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Membro EOTA

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European Technical Assessment ETA-17/0700 of 13/09/2017

(English language translation; the original version is in Italian)

GENERAL PART

Trade name of the construction product	**"PIZ CLADDING SYSTEM"**
Product family to which the construction product belongs	**PAC 04: THERMAL INSULATION PRODUCTS. COMPOSITE INSULATING KITS/SYSTEMS** **Vêture kit – Prefabricated unit for external wall insulation**
Manufacturer	**PIZ S.r.l.** **Via dei Molini 22** **I- 23013 Cosio Valtellino (SO) - Italy**
Manufacturing plant(s)	**PIZ S.r.l.** **Via dei Molini 22** **I- 23013 Cosio Valtellino (SO) - Italy**
This European Technical Assessment contains	**34 pages, including 21 annex**
This European Technical Assessment is issued in accordance with regulation (EU) No 305/2011, on the basis of	**ETAG 017 Edition November 2005, used as EAD (European Assessment Document)**

SPECIFIC PARTS

1. TECHNICAL DESCRIPTION OF THE PRODUCT

The vêture kit "PIZ CLADDING SYSTEM" and its configurations (see tab. 2) consists of insulation panels (EPS or MW) attached to the skin made of fiber reinforced cement mortar (thickness 8, 9 or 11 mm), without adhesive (adhesion obtained during the process of hydraulic mortar on insulation). The components described in the following table are factory-made by the ETA Holder or by his suppliers. Detailed information and data of all the components are given in the annexes of this ETA. The ETA Holder is ultimately responsible for the kit.

1.1 Components of the kit "PIZ CLADDING SYSTEM"

The components of the kit are described below

Components (see § 4 for further description, characteristics and performances of the components)		***Dimensions (mm)***	***Thickness (mm)***
Vêture kits Type C according to ETAG 017 used as EAD **Insulation material with associated method of fixing**			
Vêture unit (see Annex 1, 2 and 3): EPS panels attached to the skin made of fiber reinforced cement mortar	Insulation product 1: Expanded polystyrene with graphite (see § 4.2.1 for further description)	H x L 450 x 450 450 x 675 450 x 900 600 x 600 600 x 1200 600 x 1350	54 or 56 66 or 68 89 or 91
	Fiber reinforced cement mortar made of: White Portland composite cement (Type II) class 42.5 R (EN 197-1); granitic and/or siliceous sand; Glass fibers type AR – chopped strand; pigments made of iron oxide or synthetic colour; additives	//	8, 9 or 11
	Profiles (see Annex 4): Skin fixed to the substrate by aluminium alloy profiles with 43, 59 or 81 mm thick heel	//	1,4 to 1,8
	Fixings (see Annex 6): Profiles are fixed to the wall by plastic anchors evaluated in accordance with "EAD -330196-00-0604"		Ø 8 mm
Vêture unit (see Annex 1, 2 and 3): MW panels attached to the skin made of fiber reinforced cement mortar	Insulation product 2: Mineral wool (see § 4.2.2 for further description)	H x L 450 x 450 450 x 675 450 x 900 600 x 600 600 x 1200 600 x 1350	54 or 56 89 or 91
	Fiber reinforced cement mortar made of: White Portland composite cement (Type II) class 42.5 R (EN 197-1); granitic and/or silicious sand; Glass fibers type AR – chopped strand; pigments made of iron oxide or synthetic colour; additives	//	8, 9 or 11
	Profiles (see Annex 4): Skin fixed to the substrate by aluminium alloy profiles with 43, 59 or 81 mm thick heel	//	1,4 to 1,8
	Fixings (see Annex 6): Profiles are fixed to the wall by plastic anchors evaluated in accordance with "EAD -330196-00-0604"		Ø 8 mm
Ancillary materials	Remain under the ETA-holder responsibilities		

Tab. 1: Components of the kit

Trade name			Total thickness (mm)	Insulation thickness (mm)	Insulation type	Horizontal profile typology used	Size		Horizontal joint		Vertical joint	
							length mm	width mm	0	15	0	15
PIZ CLADDING SYSTEM	PIZ	PIZ STANDARD 54	54	45	EPS	profile of 47 mm	from 300 to 1500	from 400 to 620	yes	yes	yes	yes
		PIZ PLUS 66	66	57	EPS	profile of 59 mm	from 300 to 1500	from 400 to 620	no	yes	yes	yes
		PIZ H89	89	80	EPS	profile of 81 mm	from 300 to 1500	from 400 to 620	yes	yes	yes	yes
	PIZ ROCK METABIO	PIZ ROCK METABIO STANDARD 54	56	45	MW	profile of 47 mm	from 300 to 1500	from 380 to 620	yes	yes	yes	yes
		PIZ ROCK METABIO H89	91	80	MW	profile of 81 mm	from 300 to 1500	from 380 to 620	yes	yes	yes	yes

Tab. 2: Cladding elements and configurations

See Annex of this ETA for drawings.

2. SPECIFICATION OF THE INTENDED USE IN ACCORDANCE WITH ETAG 017 USED AS EUROPEAN ASSESSMENT DOCUMENT

This Vêture kit "PIZ CLADDING SYSTEM" and its configurations is intended for use as external insulation of buildings' walls (see Annex 5). It is applied on flat and vertical walls made of masonry (bricks, blocks, stones, ..) or concrete (cast on site or as prefabricated panels). The kits can be used on new or existing (retrofit) vertical walls.

The kits are non load-bearing construction elements. They do not contribute directly to the stability of the wall on which they are installed. The kit can contribute to durability of the works by providing enhanced protection from the effects of weathering.

The kits are not intended to ensure the air tightness of the building structure.

The provisions made in this ETA are based on an assumed intended working life of at least 25 years, provided that the installed system is subjected to an appropriate use and maintenance; the indications given on the working life cannot be interpreted as a guarantee given by the manufacturer or by the Technical Assessment Body, but should only be regarded as a mean for choosing the appropriate products in relation to the expected economically reasonable working life of the works.

2.1 Manufacturing

The components of "PIZ CLADDING SYSTEM" shall correspond, as far as their composition and manufacturing process is concerned, to the products subject to the assessment tests. Manufacturing process scheme is deposited with ITC-CNR.

2.2 Installation

2.2.1. General

It is the responsibility of the ETA Holder to guarantee that the information about design and installation of the system "PIZ CLADDING SYSTEM", are effectively communicated to the concerned people. These information can be given using reproductions of the respective parts of this European Technical Assessment. Besides, all the data concerning the execution shall be clearly indicated on the packaging and/or the enclosed instruction sheets using one or several illustrations.

