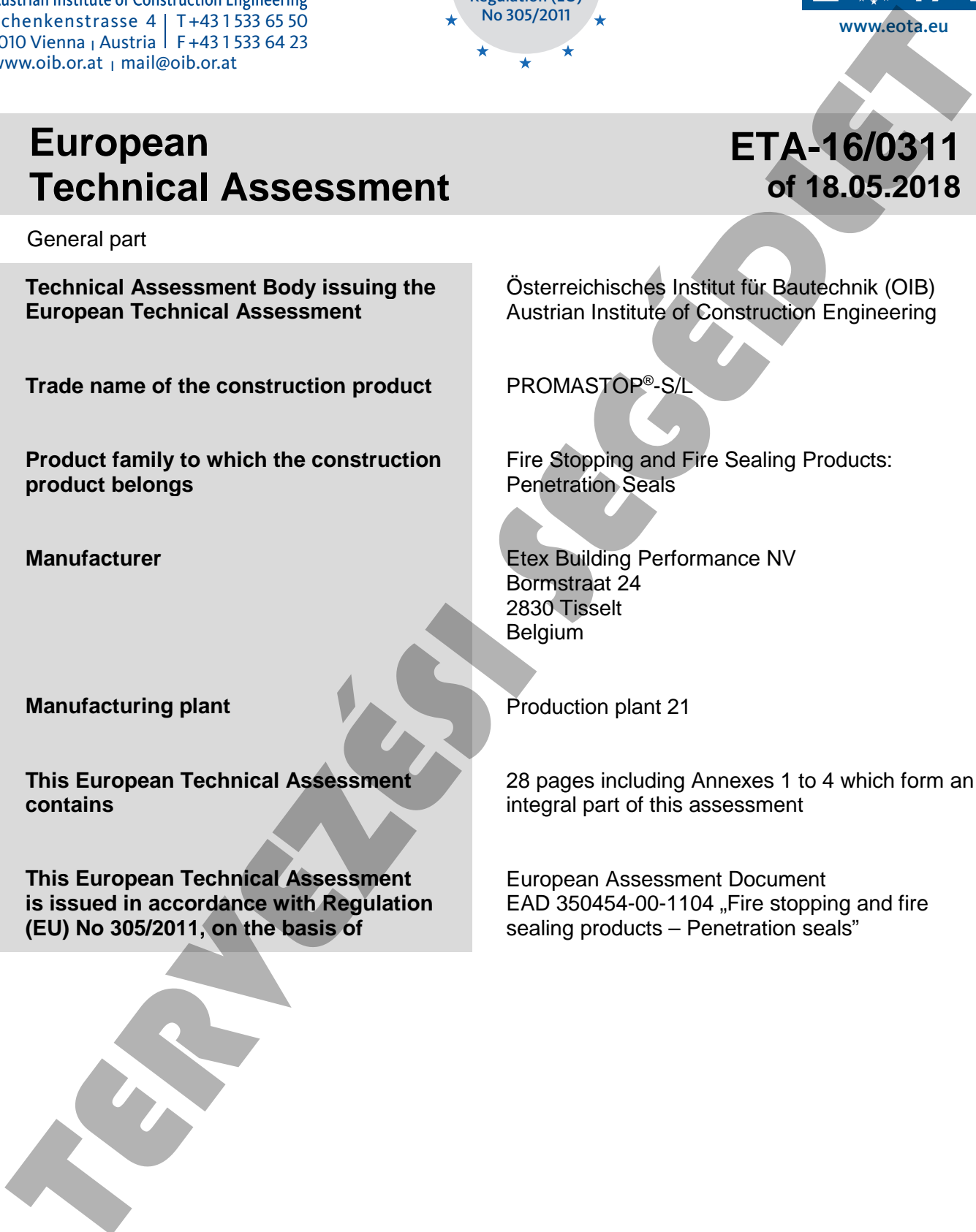
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# European Technical Assessment ETA-16/0311 of 18.05.2018

General part

<b>Technical Assessment Body issuing the European Technical Assessment</b>	Österreichisches Institut für Bautechnik (OIB) Austrian Institute of Construction Engineering
<b>Trade name of the construction product</b>	PROMASTOP®-S/L
<b>Product family to which the construction product belongs</b>	Fire Stopping and Fire Sealing Products: Penetration Seals
<b>Manufacturer</b>	Etex Building Performance NV Bormstraat 24 2830 Tiselt Belgium
<b>Manufacturing plant</b>	Production plant 21
<b>This European Technical Assessment contains</b>	28 pages including Annexes 1 to 4 which form an integral part of this assessment
<b>This European Technical Assessment is issued in accordance with Regulation (EU) No 305/2011, on the basis of</b>	European Assessment Document EAD 350454-00-1104 „Fire stopping and fire sealing products – Penetration seals”



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**Specific parts**

**1 Technical description of the product**

PROMASTOP®-S/L are intumescent based firestop pillows to form a penetration seal to reinstate the fire resistance performance of floor and wall constructions, where they have been provided with apertures for the penetration of different installations.

The firestop pillows PROMASTOP®-S/L are light grey bags.

There are two available sizes of the PROMASTOP®-S/L firestop pillows:

PROMASTOP®-S	Length x width, approx. 320 x 100 mm
PROMASTOP®-L	Length x width, approx. 320 x 200 mm

PROMASTOP®-S/L – type of penetration seal (acc. to ETAG 026-2, cl. 1.1, table 1-1): Pillows.

A detailed specification of the product PROMASTOP®-S/L is a non-public part of this European technical assessment, and deposited at the Österreichisches Institut für Bautechnik.

**2 Specification of the intended use(s) in accordance with the applicable European Assessment Document (hereinafter EAD)**

**2.1 Intended use**

The intended use of PROMASTOP®-S/L firestop pillows are to reinstate the fire resistance performance of flexible wall, rigid wall and rigid floor constructions where they are penetrated by different installations.

In the following specified constructions PROMASTOP®-S/L is also used in conjunction with the firestop collar PROMASTOP®-FC, if applicable.

(1) The specific elements of construction that PROMASTOP®-S/L may be used to provide a penetration seal in, are as follows (details see Annex 3):

- A) Flexible walls: The wall must have a minimum thickness of 100 mm and comprise timber or steel studs lined on both faces with minimum 2 layers of minimum 12,5 mm thick boards. For flexible walls with a minimum thickness of 110 mm and comprise timber or steel studs lined on both faces with minimum 2 layers of minimum 15 mm thick boards. For timber stud walls there must be a minimum distance of 100 mm of the seal to any stud and the cavity between stud and seal must be closed and minimum 100 mm insulation of class A1 or A2 (in accordance with EN 13501-1) in the cavity between stud and seal.

The aperture lining shall be made from steel studs with a thickness of minimum 0,6 mm and / or boards of the same specification as those used in the wall in practice. The width of the framing / lining must be at least min. 300 mm.

- B) Rigid walls: The wall must have a minimum thickness of 100 mm and consist of concrete, aerated concrete or masonry, with a minimum density of 450 kg/m<sup>3</sup>.
- C) Rigid floors: The floor must have a minimum thickness of 150 mm and consist of aerated concrete or concrete with a minimum density of 450 kg/m<sup>3</sup>.

For blank penetration seals made of PROMASTOP<sup>®</sup>-S/L, additional framing on the top of the floor must be used that the pillows are fully covered when installed (see Annex 4, Drawings). For openings in floor constructions where installations are penetrating the pillow seal, the additional framing is not necessary. The minimum wall thickness for plastic pipe penetrations seals must be 110 mm.

This ETA does not cover the use of this product as a penetration seal in sandwich panel constructions.

- (2) PROMASTOP<sup>®</sup>-S/L may be used as a penetration seal with the following specific installations or as blank seal:

Cables:	For further details, see Annex 3.
PP-H and PP-R pipes:	For further details, see Annex 3.
PE-HD pipes:	For further details, see Annex 3.
PVC-U pipes:	For further details, see Annex 3.
Metal pipes:	For further details, see Annex 3.

The maximum seal sizes in the different compartments (see 2.1.) are given in Annex 3 of the ETA.

- (3) Distances:

Specimen	Minimum distance (mm)
Firestop collar PROMASTOP <sup>®</sup> -FC – Firestop collar PROMASTOP <sup>®</sup> -FC	74
Firestop collar PROMASTOP <sup>®</sup> -FC – Seal edge	100
Firestop collar PROMASTOP <sup>®</sup> -FC – non-combustible insulations	100
Non-combustible insulations – non-combustible insulations	100
Non-combustible insulations – Seal edge	100
Non-combustible insulations – Cable, cable tray	49
Cable, cable tray – Cable, cable tray	20
Cable, cable tray – Seal edge	50

To all other installations: minimum 100 mm  
For further details, see Annex 3.

- (4) Supporting distance on both faces of wall constructions: minimum 250 mm for pipes, cables, cable bundles and cable trays

Supporting distance on the upper face of floor constructions: minimum 300 mm

**2.2 Use condition**

„PROMASTOP<sup>®</sup>-S/L“ is intended for use in conditions at temperatures between -20°C and +70°C with exposure to weathering and can therefore – according to EAD 350454-00-1104 clause 2.2.9.3.1 – be categorized as Type X. Since the requirements for Type X are met, also the requirements for type Z<sub>2</sub>, Z<sub>1</sub>, Y<sub>2</sub> and Y<sub>1</sub> are fulfilled.

Although a penetration seal is intended for indoor applications only, the construction process may result in it being subjected to more exposed conditions for a period before the building envelope is closed. For this case provisions shall be made to protect temporarily exposed penetration seals according to the ETA-holder’s installation instructions.

**2.3 Working life**

The provisions made in this European Technical Assessment are based on an assumed minimum working life of „PROMASTOP®-S/L“ of 10 years, provided the conditions laid down in the technical literature of the manufacturer relating to packaging, transport, storage, installation, use and repair are met.

The indications given on the intended working life cannot be interpreted as a guarantee given by the producer or the Technical Assessment Body, but are to be regarded only as a means for selecting the appropriate product in relation to the expected economically reasonable working life of the works.

The real working life might be, in normal use conditions, considerably longer without major degradation affecting the Basic requirements for construction works.

**2.4 General assumptions**

2.4.1 It's assumed that

- > damages to the penetration seal are repaired accordingly,
- > the installation of the penetration seal does not effect the stability of the adjacent building element – even in case of fire,
- > the lintel or floor above the penetration seal is designed structurally and in terms of fire protection such that no additional mechanical load (other than its own weight) is imposed on the penetration seal,
- > the installations are fixed to the adjacent building element in accordance with the relevant regulations in such a way that, in case of fire, no additional mechanical load is imposed to the penetration seal,
- > the support of the installations is maintained for the required period of fire resistance.

**2.5 Manufacturing**

The European Technical Assessment is issued for the product on the basis of agreed data / information, deposited with the Österreichisches Institut für Bautechnik, 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 Österreichisches Institut für Bautechnik before the changes are introduced.

The Österreichisches Institut für Bautechnik will decide whether or not such changes affect the European Technical Assessment and consequently the validity of the CE marking on the basis of the European Technical Assessment and if so whether further assessment or alterations to the European Technical Assessment, shall be necessary.

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

Basic requirements for construction works	Essential characteristics	Method of verification	Performance
<b>BWR 1</b>	None	Not relevant	
<b>BWR 2</b>	Reaction to fire	EN 13501-1:2007+A1:2009	See 3.2.1
	Resistance to fire	EN 13501-2:2016	See 3.2.2 and Annex 3
<b>BWR 3</b>	Air permeability (material property)	No Performance Assessed	
	Water permeability (material property)	No Performance Assessed	
	Content and/or release of dangerous substances	No Performance Assessed	
<b>BWR 4</b>	Mechanical resistance and stability		
	Resistance to impact / movement	No Performance Assessed	
	Adhesion	No Performance Assessed	
<b>Basic</b>	<b>Essential characteristics</b>	<b>Method of</b>	<b>Performance</b>

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requirements for construction works		verification	
<b>BWR 5</b>	Airborne sound insulation	No Performance Assessed	
<b>BWR 6</b>	Thermal properties	No Performance Assessed	
	Water vapour permeability	No Performance Assessed	

**3.1 Safety in case of fire (BWR 2)**

**3.1.1 Reaction to fire**

„PROMASTOP®-S/L“ was assessed according to EAD 350454-00-1104 clause 2.2.1 and all components classified E according to EN 13501-1:2007+A1:2009.