In any case, it is suitable to comply with national regulations and particularly concerning fire.
Only the components described in clause 1.1 with characteristics in accordance with clause 2 of this ETA can be used for the system "PIZ CLADDING SYSTEM".
The requirements given in ETAG 017 Edition 2005, chapter 7, used as EAD, have to be considered.

2.2.2 Design
The choice and the rate of the fixings shall be determined considering:
the design wind load suction and the national regulations (taking into account the national safety factors, the design rules, ...), the characteristic resistance of the anchors into the considered substrate, safety in use of the Vêture kit according to the method of fixing.

2.2.3 Execution
The recognition and design of the substrate as well as the generalities about the execution of the Vêture kit shall be carried out in compliance with:
- chapter 7 of the ETAG 017,
- national regulations applicable.

2.3 Packaging, transport and storage
Packaging of the components has to be such that the products are protected from moisture during transport and storage, unless other measures are foreseen by the manufacturer for this purpose. The components are to be protected against damage.

2.4 Maintenance and repair of the works
It is assumed that the Vêture kit shall normally be maintained in order to fully preserve their performances.
Maintenance includes: the repairing of localized damaged areas due to accidents (see Annex 5); the application of various products or paints, possibly after washing or ad hoc preparation. Necessary repairs should be done rapidly.
Maintenance should use readily available products and equipment, without spoiling appearance. Care should be taken to use products which are compatible with the skin of Vêture kit.

3. PERFORMANCE OF THE PRODUCT AND REFERENCES TO THE METHODS USED FOR ITS ASSESSMENT

The tests for the assessment of the performances of "PIZ CLADDING SYSTEM" were carried out according to the tests mentioned in ETAG 017 used as EAD; the performances are valid only if the kit's components are exactly the ones mentioned at § 1 of this ETA.

3.1. Reaction to fire "PIZ CLADDING SYSTEM"

The reaction to fire of the vêture system has been assessed according to § 5.2.1 of ETAG 017 used as EAD. The system reached the following Euroclass according to the Delegated Regulation (EU) 2016/364:

3.1.1. Reaction to fire of "PIZ" configuration
Classification: B-s1; d0

Field of application
The classification is valid for the following product parameters:
- the versions "Joint 15" and "Joint 0",
- an E class expanded polystyrene insulating material,
- a nominal thickness of polystyrene ≤ 80 mm,
- a nominal density of polystyrene ≤ 20 kg/m^3,
- a nominal thickness of the mortar facing of ≥ 8 mm,

- a nominal density of the mortar facing of 1925 kg/ m^3 ± 75 kg/m^3.
- Grey colour (polystyrene) and various (facing)

The classification is valid for the following end use conditions:
mechanically fixed to any A1 or A2-s1,d0 class substrate with a density ≥ 1600 kg/m^3 (excluding paper-faced gypsum plasterboard)
- with or without air gap

3.1.2. Reaction to fire classification of "PIZ ROCK METABIO"
Classification: A1

Field of application
The classification is valid for the following product parameters:
- a nominal thickness of the MW insulating material: ≥45 mm
- an average density of the insulation material: 110 kg/m^3,
- a nominal thickness of the mortar facing of ≥ 9 mm,
- a nominal density of the mortar facing of 1925 kg/ m^3 ± 75 kg/m^3.
- a light brown colour insulation material) and various colours facing

3.2. Hygiene, health and the environment

3.2.1 Water tightness and water permeability
Taking into account the geometry of Vêture unit and open joints equipped with a pressure equilibrium space, the degree of water tightness of this kit is determined without test. A limited amount of water can reach the substrate (Type I as defined in ETAG 017 used as EAD).

3.2.2 Water vapour permeability (resistance to water vapour diffusion)
No performance determined

3.2.3 Water absorption by capillarity
Water absorption by capillarity has been tested according to § 5.3.4.1 of ETAG 017 used as EAD.

Configuration	Water absorption after 1 h (0,1 kg/m²)	Water absorption after 24 h (< 0,5 kg/m2)
PIZ Cladding system	0,03	0,26

Tab. 3: Water absorption by capillarity

3.2.4 Release of dangerous substances
Statement of dangerous substances according to the manufacturer's declaration taking account of EOTA TR 034, the product installed does not contain and release any dangerous substance.

3.3 Safety in use

3.3.1 Wind suction test
The bond strength has been determined in accordance with § 5.4.1.1 of ETAG 017 used as EAD. The distance between rail fixings is 900 mm.
The results of the different configurations are listed below

Test specimen	Failure value Q	Maximum deflection of profile	Type of failure
Dimensions (H x L) : 450 x 1500 mm Thickness: 54 mm Horizontal joint : 15 mm Vertical joint : 15mm	3 780 Pa	9,0 mm	Deflection of aluminium profiles and profiles let escape a vêture unit
Dimensions (H x L) : 450 x 1500 mm Thickness : 54 mm Horizontal joint : 1 mm Vertical joint : 1 mm	6 270 Pa	6,1 mm	Deflection of aluminium profiles and perforation in the profiles
Dimensions (H x L) : 600 x 1500 mm Thickness : 54 mm Horizontal joint : 15 mm Vertical joint : 15 mm	4000 Pa	6,1 mm	Bending rupture of a vêture unit
Dimensions (H x L) : 600 x 1500 mm Thickness: 54 mm Horizontal joint: 1 mm Vertical joint: 1 mm	3300 Pa	4,8 mm	Deflection of aluminium profiles and profiles let escape a vêture unit

Tab. 4: Wind failure values for PIZ STANDARD 54

Test specimen	Failure value Q	Maximum deflection of profile	Type of failure
Dimensions (H x L) : 600 x 1500 mm Thickness : 65 mm Horizontal joint : 15 mm Vertical joint : 15 mm	4897 Pa	4,7 mm	Bending rupture of a vêture unit
Dimensions (H x L) : 450 x 1500 mm Thickness: 65 mm Horizontal joint : 15 mm Vertical joint : 1 mm	8319 Pa	9,5 mm	Escape of a veture unit on top of the test rig

Tab. 5: Wind failure values for PIZ PLUS

Test specimen	Failure value Q	Maximum deflection of profile	Type of failure
Dimensions (H x L) : 600 x 1500 mm Thickness: 89 mm Horizontal joint: 15 mm Vertical joint: 15 mm	6053 Pa	14,7 mm	Pull through of profile fixations
Dimensions (H x L) : 450 x 1500 mm Thickness: 89 mm Horizontal joint: 1 mm Vertical joint: 1 mm	8000 Pa	7,5 mm	Pull through of profile fixations

Tab. 6: Wind failure values for PIZ 89

Test specimen	Failure value Q	Maximum deflection of profile	Maximum deflection of panel (middle span)	Type of failure
Dimensions (H x L) : 6000 x 1500 mm Thickness : 54 mm Horizontal joint : 1 mm Vertical joint : 1 mm	2480 Pa	2,21 mm	21,52 mm	Bending strength failures of both central and side panels
Dimensions (H x L) : 450 x 1500 mm Thickness : 54 mm Horizontal joint : 1 mm Vertical joint : 1 mm	4058 Pa	15.82 mm	23,49 mm	Failure of the cement notches of the side panels and bending strength failures

Tab. 7: Wind failure values for PIZ ROCK METABIO STANDARD 54

Test specimen	Failure value Q	Maximum deflection of profile	Maximum deflection of panel (middle span)	Type of failure
Dimensions (H x L) : 600x1500 Thickness: 89 Horizontal joint : 15 mm Vertical joint : 15mm	4139 Pa	14,60 mm	25,50 mm	On account of the extremely curved shape of the panels under maximum load, the side panels came off the outer profile causing side failure (in the insulating mass) and cracks on the longitudinal edges of the cement coating
Dimensions (H x L) : 450 x 1500 mm Thickness:89 mm Horizontal joint: 15 mm Vertical joint: 15 mm	4750 Pa	9,98 mm	14,45 mm	Central profiles detached from the screws which remained on the substrate

Tab. 8: Wind failure values for PIZ ROCK METABIO H89

3.3.2 Resistance of grooved skin

The average value is 215 N and characteristic value is 131 N.

3.3.3 Pull-through resistance of fixings from profiles

The average value is 1551 N and characteristic value is 1355 N.

3.3.4 Dead load test

Dead load test has been assessed according to § 5.4.2.3 of ETAG 017 used as EAD; for "PIZ" configuration vêture kits the deformation of profile is assessed compatible with the vêture kit.

Dead load test for configuration "PIZ ROCK METABIO": the deformation of profile is assessed compatible with the vêture kit.

3.3.5 Resistance to horizontal point loads

The resistance to horizontal point load for "PIZ" configuration vêture kits has been assessed according to § 5.4.4 of ETAG 017 used as EAD.

During the test, no permanent deflection, failure or perforation of the skin are noted.

The vêture kit is capable of accommodating the horizontally applied loads acting its surface arising from maintenance, without any reduction in its performances.

The resistance to horizontal point load for "PIZ ROCK METABIO" configuration vêture kits:

During the test, no permanent deflection, failure or perforation of the sample are noted.

3 3.6 Impact resistance

This test has been performed in accordance with EOTA Technical Report (001) for "PIZ" configuration vêture kits
The distance between rail fixings is 900 mm.

Test specimen	Categories
Dimensions of vêture unit (H x L): 600 x 600 mm Thickness of unit: 54 mm Thickness of skin: 8 mm Join between unit: 15 mm	III
Dimensions of vêture unit (H x L): 600 x 1500 mm Thickness of unit: 54 mm Thickness of skin: 8 mm Join between unit: 15 mm	III
Dimensions of vêture unit (H x L): 450 x 450 mm Thickness of unit: 54 mm Thickness of skin: 8 mm Join between unit: 15 mm	III
Dimensions of vêture unit (H x L): 600 x 1200 mm Thickness of unit: 57 mm Thickness of skin: 11 mm Joint between unit: 15 mm	III
Dimensions of vêture unit (H x L): 600 x 600 mm Thickness of unit: 57 mm Thickness of skin: 11 mm Joint between unit: 15 mm	I

Tab. 9: Impact categories for configuration "PIZ"

The impact resistance for "PIZ ROCK METABIO" configuration:

Test specimen	Categories
PIZ Rock Metabio standard 54	III
PIZ Rock Metabio H89	III

Tab. 10: Impact categories for configuration "PIZ ROCK METABIO"

3.3.7 Shatter properties

Before and after impact test, this Vêture kit doesn't present sharp or cutting edges.

3.4. Energy economy and heat retention

3.4.1 Thermal resistance

Thermal resistance (R-value) has been assessed according to § 5.6.1 of ETAG 017 used as EAD.
The thermal resistance R_v (declared value) of the vêture element is:

$$R_v = R_{insulation} + R_{skin}$$

where

$R_{insulation}$:thermal resistance of the PIZ insulation layer, m².K/W
R_{skin} : thermal resistance of the PIZ external skin, m².K/W

The thermal U-value for the whole wall (structure + VETURE panel), calculated with an analytical method in its regular part (without thermal bridge), W/(m².K):

$$U_c = \frac{1}{R_{si} + R_{structure} + R_{insulation} + R_{skin} + R_{se}}$$

R_{si}, R_{se} : inside and outside film resistance, m².K/W,

$R_{structure}$: thermal resistance of the wall where the PIZ kit is fixed on, $m^2.K/W$,
$R_{insulation}$: thermal resistance of the PIZ insulation layer, $m^2.K/W$,
R_{skin}: thermal resistance of the PIZ external skin, $m^2.K/W$,

The Calculation of the overall U-value of the wall and the PIZ cladding system kit (thermal bridges included):

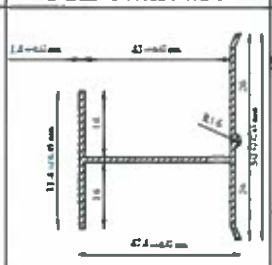
$$Up = Uc + \psi_{horizontal} \; l_{horizontal} + \psi_{vertical} \; l_{vertical} \quad W/(m^2).K)$$

Uc : thermal U-value for the whole wall (structure + VETURE unit), see above,, $W/(m^2.K)$,
$\psi_{horizontal}$: ψ-value for the thermal bridges due to horizontal profiles, W/(m.K),
$l_{horizontal}$: length of the thermal bridges due to horizontal profiles, m,
$\psi_{vertical}$: ψ-value for the thermal bridges due to vertical profiles, W/(m.K),
$l_{vertical}$: length of the thermal bridges due to vertical profiles, m,

The calculation of the overall Up-value has to be performed case by case in function of the external wall (substrate + vêture).