Component	Class according to EN 13501-1
PROMASTOP®-S/L firestop pillows	E
PROMASTOP®-FC firestop collar (additional component)	E

**3.1.2 Resistance to fire**

„PROMASTOP®-S/L“ was tested according to EAD 350454-00-1104 clause 2.2.2 and EN 1366-3:2009 in conjunction with EN 1363-1:1999 installed within apertures in flexible walls, rigid walls and floors, in conjunction with PROMASTOP®-FC firestop collars (for plastic pipes). For more details of installations see clause 2.1 and Annex 3 of the ETA.

The penetration seals may only be penetrated by the apertures by different installations listed in Annex 3 of the ETA. Other parts or support constructions must not penetrate the seal.

As shown in Annex 3, the test results and the direct field of application (acc. to EN 1366-3:2009) the PROMASTOP®-S/L pillows have been classified in accordance with EN 13501-2:2016.

The seals may only be penetrated by the services described in Annex 3. Other parts must not penetrate the seal.

Appropriate wall and floor constructions for penetration seals see clause 2.1.

The service support construction must be fixed to the building element containing the penetration seal or a suitable adjacent building element, on both sides of the penetration in such a manner that in the case of fire, no additional load is imposed on the seal. Furthermore it is assumed that this support is maintained on the unexposed side, for the required period of fire resistance.

Information on ancillary products, which were tested within the framework of this European Technical Assessment for evaluating resistance to fire is given in Annex 2.

Specific considerations:

- Plastic pipes with pipe closure devices must be perpendicular to the seal surface.
- It is assumed that compressed air systems are switched off by other means in the case of fire.
- The function of the pipe seal in case of pneumatic dispatch systems, pressurised air systems etc. is guaranteed only when the systems are shut off in case of fire.
- The assessment does not address any risks associated with leakage of dangerous liquids or gases caused by failure of the pipe(s) in case of fire.
- The durability assessment does not take account of the possible effect of substances permeating through the pipe on the penetration seal.
- The classifications relate to U/U (uncapped on both sides) and U/C (uncapped inside the furnace/capped outside).
- The risk of spread of fire downwards caused by burning material, which drips through a pipe downwards to floors below, cannot be assessed with tests according to EN 1366-3 and is therefore not part of the assessment of this ETA.

**3.2 Hygiene, health and the environment (BWR 3)**

- 3.2.1 Air permeability  
No performance assessed.
- 3.2.2 Water permeability  
No performance assessed.
- 3.2.3 Content, emission and/or release of dangerous substances  
No performance assessed.

**3.3 Safety and accessibility in use (BWR 4)**

- 3.3.1 Mechanical resistance and stability  
No performance assessed.
- 3.3.2 Resistance to impact / movement  
No performance assessed.
- 3.3.3 Adhesion  
No performance assessed.
- 3.3.4 Durability

„PROMASTOP®-S/L“ is intended for use in conditions exposed to weathering and can therefore – according to EAD 350454-00-1104 clause 2.2.9.3.1 – be categorized as Type X. Since the requirements for Type X are met, also the requirements for type Z<sub>2</sub>, Z<sub>1</sub>, Y<sub>2</sub> and Y<sub>1</sub> are fulfilled.

**3.4 Protection against noise (BWR 5)**

- 3.4.1 Airborne sound insulation  
No performance assessed.

**3.5 Energy economy and heat retention (BWR 6)**

- 3.5.1 Thermal properties  
No performance assessed.
- 3.5.2 Water vapour permeability  
No performance assessed.

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

**4.1 AVCP system**

According to the Decision 1999/454/EC<sup>1</sup>, amended by Decision 2001/596/EC<sup>2</sup> of the European Commission the system of assessment and verification of constancy of performance (see Annex V of Regulation (EU) No 305/2011) is given in the following table.

Product(s)	Intended use(s)	Level(s) or class(es) (resistance to fire)	System of assessment and verification of constancy of performance
Fire Stopping and Fire Sealing Products	for fire compartmentation and/or fire protection or fire performance	any	1

<sup>1</sup> Official Journal of the European Communities no. L 178, 14.7.1999, p. 52

<sup>2</sup> Official Journal of the European Communities no. L 209, 2.8.2001, p. 33

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In addition, according to the Decision 1999/454/EC, amended by Decision 2001/596/EC of the European Commission the system(s) of assessment and verification of constancy of performance, with regard to reaction to fire, is given in the following table.

Product(s)	Intended use(s)	Level(s) or class(es) (reaction to fire)	System of assessment and verification of constancy of performance
Fire Stopping and Fire Sealing Products	for uses subject to regulations on reaction to fire	A1*, A2*, B*, C*	1
		A1**, A2**, B**, C**, D, E	3
		(A1 to E)***, F	4
<p>* 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)</p> <p>** Products/materials not covered by footnote (*)</p> <p>*** 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, as amended)</p>			

**5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD**

Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited with the Technical Assessment Body Österreichisches Institut für Bautechnik.

The notified product certification body shall visit the factory at least twice a year for surveillance of the manufacturer.

Issued in Vienna on 18.04.2018  
by Österreichisches Institut für Bautechnik

The original document is signed by:

Rainer Mikulits  
Managing Director

## ANNEX 1

### Reference documents and list of abbreviations

#### 1.1 Reference to standards mentioned in this ETA:

EAD 350454-00-1104	European Assessment Document for „Fire stopping and fire sealing products – Penetration seals”
EN 13501-1:2007+A1:2009	Fire classification of construction products and building elements - Part 1: Classification using test data from reaction to fire tests
EN 13501-2:2016	Fire classification of construction products and building elements - Part 2: Classification using data from fire resistance tests, excluding ventilation
EN 1363-1:2012	Fire resistance tests - Part 1: General requirements
EN 1366-3:2009	Fire resistance tests for service installations - Part 3: Penetration seals

#### 1.2 Other reference documents:

EOTA TR 024 (2009)	Characterisation, Aspects of Durability and Factory Production Control for Reactive Materials, Components and Products
Technical documentation	Technical Data Sheet and Technical instruction sheet of „PROMASTOP®-S/L”



**ANNEX 2**

**DESCRIPTION OF PRODUCT(S) & PRODUCT LITERATURE**

**2.1 Product:**

Product name	Description
PROMASTOP®-S/L	firestop pillows
PROMASTOP®-FC (additional component)	firestop collar

Suitable insulation products – reaction to fire	
Non-combustible insulation (mineral wool)	minimum A2, A2L, A2-s1, d0 / A2L-s1, d0 (acc. to EN 13501-1)

**2.2 Fixing details:**

For fixing the collars on the surface of the PROMASTOP®-S/L firestop pillow seal use threaded rods ( $\geq M6$ ) with nuts and washers. On the top side of floor penetration seals, use metal profiles (length  $\geq 100$  mm, width  $\geq 20$  mm and thickness  $\geq 2$  mm) as anchor for the threaded rods. For outdoor application the steel quality has to be non-corrosive material, e. g. stainless steel, galvanised steel, etc.

The non-combustible insulation for metal pipes shall be placed centered in the PROMASTOP®-S/L penetration seal and fixed with steel wire (minimum thickness 0,6 mm).

For blank penetration seals made of PROMASTOP®-S/L, additional framing on the top of the floor must be used that the pillows are fully covered when installed (see Annex 4, Drawings). For openings in floor constructions where installations are penetrating the pillow seal, the additional framing is not necessary

For building PROMASTOP®-S/L penetration seals in floors, include a steel mesh (wire size  $\geq 4$  mm, open square  $\geq 50$  mm) on the bottom side of the floor.

**2.3 Technical product literature:**

- Product data sheet of PROMASTOP®-S/L
- Product data sheet of PROMASTOP®-FC
- Installation manual of PROMASTOP®-S/L
- Detailed sketches for PROMASTOP®-S/L

### ANNEX 3

#### RESISTANCE TO FIRE CLASSIFICATION OF PROMASTOP®-S/L

#### 3.1 Classification acc. to EN 13501-2 for PROMASTOP®-S/L firestop pillows

Minimum thickness of the PROMASTOP®-S/L firestop pillow seal:

Supporting construction	Minimum thickness
Flexible walls	100 mm
Rigid walls	100 mm
Rigid floors	150 mm

Seal sizes of the PROMASTOP®-S/L in dependence with the supporting construction (see ETA 2.1):

Supporting construction	Seal size
Flexible walls	≤ 1,44 m <sup>2</sup>
Rigid walls	≤ 1,44 m <sup>2</sup>
Rigid floors	≤ 1,44 m <sup>2</sup>

Classification of the PROMASTOP®-S/L blank seals in dependence with the supporting construction (see ETA 2.1):

Supporting construction	Classification
Flexible walls	EI 90
Rigid walls	EI 90
Rigid floors	EI 120

Installations supports may penetrate the penetration seal:

Specimen
Steel cable trays (perforated or non-perforated)
Steel ladders
Steel cable trays (perforated or non-perforated) and steel ladders with organic coatings shall at least be classified A2-s1, d0 according to EN 13501-1:2007

Installations may penetrate the penetration seal (details are given in the specific parts in Annex 3):

Specimen
Plastic pipes made of PE-HD, PP-H, PP-R, PVC-U
Metal pipes (with insulation) made of steel, copper, cast iron, Ni-alloys
Cables and cable bundles (sheathed and non-sheathed)
Small conduits and tubes made of plastic or steel

Supporting distances for cables, cable trays:

Orientation	Maximum distance (mm)
Distance on both faces of wall constructions	250
Distance on the upper face of floor constructions	300

Supporting distances for pipes:

Orientation	Maximum distance (mm)
Distance on both faces of wall constructions	250
Distance on the upper face of floor constructions	300

*Pipe end configurations:*

<i>Tested and classified for plastic pipes, small conduits and tubes made of plastic</i>	Applicable
U/U	U/U, C/U, U/C, C/C
<i>Tested and classified for small conduits and tubes made of steel</i>	Applicable
U/C	C/U, U/C, C/C
<i>Tested and classified for metal pipes</i>	Applicable
U/C	C/U, U/C, C/C

See Annex 2 for additional information.

**3.2 Classification acc. to EN 13501-2 for the PROMASTOP®-S/L firestop pillows for cables, cable bundles, small conduits and tubes**

*All sheathed cable:*

All sheathed cable types currently and commonly used in building practice in Europe (e.g. control, power, data, optical fibre cables, signal, telecommunication, with or without cable supports).

*All non-sheathed cable:*

All non-sheathed cables (wires) currently and commonly used in building practice in Europe (with or without cable supports).

*Tied cable bundle:*

Tied cable bundle (maximum diameter 100 mm), maximum diameter of single cable 21 mm (with or without cable supports).

Cable trays and cable ladders may penetrate the seal.