The Ψ-values for thermal bridges are given according to EN 10211-2 in the following tables:

The thermal bridges according to (EN 10211-2) due to the profiles are:

		PIZ Standard		PIZ Plus		PIZ H89	
Fixing profile							
Insulation thickness (mm)		45		57		80	
Joints		*15 mm*	*0 mm*	*15 mm*	*0 mm*	*15 mm*	*0 mm*
ψ-values, W/(m.K)	200 mm concrete wall	0,557		0,618		0,597	
	250 mm masonry wall	0,189		0,224		0,241	

Tab 11: Ψ -values for horizontal profiles Ψ horizontal

		PIZ Standard		PIZ Plus		PIZ H89	
Insulation thickness, mm		45		57		80	
Joints		*15 mm*	*0 mm*	*15 mm*	*0 mm*	*15 mm*	*0 mm*
ψ-values, W/(m.K)	200 mm concrete wall	<0	0,007	<0	0,008	<0	0,006
	250 mm masonry wall	<0	0,005	<0	0,005	<0	0,004

Tab. 12: Ψ -values for vertical profiles Ψ vertical

The thermal bridges according to (EN 10211-2) due to the profiles are:

		PIZ ROCK METABIO STANDARD 54		PIZ ROCK METABIO H89	
Insulation thickness,mm		45 mm		80 mm	
Joints		0	15	0	15
Ψhorizontal [W/(m.K)]	200 mm concrete wall	0,384	0,484	0,437	0,555
	250 mm masonry wall	0,138	0,179	0,189	0,242

Tab. 13: Ψ -values for horizontal profiles Ψ horizontal

		PIZ ROCK METABIO STADARD 54		PIZ ROCK METABIO H89	
Insulation thickness,mm		45 mm		80 mm	
Joints		0	15	0	15
Ψvertical [W/(m.K)]	200 mm concrete wall	0,01	0,002	0,004	0,001
	250 mm masonry wall	0,007	0,002	0,003	0,001

Tab. 14: Ψ -values for vertical profiles Ψ vertical

All type of cladding		
$\chi_{fixation}$[W/K]	200 mm concrete wall	negligible
	250 mm masonry wall	

Tab 15: Point thermal transmission of fixing

The thermal resistance values of the kit as the total thermal resistance in m^2 K/W including any thermal bridges (e.g. fixations) in accordance with § 5.6 of ETAG 017 used as EAD.

Trade name	Total thermal resistance in m^2 K/W
PIZ STANDARD 54	1,45
PIZ PLUS	1,84
PIZ H89	2,58
PIZ ROCK METABIO STANDARD 54	1,18
PIZ ROCK METABIO H89	2,11

Tab. 16: Thermal resistance of different PIZ CLADDING SYSTEM configurations

3.5. Aspect of durability

3.5.1 Temperature, humidity and shrinkage

Taking into account the components of this kit, the vêture kit is resistant to hygrothermal variations.

3.5.2 Freeze-thaw

Taking into account the components of the kits, the vêture kits is resistant to freeze-thaw.

3.5.3 Thermal shock cycles on the kit

This test has been performed in accordance with § 5.7.3.3 for "PIZ" configuration:
After the thermal shock cycles, this vêture kit doesn't present any color change, degradation, deflection, or cracks.
"PIZ ROCK METABIO" configuration : No Performance Determined

3.5.4 Chemical and biological resistance

This vêture kit is not known to be sensitive to chemical and biological attack.

3.5.5 Corrosion

This vêture kit is not known to be sensitive to corrosion.

The rails made of aluminium alloys are resistant to corrosion.
Their fixings are anchors made of a plastic expansion sleeve and of electro galvanized or stainless steel screw or nail. They are protected by the vêture units and not directly exposed to outdoor atmosphere.

4. Component's characteristics and parameters[1].

4.1. Skin

The dimensions and characteristics are defined in the table below:

Dimensions and characteristics	EN standard	Skin
Thickness in the middle area (mm)	-	8, 9 or 11 + 1,5 / - 1
Specific mass (kg/m^3)	EN 1170-6	1925 ± 75
Bending strength (MPa)	EN 1170-4	> 5,5
Modulus of elasticity (MPa)	EN 1170-4	>15 500
Water vapour resistance (without unit)	EN 12572	100
Thermal conductivity (W / K.m)	EN 12524	1,15
Dimensional stability	Tabulated value	0,01 mm/m.K

Tab. 17: Characteristcs of the skin

4.2 Insulation product

4.2.1 The expanded polystyrene panels are in accordance with EN 13163 (T1-L1-W1-S1-P1-BS150-CS(10)100-DS(N)2-TR100). The panels are gray color with graphite

Descriptions and characteristics	EPS gray
Reaction to fire (Delegated Regulation (EU) 2016/364)	Euroclass E
Thickness (EN 823)	45 ±2 or 57 ±2 or 80 ±2 mm
Length (EN 822)	±3 mm
Width (EN 822)	±3 mm
Squareness (EN 824)	±5 mm/1000 mm
Flatness (EN 825)	±3 mm
Density (EN 1602)	20 ± 1,5 kg/m^3
Dimensional stability under laboratory condition (EN 1603)	DS(N) 2
Compression (EN 826)	CS (10) 100
Conductivity λ (W/mK)	Declared value 0.031

Tab. 18: Characteristics of insulation product EPS

4.2.2 The mineral wall panels are in accordance with EN 13162 (T5-CS10/Y)30-PL(5)500-TR10-MU1-WS-WL(p)-
The description and characteristics are defined in the table below.

[1] The ETA Holder could change, under his own responsibility, some of the suppliers of a component, but only provided that the characteristics and the performances of the new components and the final performances of the system do not change at all. These changes must be fully recorded within the Factory Production Control documents in order to grant full traceability.

Descriptions and characteristics	MW
Reaction to fire (Delegated Regulation (EU) 2016/364)	Euroclass A1
Thickness (EN 823)	45 ±2 or 80 ±2 mm
Length (EN 822)	±3 mm
Width (EN 822)	±3 mm
Squareness (EN 824)	±5 mm/1000 mm
Flatness (EN 825)	±3 mm
Density (EN 1602)	110-135 kg/m^3
Dimensional stability under laboratory condition (EN 1604)	DS(TH) 1
Compression (EN 826)	CS (10) 30
Conductivity λ (W/mK)	Declared value 0,038

Tab. 19: Characteristics of insulation product MW

4.3 Vêture units "PIZ CLADDING SYSTEM"

Descriptions and characteristics	Vêture units "PIZ" configuration	
Reaction to fire (Delegated Regulation (EU) 2016/364)	B-s1; d0	
Thickness (EN 823)	-1/+1,5 mm	
Length (EN 822)	±1 mm	
Width (EN 822)	±1 mm	
Squareness (EN 824)	± 2,5 mm	
Flatness (EN 825)	± 2 mm	
Bond strength (MPa)	≥ 0,095	
Bending resistance EN 1170-5 (N.mm/mm)	PIZ STANDARD	≥ 100
	PIZ PLUS	≥ 150
	PIZ H89	≥ 300