Installation	Classification	
	Wall	Floor
All sheathed cable types: Ø ≤ 21 mm	<b>E 120</b> <b>EI 90</b>	<b>E 120</b> <b>EI 60</b>
All sheathed cable types: 21 ≤ Ø ≤ 50 mm	<b>E 120</b> <b>EI 90</b>	<b>E 120</b> <b>EI 60</b>
All sheathed cable types: 50 ≤ Ø ≤ 80 mm	<b>E 120</b> <b>EI 90</b>	<b>E 120</b> <b>EI 60</b>
Tied cable bundle: Ø ≤ 100 mm	<b>E 120</b> <b>EI 90</b>	<b>E 120</b> <b>EI 120</b>
All non-sheathed cable types: Ø ≤ 24 mm	<b>E 120</b> <b>EI 90</b>	<b>E 120</b> <b>EI 90</b>
Small conduits and tubes, made of plastic, copper or steel: Ø ≤ 16 mm	<b>E 120-U/C</b> <b>EI 90-U/C</b>	<b>E 120-U/C</b> <b>EI 120-U/C</b>

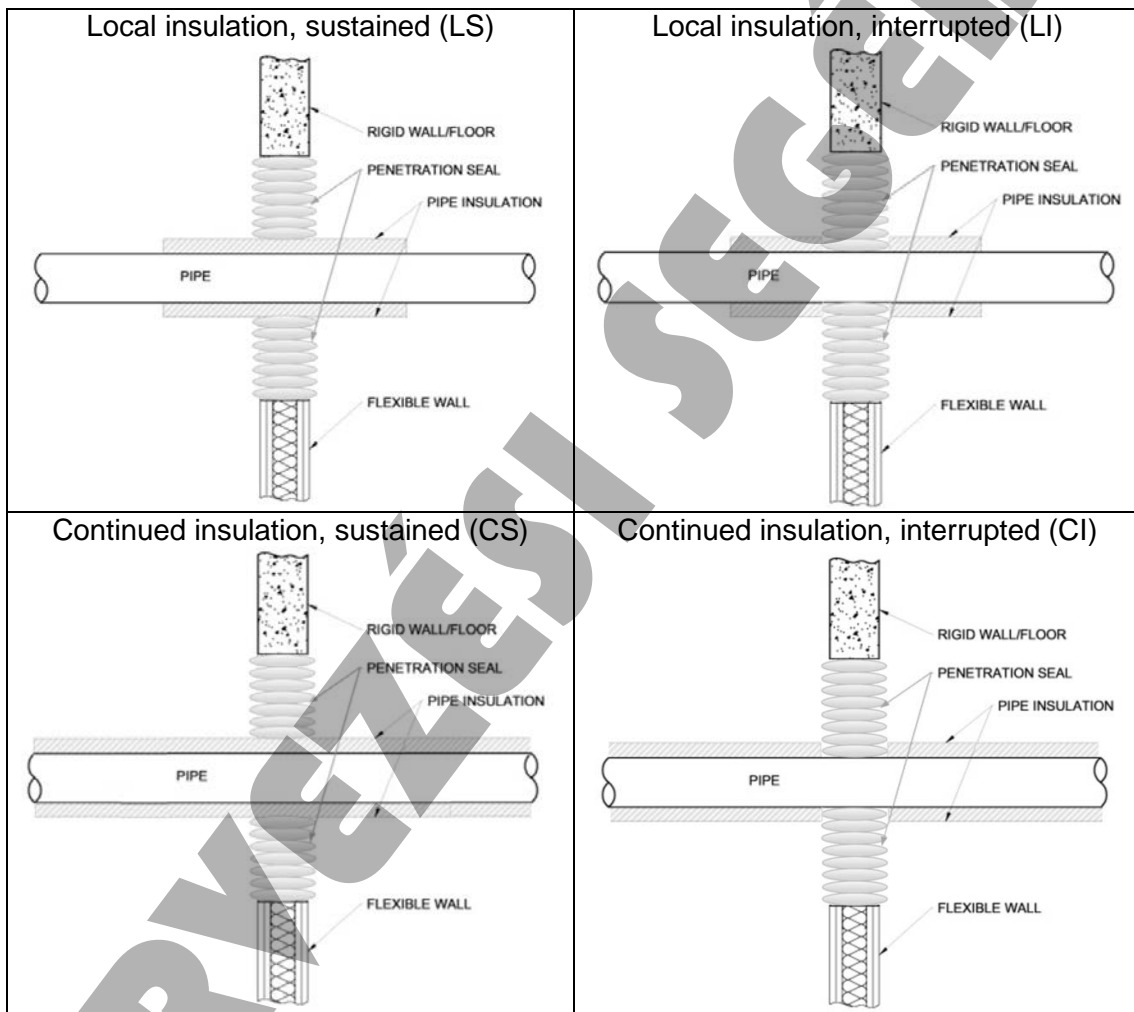
**3.3 Classification acc. to EN 13501-2 for the PROMASTOP®-S/L firestop pillows for metal pipes with non-combustible insulation**

Steel and copper pipes with non-combustible insulation may penetrate the PROMASTOP®-S/L penetration seal.

*Specification of the non-combustible insulation:*  
See sections steel and copper below.

*Fastening of the non-combustible insulation:*  
The insulation shall be placed in the center of the PROMASTOP®-S/L penetration seal and fixed with steel wire (minimum thickness 0,6 mm).

Metal pipes with mineral wool insulation according to following possibilities:

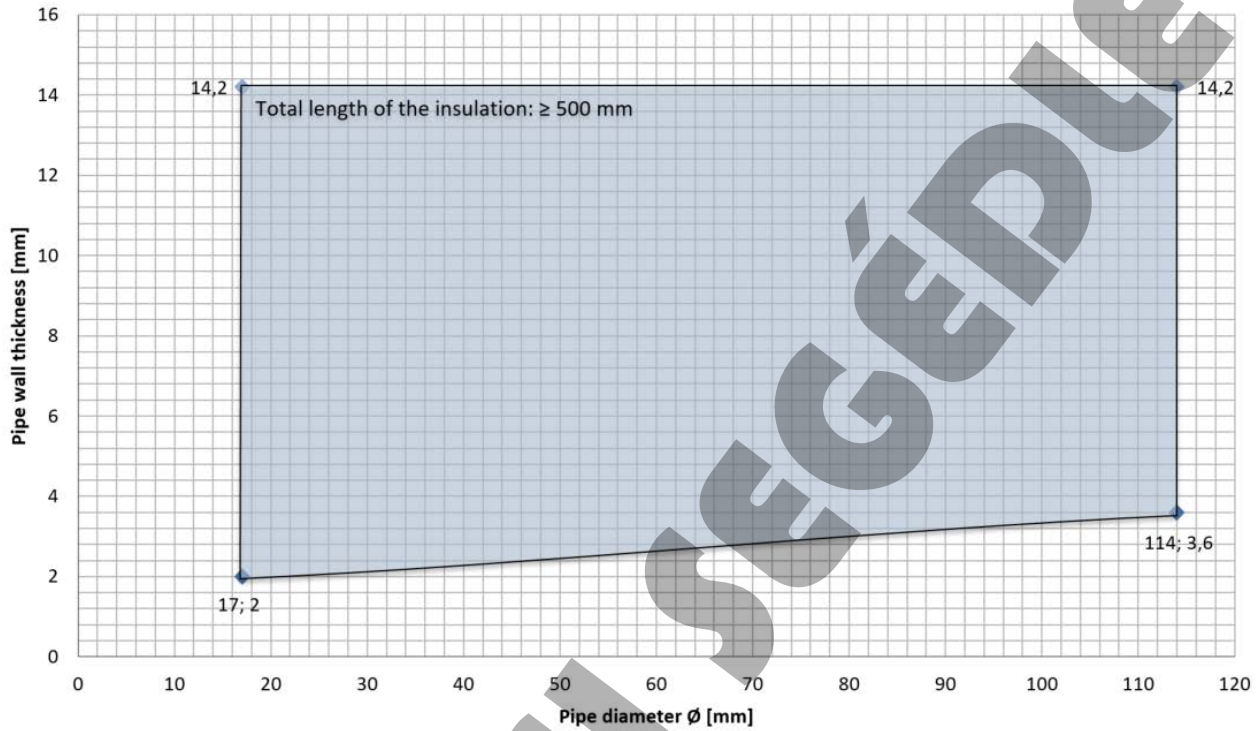


Angles between 90° and 45° of the insulated pipes and the supporting construction are covered.

**Steel pipes**

Specification	Thresholds
Mineral wool	Melting point $\geq 1000^{\circ}\text{C}$ , reaction to fire minimum A2-s1, d0, A2L-s1, d0 in accordance to EN 13501-1
Density	$\geq 40 \text{ kg/m}^3$ to $\leq 150 \text{ kg/m}^3$
Insulation thickness	$\geq 20 \text{ mm}$
Case of insulation	LS, LI, CS, CI
Length of insulation	$\geq 500 \text{ mm}$ (see diagram)

Steel pipes with non-combustible insulation	Classification depending on the orientation	
	Wall	Floor
Pipe diameter (mm)	17 ≤ 114	17 ≤ 114
Pipe wall thickness (mm)	2,0 ≤ 14,2	2,0 ≤ 14,2
<b>Classification</b>	<b>EI 120-U/C</b>	<b>EI 120-U/C</b>

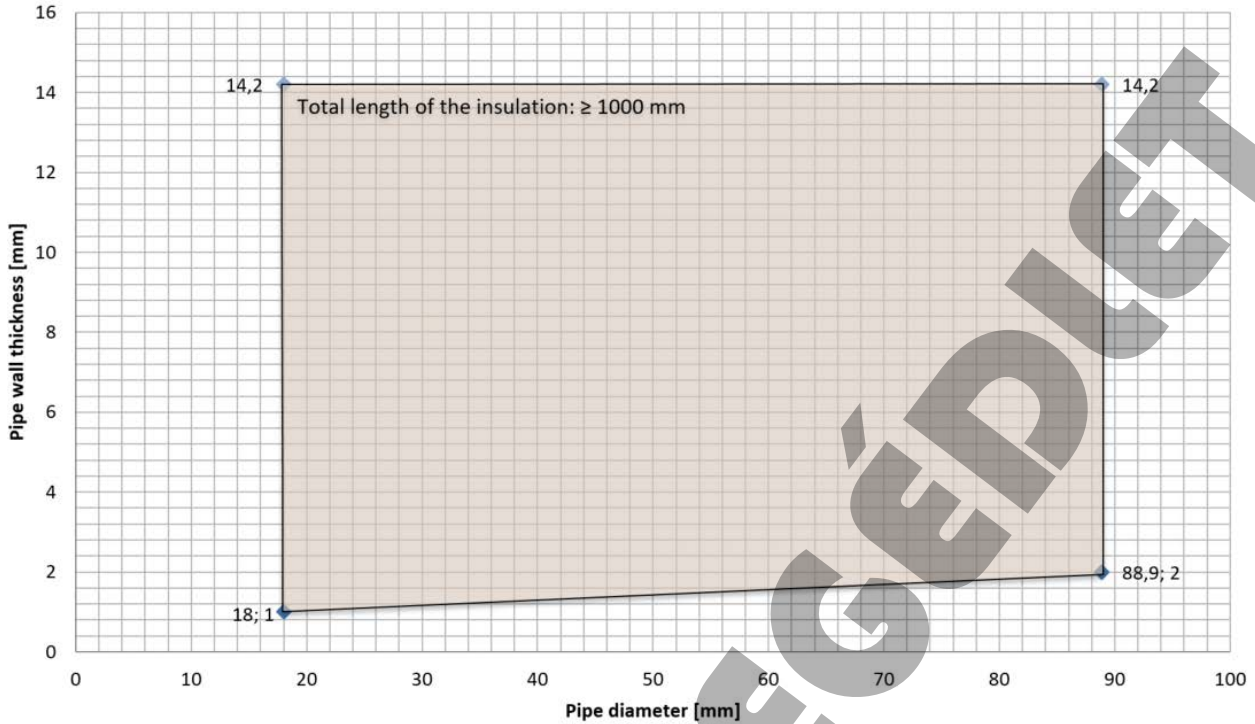


The field of application given for metal pipes with lower heat conductivity ( $\lambda \leq 58 \text{ W/mK}$ ) and a melting point of minimum 1100°C (e.g. stainless steel, cast iron, Ni alloys (NiCr, NiMo and NiCu alloys) and Ni.

### Copper pipes

Specification	Thresholds
Mineral wool	Melting point $\geq 1000^\circ\text{C}$ , reaction to fire minimum A2-s1, d0, A2L-s1, d0 in accordance to EN 13501-1
Density	$\geq 40 \text{ kg/m}^3$ to $\leq 150 \text{ kg/m}^3$
Insulation thickness	$\geq 20 \text{ mm}$
Case of insulation	LS, LI, CS, CI
Length of insulation	$\geq 1000 \text{ mm}$ (see diagram)

Copper pipes with non-combustible insulation	Classification depending on the orientation	
	Wall	Floor
Pipe diameter (mm)	17 ≤ 88,9	17 ≤ 88,9
Pipe wall thickness (mm)	1,0 ≤ 14,2	1,0 ≤ 14,2
<b>Classification</b>	<b>EI 120-U/C</b>	<b>EI 120-U/C</b>



The field of application given for copper pipes is also valid for other metal pipes with lower heat conductivity ( $\lambda \leq 380$  W/mK) and a melting point of minimum 1083°C (e.g. stainless steel, cast iron, Ni alloys (NiCr, NiMo and NiCu alloys) and Ni.

**3.4 Classification acc. to EN 13501-2 for the PROMASTOP®-S/L firestop pillows and PROMASTOP®-FC firestop collar for plastic pipes**

Plastic pipes may penetrate the PROMASTOP®-S/L penetration seal. The firestop collar PROMASTOP®-FC is used to form the penetration seal. Fixing of the collar shall be made by using threaded rods ( $\geq$  M6) with nuts and washers. On the top side of floor penetration seals, use metal profiles (length  $\geq$  100 mm, width  $\geq$  20 mm and thickness  $\geq$  2 mm) as anchor for the threaded rods. The firestop collar is covered by ETA-14/0089. The thickness of the wall (supporting construction) must be  $\geq$  110 mm.

Application of the PROMASTOP®-FC in the PROMASTOP®-S/L penetration seal:

Orientation	Application
Wall	Two-sided: On both sides on the penetration seal
Floor	One-sided: Below of the floor under the penetration seal

The firestop collar is supplied in several sizes and three heights:

Name	Height of the collar
PROMASTOP®-FC3	30 mm
PROMASTOP®-FC6	60 mm

Specification of the plastic pipes including classification: See section below.

Name	Dimension scope Ø...Diameter (mm) t <sub>b</sub> ...pipe wall thickness (mm)	Orientation Wall...W Floor...F	Collar type	Classification
PP-H / PP-R	Ø 32 / t <sub>b</sub> 1,8 - Ø 125 / t <sub>b</sub> 3,1	W / F	FC3/6	EI 120-U/U
PE-HD	Ø 32 / t <sub>b</sub> 1,8 - Ø 125 / t <sub>b</sub> 3,1	W / F	FC3/6	EI 120-U/U
PVC-U	Ø 32 / t <sub>b</sub> 1,8 - Ø 125 / t <sub>b</sub> 3,2	W / F	FC3/6	EI 120-U/U

More details are shown in the following diagrams. In the diagrams the pipe outer diameter is stated.

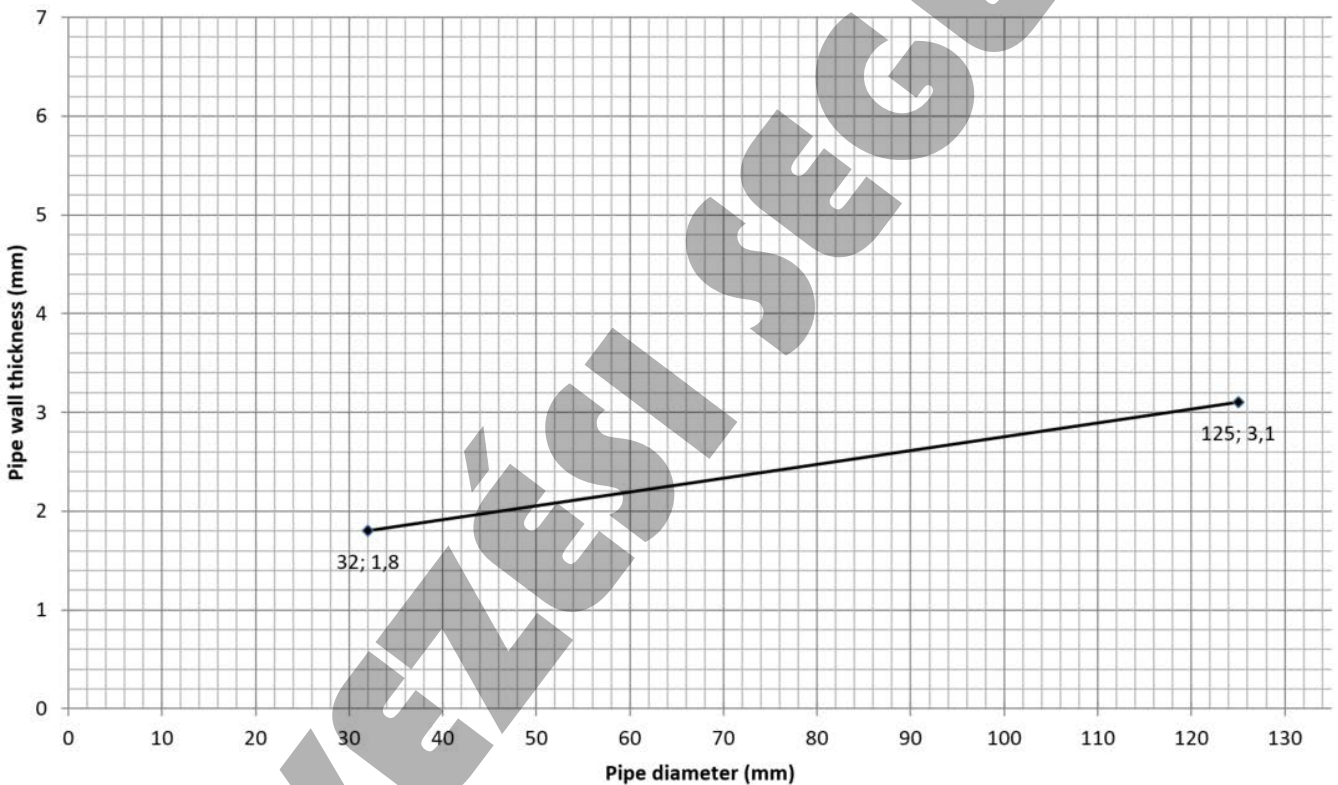
The classifications for PE pipes are applicable for pipes in acc. to EN 12201-2, EN 1519-1, EN 12666-1, DIN 8074, DIN 8075 and ABS-pipes in acc. to EN 1455-1 and SAN + PVC-pipes in acc. to EN 1565-1.

The classifications for PVC-U pipes are applicable for pipes acc. to EN 1452-1, EN 1329-1, EN 1453-1, DIN 8061, DIN 8062, EN 1329-1, EN 1453-1 and to PVC-C pipes acc. to EN 1566-1.

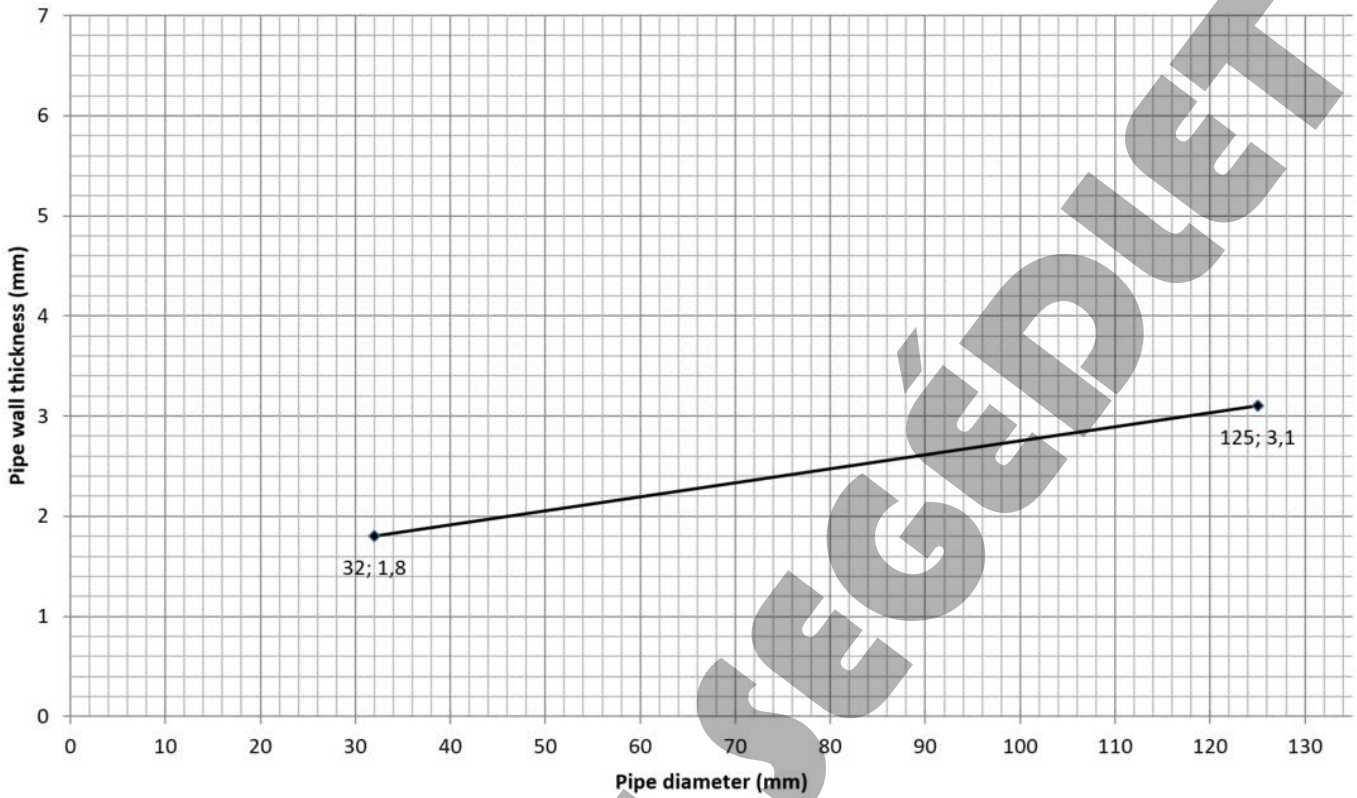
The classifications for PP-H and PP-R pipes are applicable for pipes in acc. to ÖNORM B 5174-1, DIN 8077, DIN 8078 and EN ISO 15494.