Tab. 20: Vêture units "PIZ" configuration

Descriptions and characteristics	Vêture units "PIZ ROCK METABIO" configuration	
Reaction to fire (Delegated Regulation (EU) 2016/364)	A1	
Thickness (EN 823)	-1/+1,5 mm	
Length (EN 822)	±1 mm	
Width (EN 822)	±1 mm	
Squareness (EN 824)	± 2,5 mm	
Flatness (EN 825)	± 2 mm	
Bond strength (MPa)	≥ 0,030	
Bending resistance EN 1170-5 (N.mm/mm)	PIZ ROCK METABIO 54	≥ 100
	PIZ ROCK METABIO H89	≥ 200

Tab. 21 Vêture units "PIZ Rock Metabio" configuration

4.4 Profiles

The horizontal profiles with 43, 55 or 78 mm thick heel are made of aluminium alloy EN AW 6060 T6 in accordance with EN 755-2, anodized and, on request, coil coated in accordance with EN 1396. Their length is 6 m.

4.5 Fixings to the substrate

The horizontal profiles are fixed to the substrate by anchors (see annex 6) made of a plastic expansion sleeve (diameter 8 mm) with a collar (minimal diameter 11 mm) and of an electro galvanized or stainless steel screw or nail (diameter 6 mm) with flat head (minimal diameter 10 mm), having an ETA in accordance with ETA Guideline 020 used as EAD.

5. Assessment and Verification of Constancy of Performance (hereinafter AVCP) system applied, with reference to its legal base

According to Decision 2001/308/EC[2], of the European Commission, the system of AVCP (see EC delegated regulation (EU), N. 568/2014 Annex V to Regulation (EU) 305/2011) given in the following table applies.

Product	*Intended use*	*Level or class (reaction to fire)*	*System*
Vêture kit "PIZ"	in external wall subject to fire regulations	B-s1-d0	3
	in external wall not subject to fire regulations	any	
Vêture kit "PIZ ROCK METABIO"	in external wall subject to fire regulations	A1	3
	in external wall not subject to fire regulations	any	

Tab. 22: AVCP system

6. Technical details necessary for the implementation of the AVCP system, as provided for in ETAG 017 used EAD

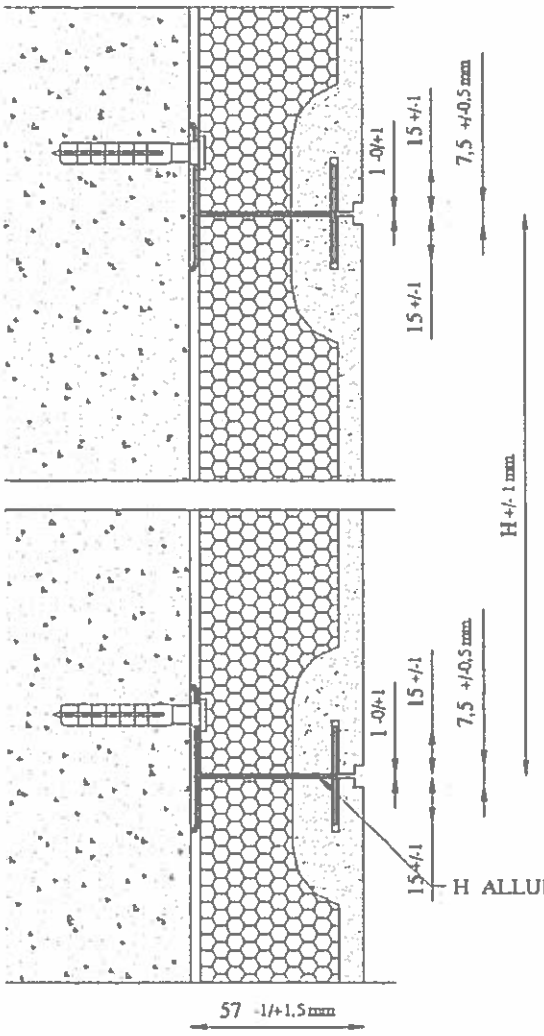
Technical details necessary for the implementation of the AVCP system are laid down in the Control Plan which is deposited at ITC-CNR with which the factory production control shall be in accordance.

Issued in San Giuliano Milanese, Italy on 13/09/2017
by ITC – CNR

Prof. Antonio Occhiuzzi
Director of ITC – CNR

[2] 2001/308/EC – Commission Decision of date 31 January 2001, published in Official Journal of the European Union (OJEU) L 107 of 8.04.2001

VERTICAL SECTION



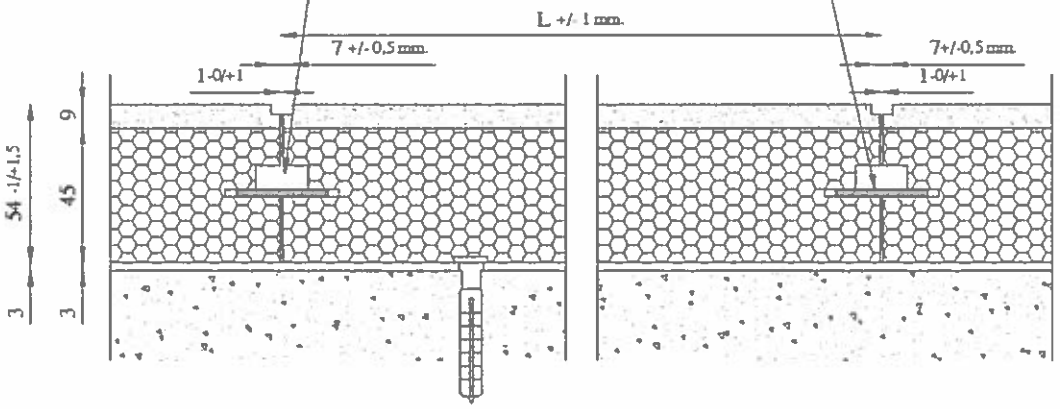
STANDARD PANEL SIZE

H = 450 mm.	H = 600 mm.
L = 450 mm.	L = 600 mm.
L = 675 mm.	L = 1200 mm.
L = 900 mm.	