**Additional classification details**

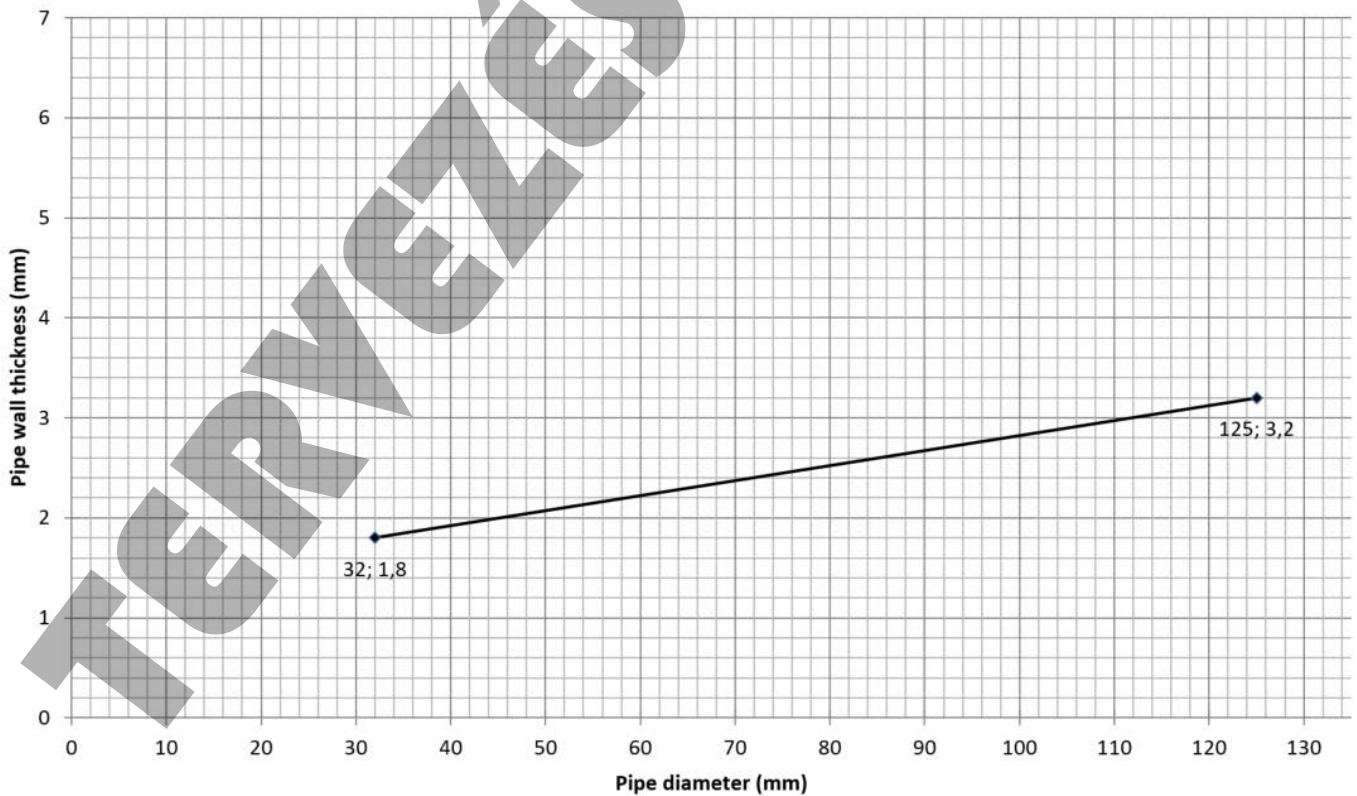
PP-H / PP-R	Ø 32 / t <sub>b</sub> 1,8 - Ø 125 / t <sub>b</sub> 3,1	W / F	FC3/6	EI 120-U/U
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PE-HD	Ø 32 / t <sub>b</sub> 1,8 - Ø 125 / t <sub>b</sub> 3,1	W / F	FC3/6	EI 120-U/U
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PVC-U	Ø 32 / t <sub>b</sub> 1,8 - Ø 125 / t <sub>b</sub> 3,2	W / F	FC3/6	EI 120-U/U
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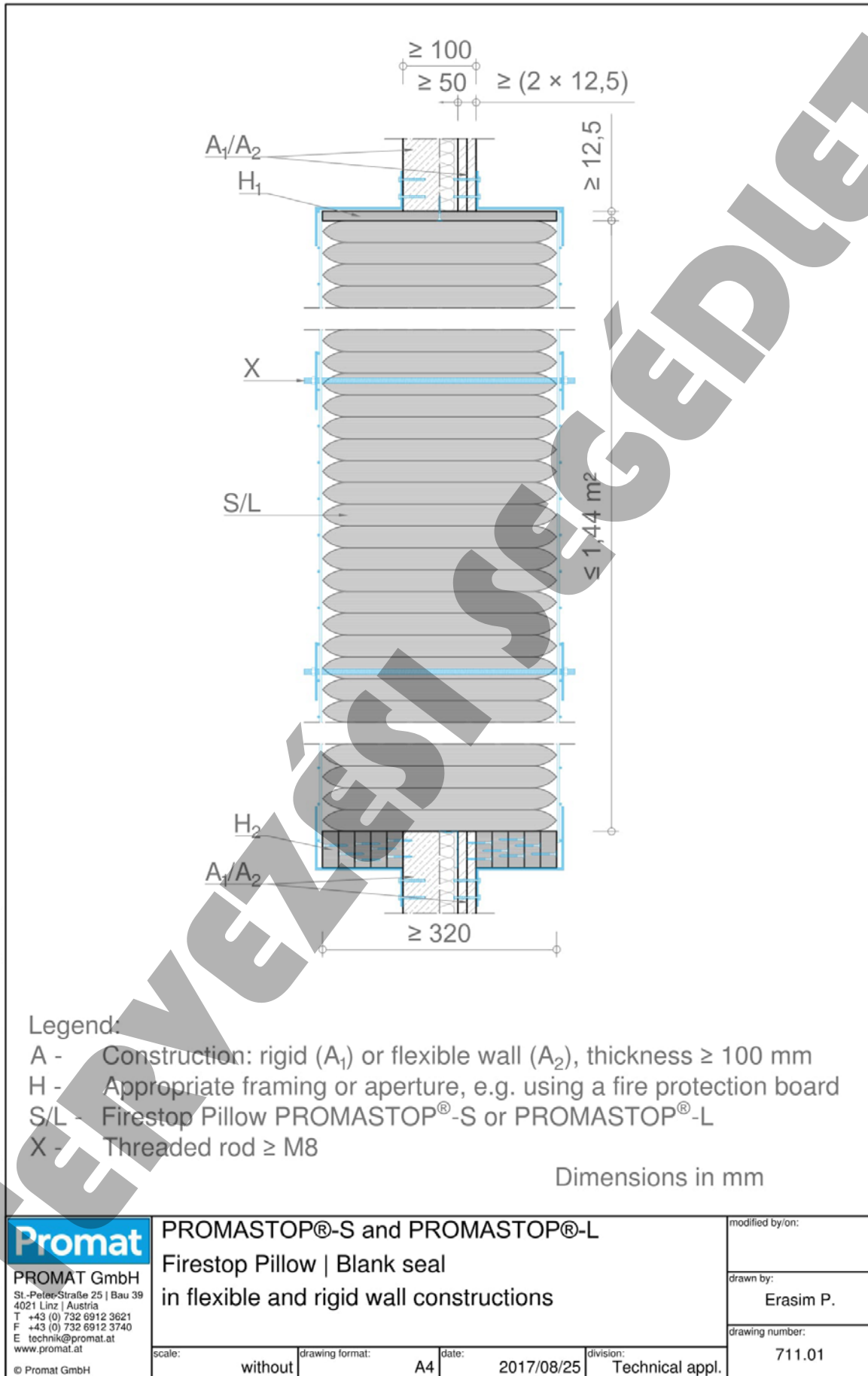


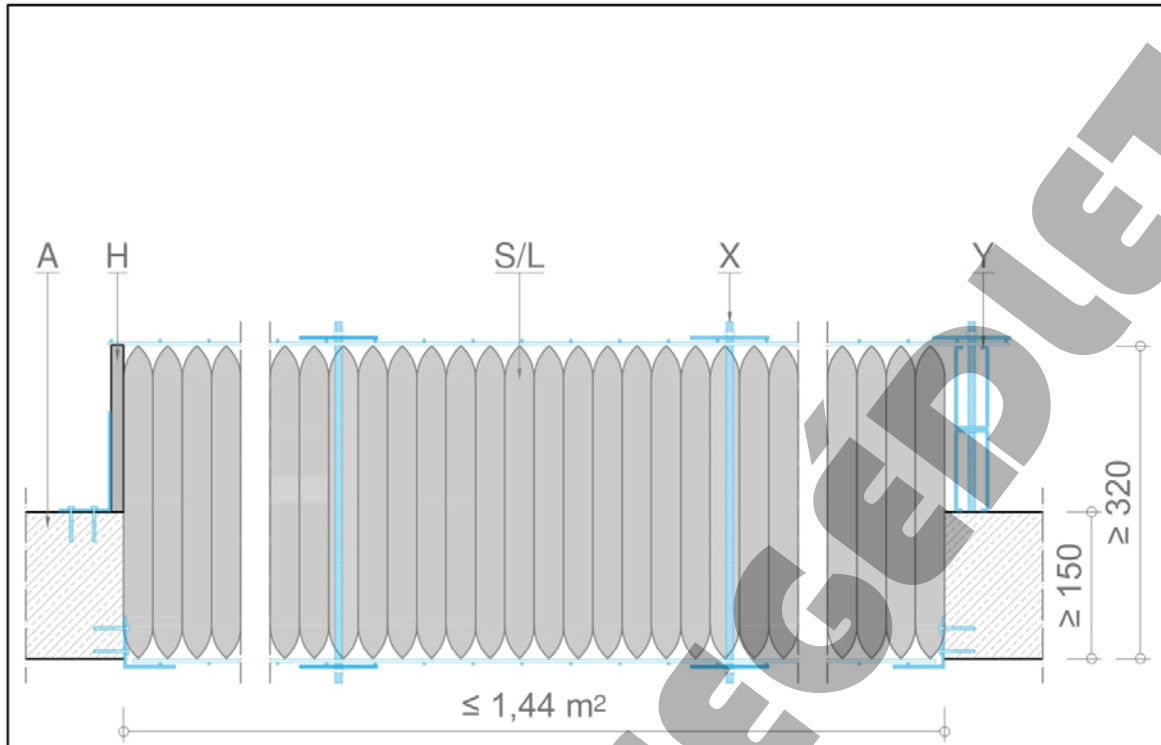


### ANNEX 4 INSTALLATION DRAWINGS

<p>711.01</p>	<p>711.02</p>	<p>711.03</p>	
<p>711.04</p>	<p>711.05</p>	<p>711.06</p>	
<p>711.07</p>	<p>711.08</p>	<p>711.09</p>	
<p>711.10</p>	<p>711.A</p>		
<p><b>Promat</b> PROMAT GmbH St.-Peter-Straße 25   Bau 39 4021 Linz   Austria T +43 (0) 732 6912 3621 F +43 (0) 732 6912 3740 E technik@promat.at www.promat.at © Promat GmbH</p>	<p>PROMASTOP®-S and PROMASTOP®-L Firestop Pillow Overview of the constructions</p> <p>scale: without drawing format: A4 date: 2017/09/01 division: Technical appl.</p>		<p>modified by/on:</p> <p>drawn by: Erasim P.</p> <p>drawing number: 711.001</p>

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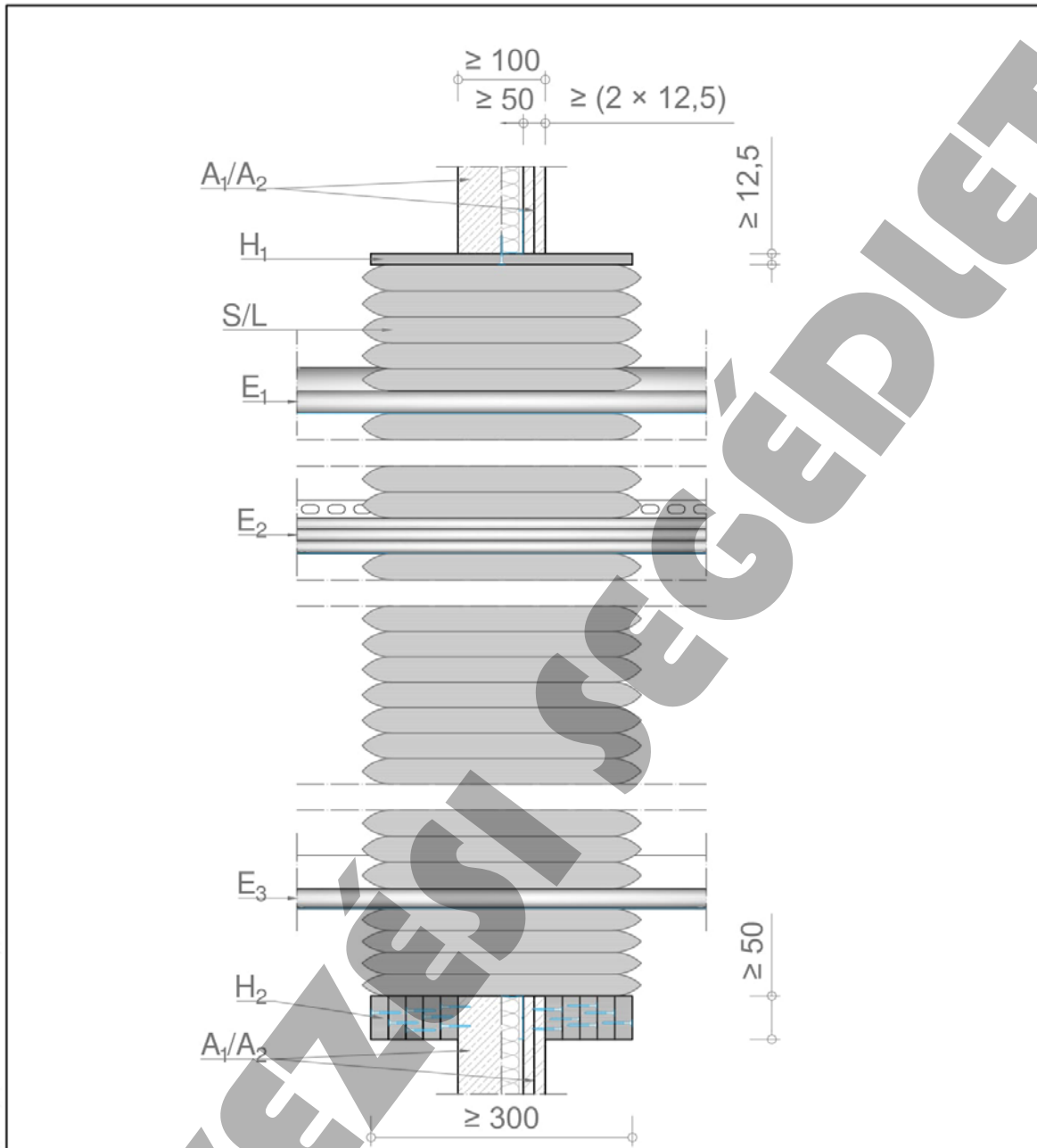


Legend:

- A - Rigid floor construction, thickness  $\geq 150$  mm
- H - Appropriate framing or aperture, e.g. using a fire protection board
- S/L - Firestop Pillow PROMASTOP<sup>®</sup>-S or PROMASTOP<sup>®</sup>-L
- X - Threaded rod  $\geq M8$
- Y - Appropriate fastening in one direction

Dimensions in mm

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				drawn by: <b>Erasmus P.</b>
				drawing number: <b>711.02</b>
scale: without	drawing format: A4	date: 2017/08/28	division: Technical appl.	

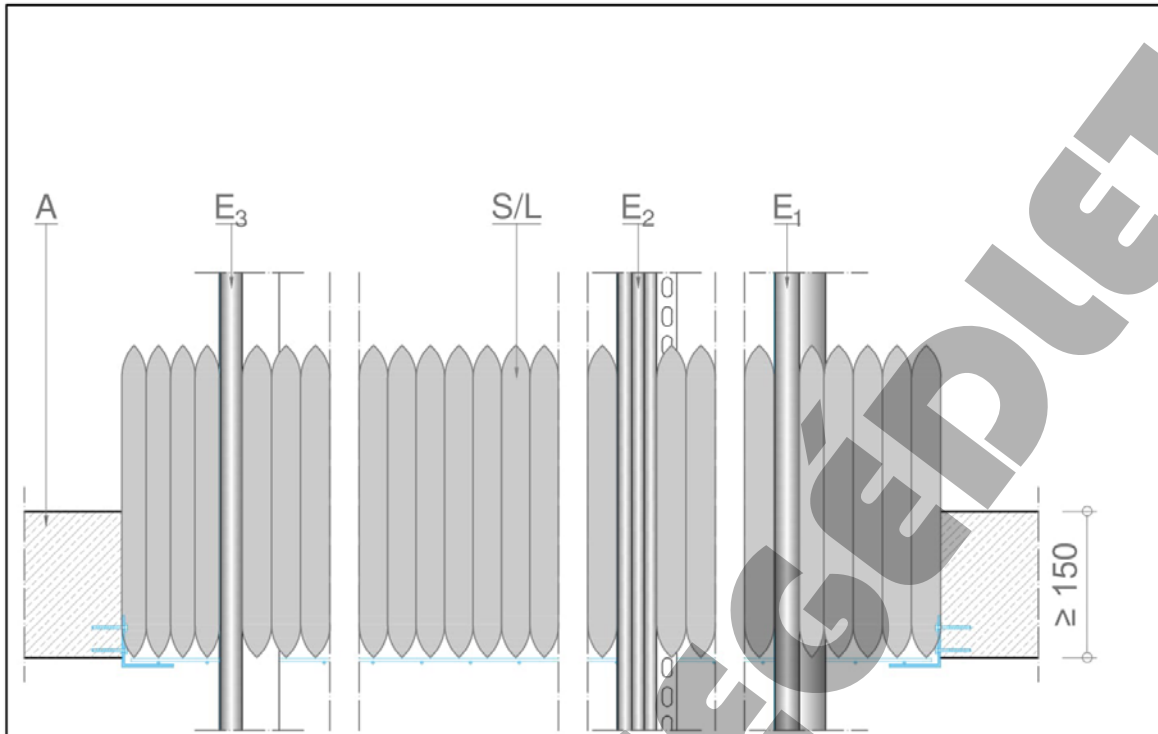


Legend:

- A - Construction: rigid (A<sub>1</sub>) or flexible wall (A<sub>2</sub>), thickness ≥ 100 mm
- E - Cables, cable bundles or cable trays (E<sub>1</sub> to E<sub>3</sub>):  
Cable groups 1, 2, 3, 4, 5 and 6
- H - Appropriate framing or aperture, e.g. using a fire protection board
- S/L - Firestop Pillow PROMASTOP®-S or PROMASTOP®-L

Dimensions in mm

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					drawn by: Erasim P.
					drawing number: 711.03
scale: without	drawing format: A4	date: 2017/08/29	division: Technical appl.		

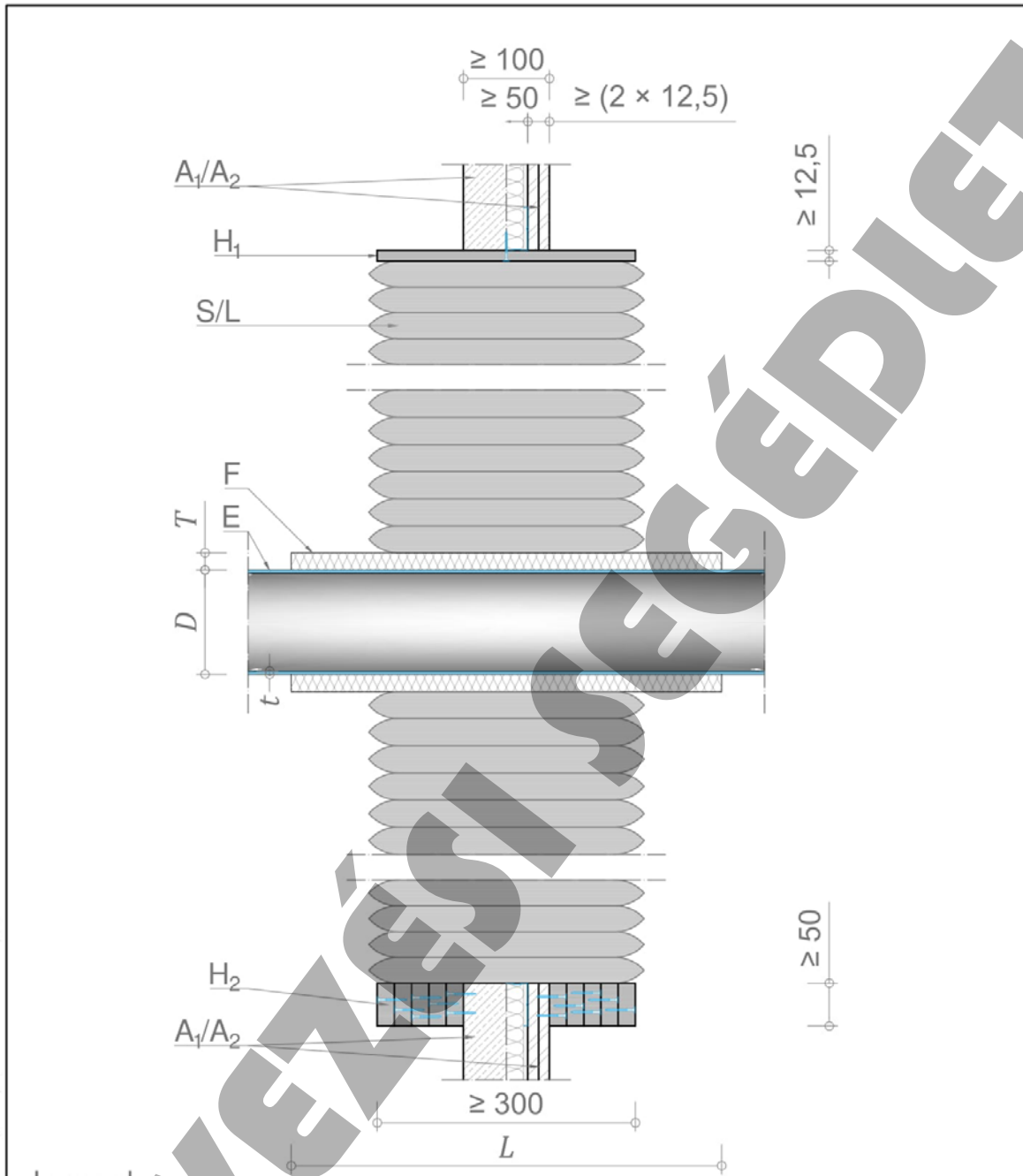


Legend:

- A - Rigid floor construction, thickness  $\geq 150$  mm
- E - Cables, cable bundles or cable trays (E<sub>1</sub> to E<sub>3</sub>):  
Cable groups 1, 2, 3, 4, 5 and 6
- S/L - Firestop Pillow PROMASTOP®-S or PROMASTOP®-L

Dimensions in mm

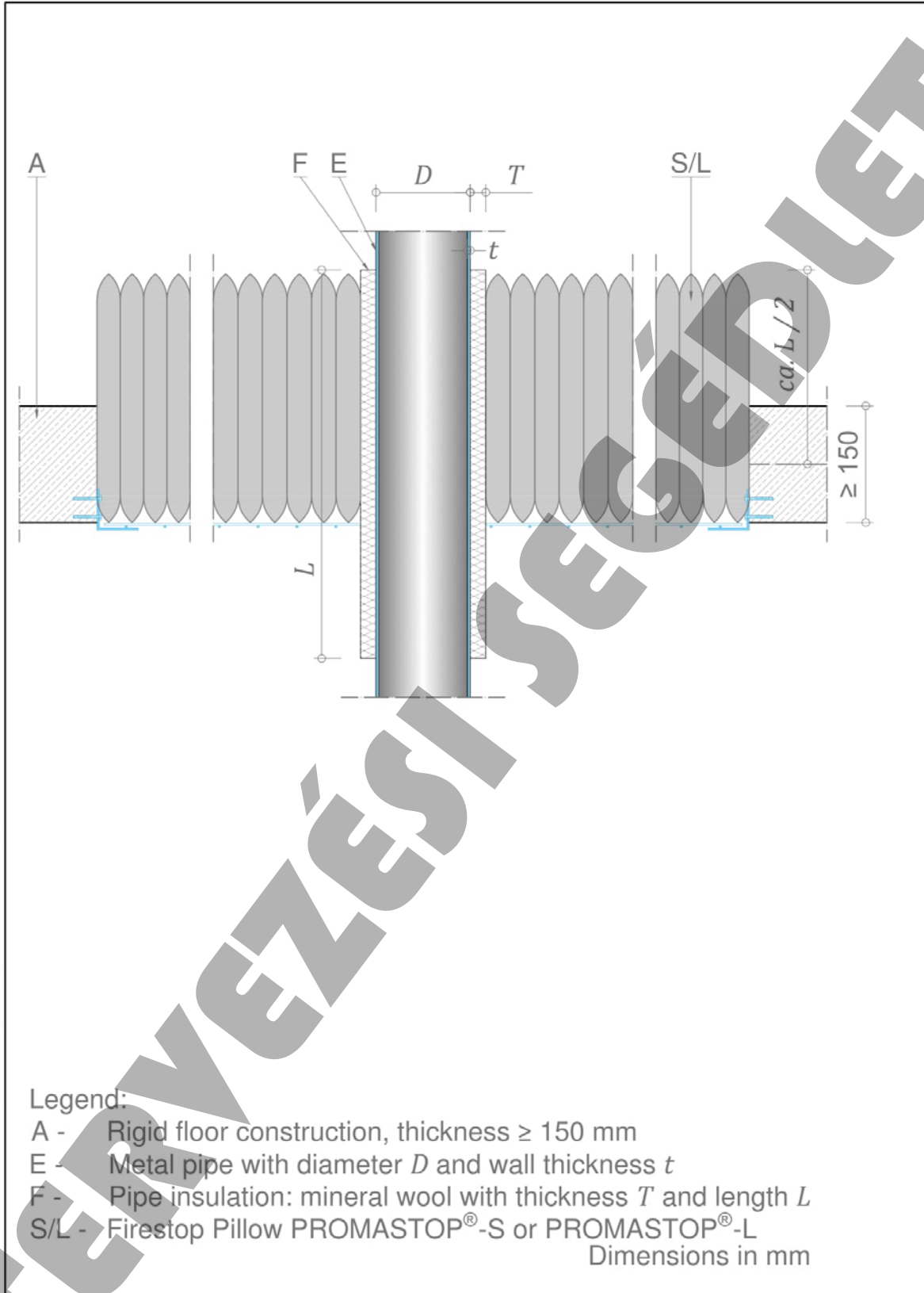
<p>PROMAT GmbH St.-Peter-Straße 25   Bau 39 4021 Linz   Austria T +43 (0) 732 6912 3621 F +43 (0) 732 6912 3740 E technik@promat.at www.promat.at © Promat GmbH</p>	<p>PROMASTOP®-S and PROMASTOP®-L Firestop Pillow   Seal penetrated by cables, cable bundles or cable trays in rigid floor constructions</p>			<p>modified by/on:</p>
				<p>drawn by: Erasmus P.</p>
	<p>scale: without</p>	<p>drawing format: A4</p>	<p>date: 2017/08/29</p>	<p>division: Technical appl.</p>