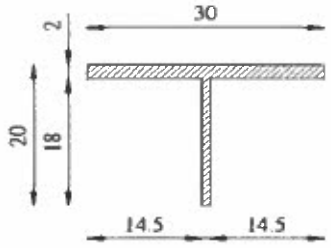
DEPRESSION CHAMBER

PVC T PROFILE SPACER

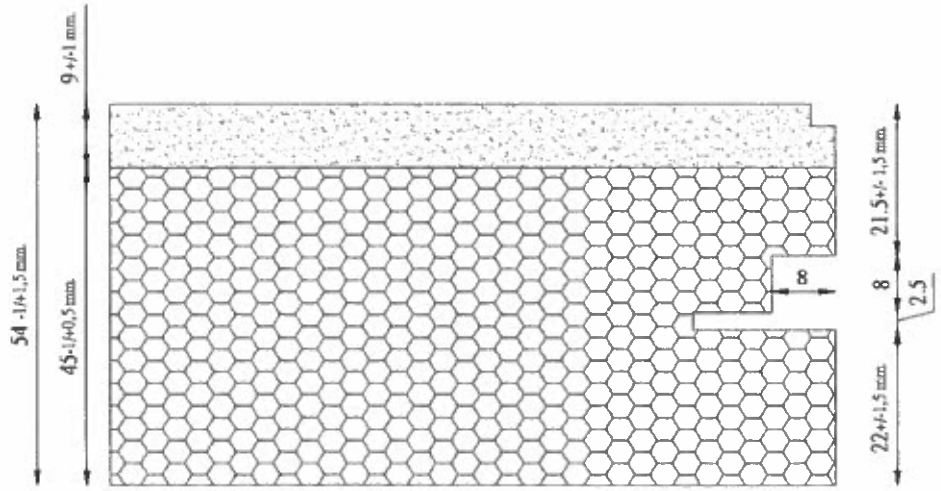
HORIZONTAL SECTION



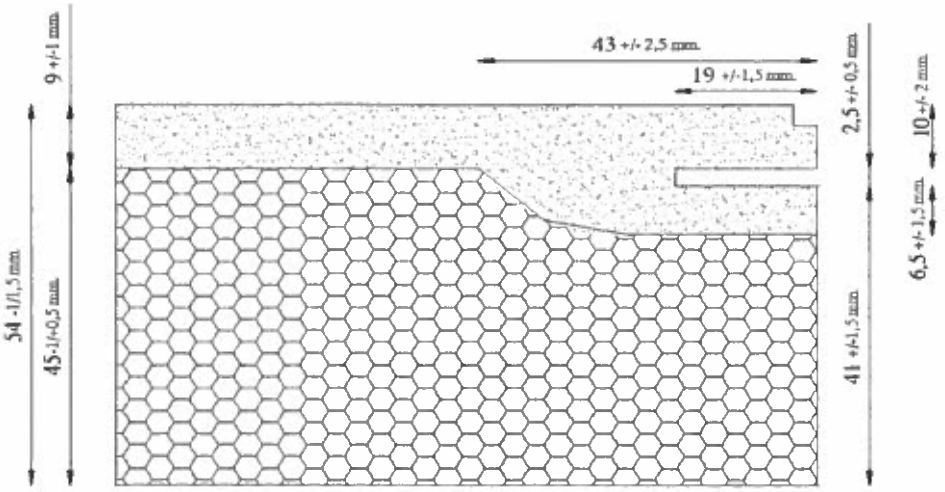
"PIZ CLADDING SYSTEM"	Annex 1 (1/6)
PIZ Standard 54 joint 0 PIZ Rock Metabio 54 joint 0	