Legend:

- A - Construction: rigid (A<sub>1</sub>) or flexible wall (A<sub>2</sub>), thickness ≥ 100 mm
  - E - Metal pipe with diameter *D* and wall thickness *t*
  - F - Pipe insulation: mineral wool with thickness *T* and length *L*
  - H - Appropriate framing or aperture, e.g. using a fire protection board
  - S/L - Firestop Pillow PROMASTOP®-S or PROMASTOP®-L
- Dimensions in mm

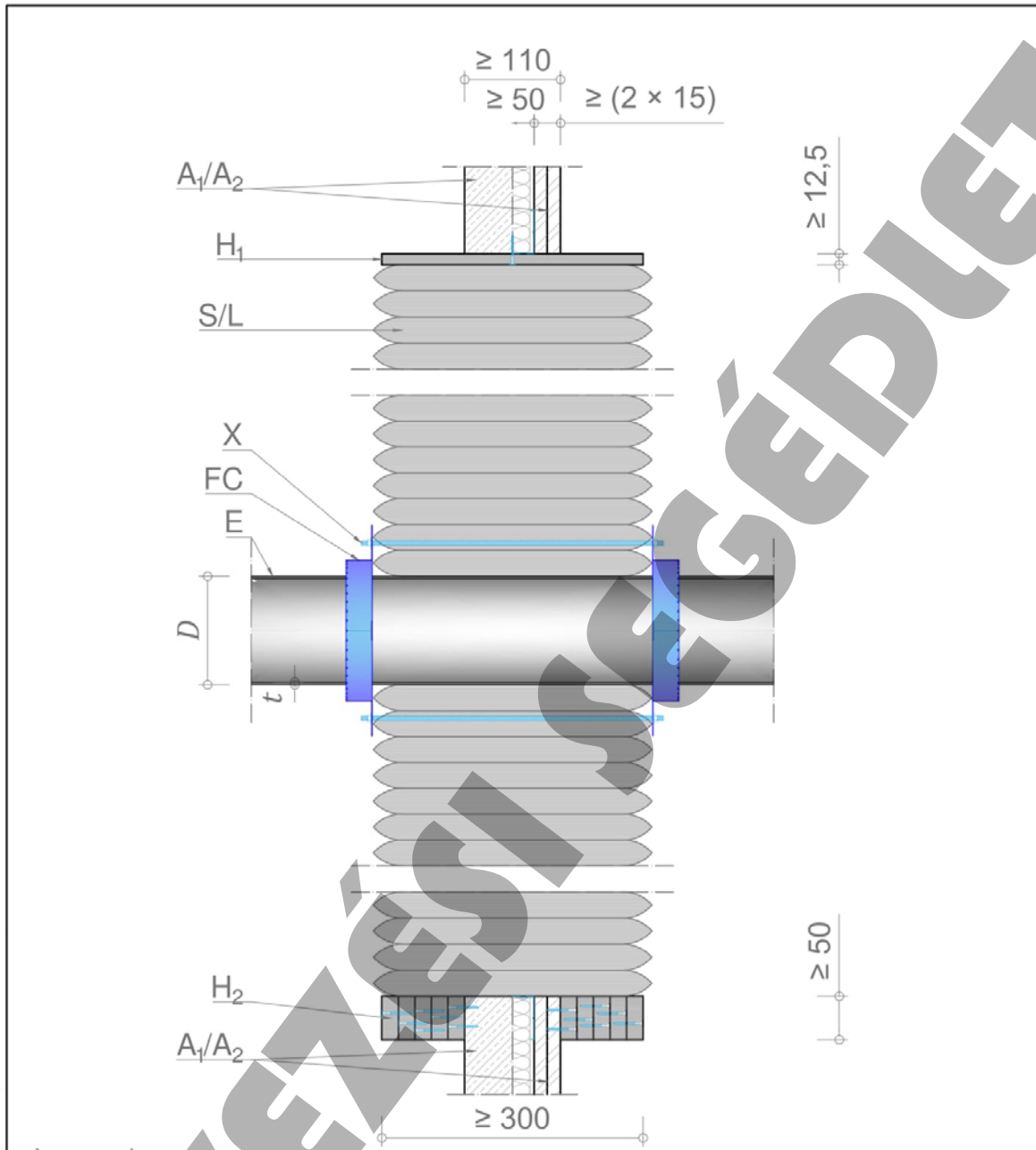
<p>PROMAT GmbH St.-Peter-Straße 25   Bau 39 4021 Linz   Austria T +43 (0) 732 6912 3621 F +43 (0) 732 6912 3740 E technik@promat.at www.promat.at © Promat GmbH</p>	<p><b>PROMASTOP®-S and PROMASTOP®-L</b> Firestop Pillow   Seal penetrated by metal pipes with non-combustible insulation in flexible and rigid wall constructions</p>				modified by/on:
					drawn by: Erasim P.
	scale: without	drawing format: A4	date: 2017/08/29	division: Technical appl.	drawing number: 711.05



Legend:

- A - Rigid floor construction, thickness  $\geq 150$  mm
  - E - Metal pipe with diameter  $D$  and wall thickness  $t$
  - F - Pipe insulation: mineral wool with thickness  $T$  and length  $L$
  - S/L - Firestop Pillow PROMASTOP®-S or PROMASTOP®-L
- Dimensions in mm

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					drawn by: Erasim P.
					drawing number: 711.06
scale: without	drawing format: A4	date: 2017/08/29	division: Technical appl.		



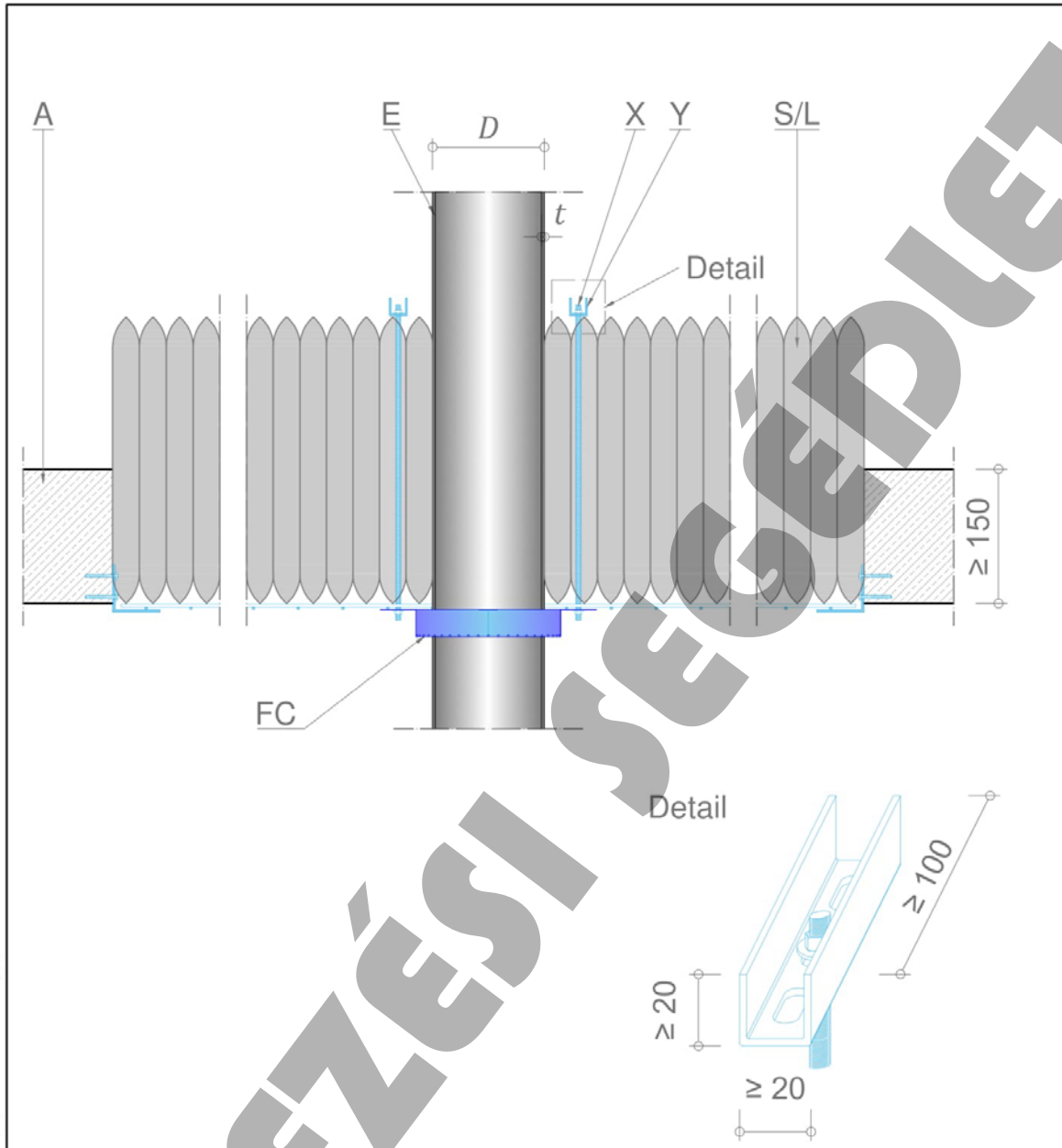
Legend:

- A - Construction: rigid (A<sub>1</sub>) or flexible wall (A<sub>2</sub>), thickness ≥ 110 mm
- E - Plastic pipe with diameter *D* and wall thickness *t*
- FC - Firestop Collar PROMASTOP®-FC
- H - Appropriate framing or aperture, e.g. using a fire protection board
- S/L - Firestop Pillow PROMASTOP®-S or PROMASTOP®-L
- X - Threaded rod ≥ M6

Dimensions in mm

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					drawn by: Erasmus P.		
					drawing number: 711.07		
scale:	without	drawing format:	A4	date:	2017/08/30	division:	Technical appl.