PVC T VERTICAL SPACER

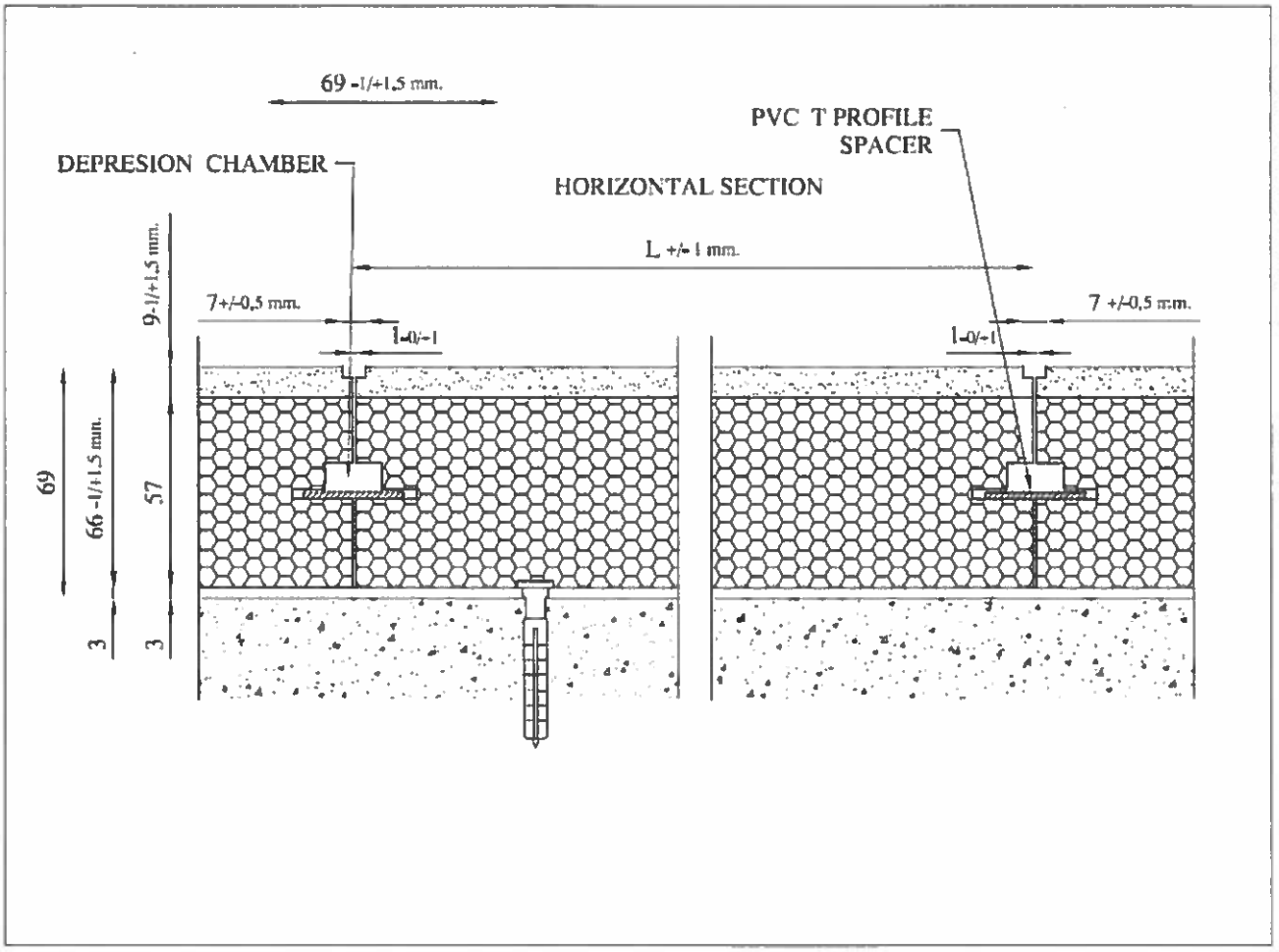


GROOVE ON THE STANDARD PIZ PANNEL VERTICAL JOINT

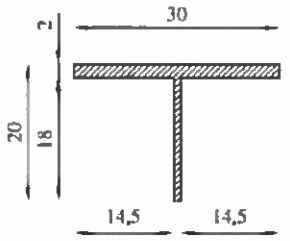


GROOVE ON THE STANDARD PIZ PANNEL HORIZONTAL JOINT

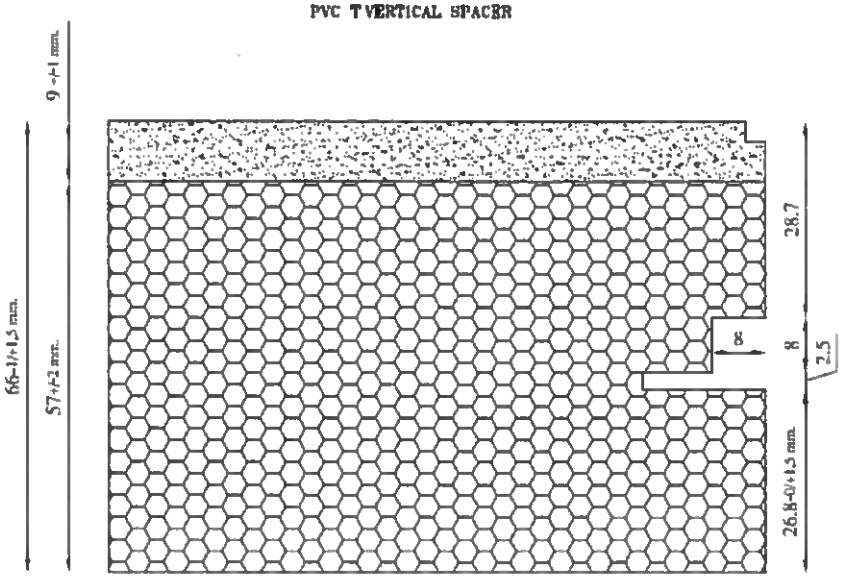
"PIZ CLADDING SYSTEM"	Annex 1 (2/6)
PIZ Standard 54 joint 0 details groove and spacer PIZ Rock Metabio 54 joint 0 details groove and spacer	



"PIZ CLADDING SYSTEM"	Annex 1 (3/6)
PIZ Plus 66 available only vertical joint 0	

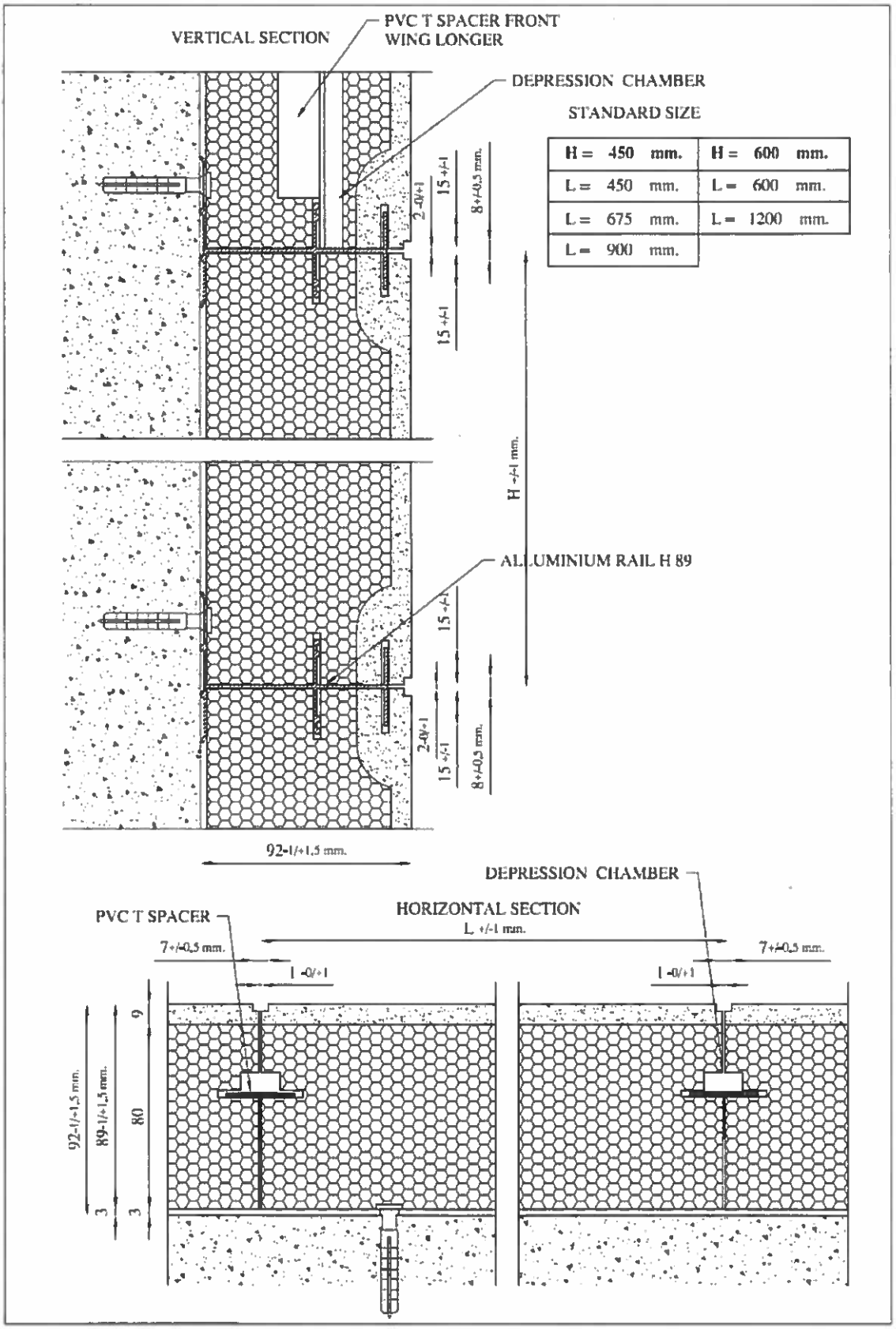


PVC T VERTICAL SPACER

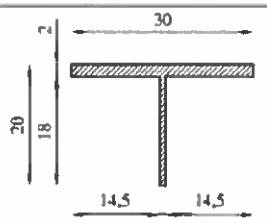


GROOVE ON THE PANNEL PLUS VERTICAL JOINT 0 mm.