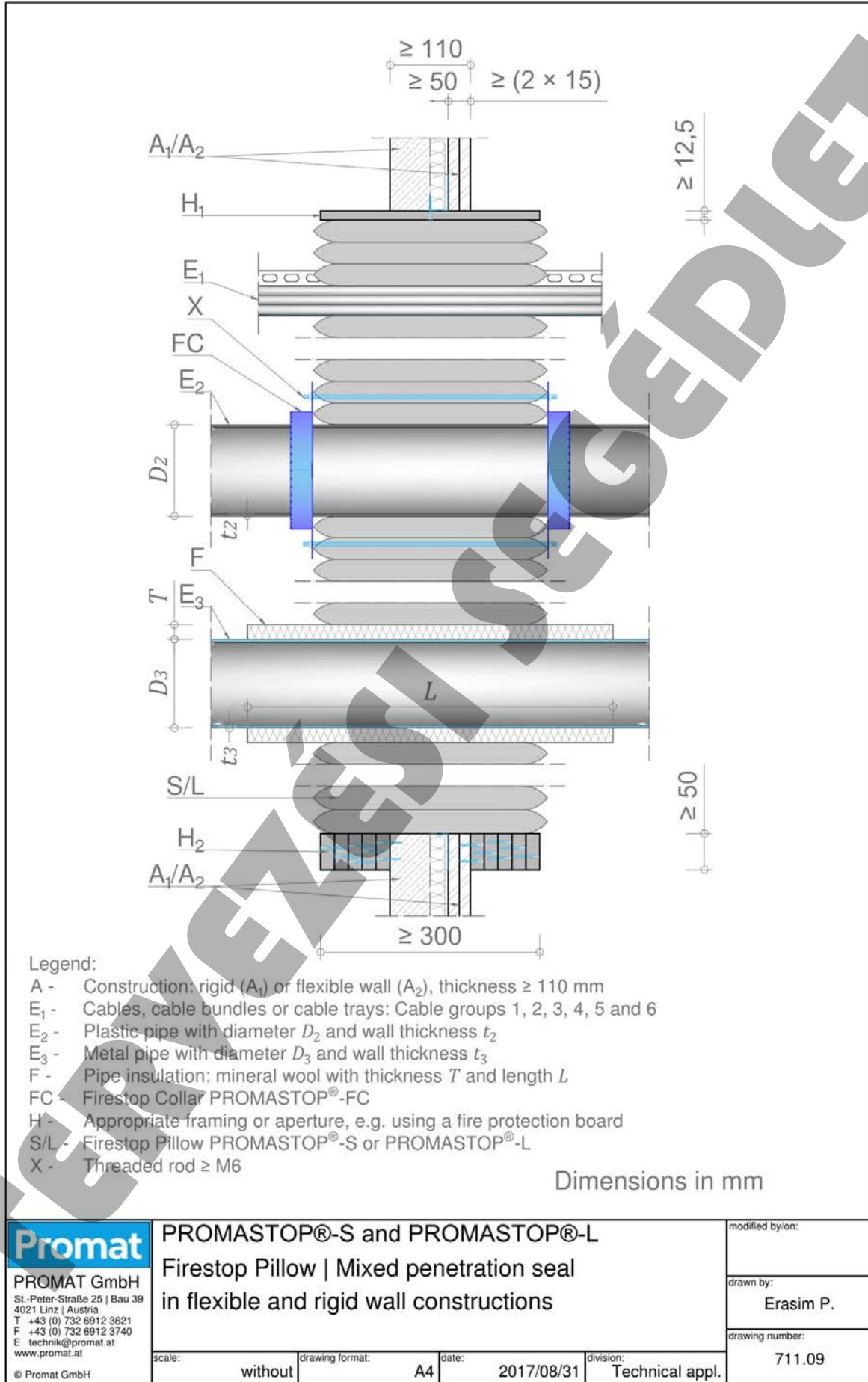


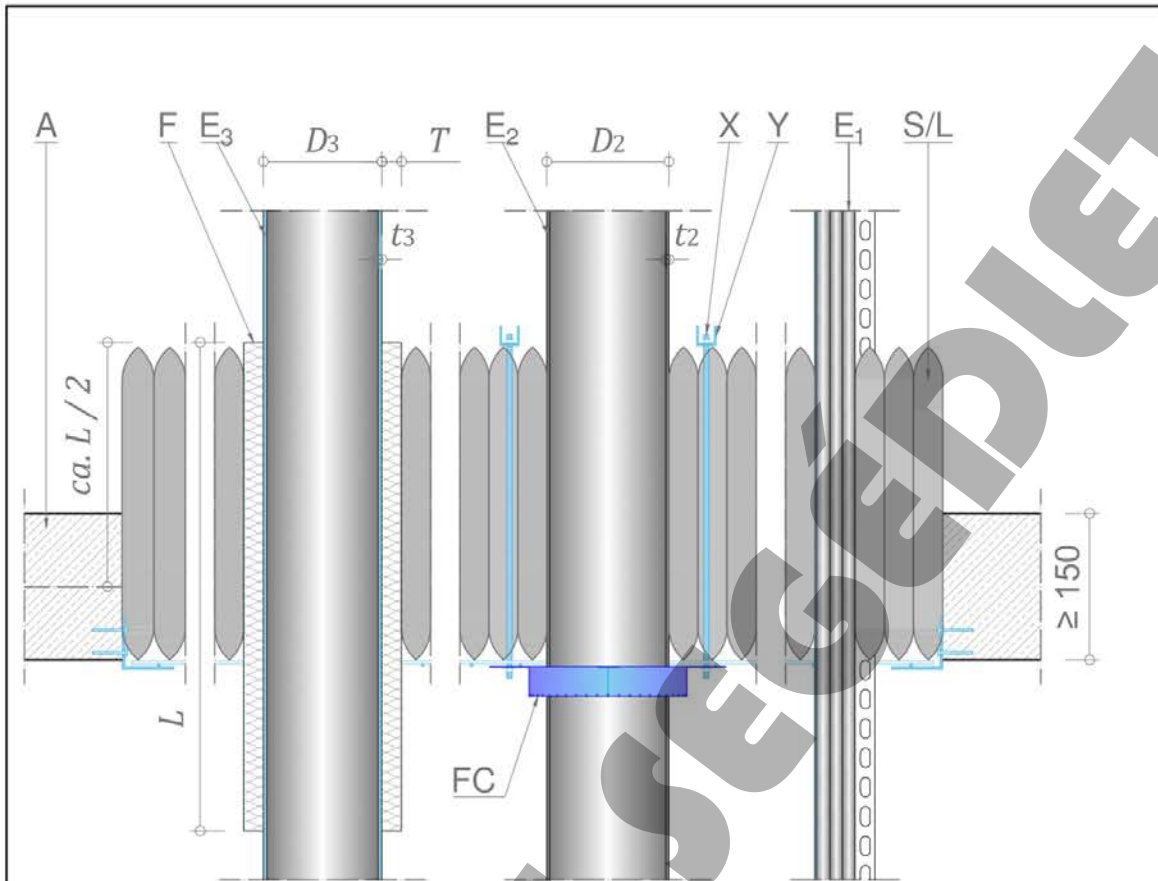


Legend:

- A - Rigid floor construction, thickness  $\geq 150$  mm
  - E - Plastic pipe with diameter  $D$  and wall thickness  $t$
  - FC - Firestop Collar PROMASTOP®-FC
  - S/L - Firestop Pillow PROMASTOP®-S or PROMASTOP®-L
  - X - Threaded rod  $\geq M6$
  - Y - Metal profile  $\geq 20 \times 20 \times 2$  mm, length  $\geq 100$  mm
- Dimensions in mm

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	scale:	drawing format:	date:	division:	drawn by:
	without	A4	2017/08/31	Technical appl.	Erasmus P.
				drawing number:	711.08



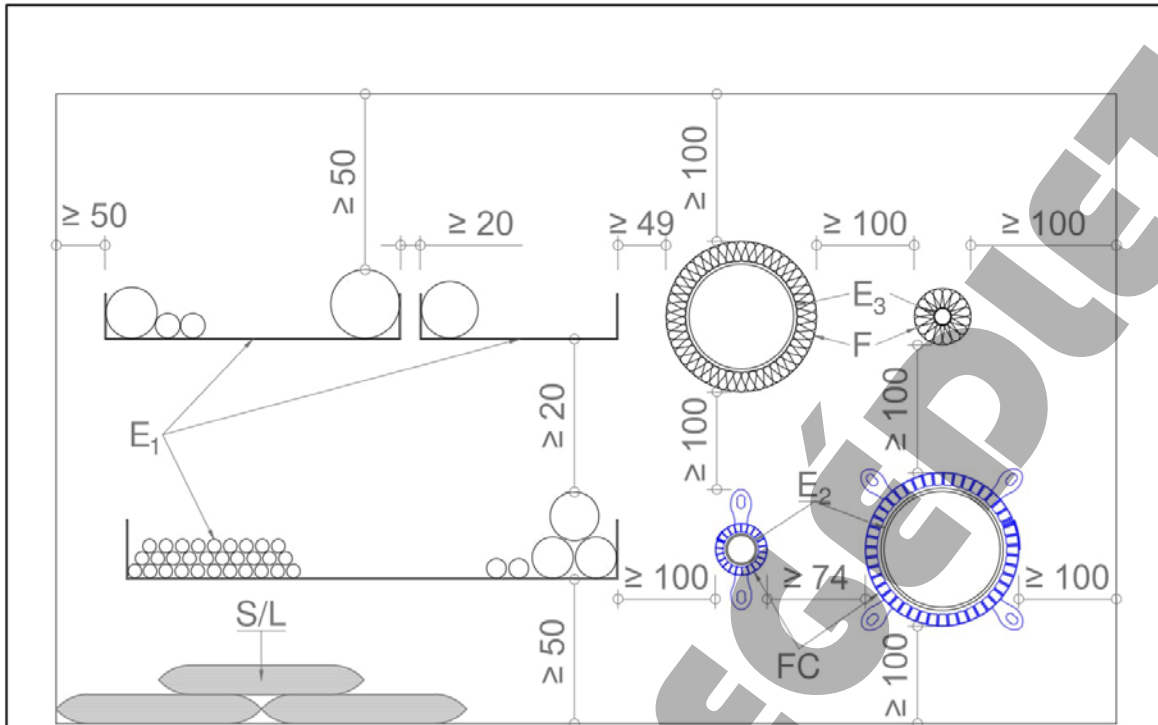


Legend:

- A - Rigid floor construction, thickness  $\geq 150$  mm
- E<sub>1</sub> - Cables, cable bundles or cable trays: Cable groups 1, 2, 3, 4, 5 and 6
- E<sub>2</sub> - Plastic pipe with diameter  $D_2$  and wall thickness  $t_2$
- E<sub>3</sub> - Metal pipe with diameter  $D_3$  and wall thickness  $t_3$
- F - Pipe insulation: mineral wool with thickness  $T$  and length  $L$
- FC - Firestop Collar PROMASTOP®-FC
- S/L - Firestop Pillow PROMASTOP®-S or PROMASTOP®-L
- X - Threaded rod  $\geq M6$
- Y - Metal profile  $\geq 20 \times 20 \times 2$  mm, length  $\geq 100$  mm

Dimensions in mm

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					drawn by: Erasim P.		
					drawing number: 711.10		
scale:	without	drawing format:	A4	date:	2017/09/07	division:	Technical appl.



Legend:

E<sub>1</sub> - Cables, cable bundles or cable trays:  
Cable groups 1, 2, 3, 4, 5 and 6

E<sub>2</sub> - Plastic pipes

E<sub>3</sub> - Metal pipes

F - Pipe insulation: mineral wool

FC - Firestop Collar PROMASTOP®-FC

S/L - Firestop Pillow PROMASTOP®-S or PROMASTOP®-L

Dimensions in mm

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					<p>drawn by:</p> <p><b>Erasim P.</b></p>
	<p>scale:</p> <p>without</p>	<p>drawing format:</p> <p>A4</p>	<p>date:</p> <p>2017/09/12</p>	<p>division:</p> <p>Technical appl.</p>	<p>drawing number:</p> <p>711.A</p>