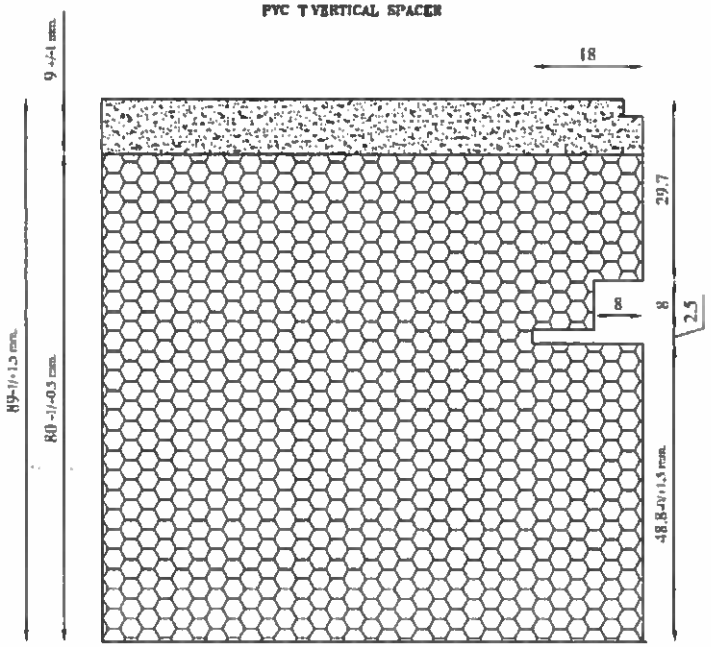
"PIZ CLADDING SYSTEM"	Annex 1 (4/6)
PIZ Plus 66 vertical joint 0 details groove and spacer	



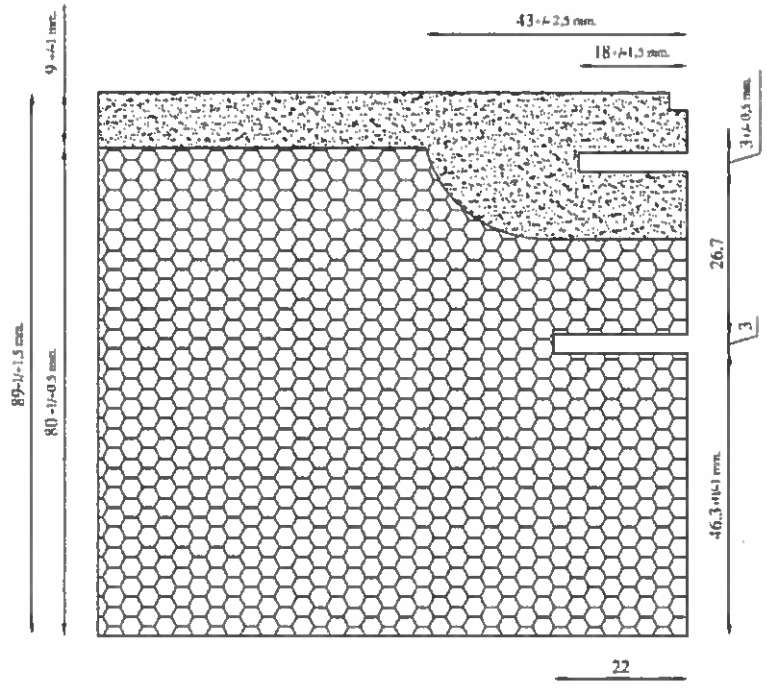
"PIZ CLADDING SYSTEM"	Annex 1 (5/6)
PIZ H89 joint 0 PIZ Rock Metabio H 89 joint 0	



PVC T VERTICAL SPACER



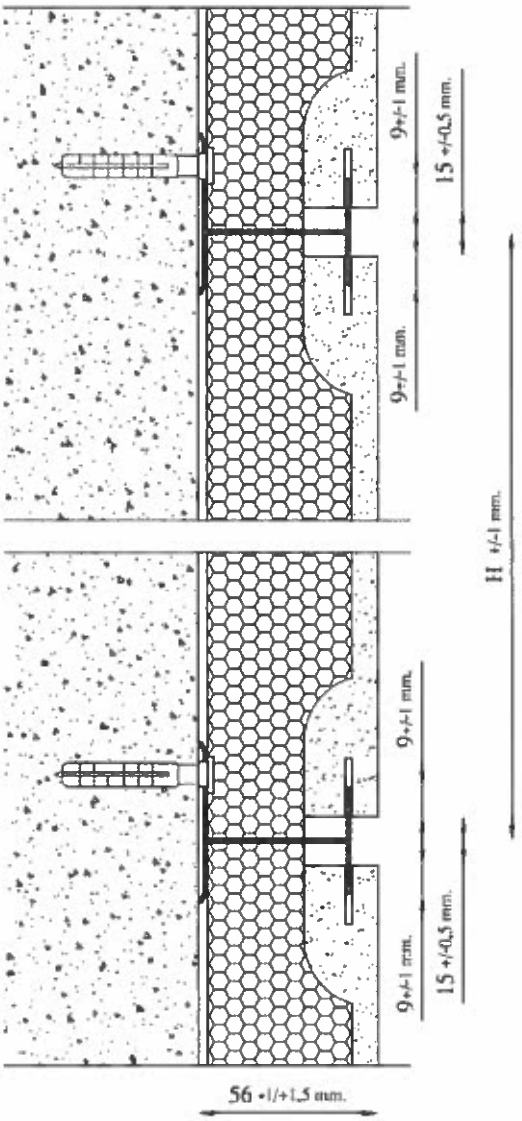
GROOVE ON THE PANNEL PIZ H89 AND PIZ ROCK METABIO H89 VERTICAL JOINT 0 mm.



GROOVE ON THE PANNEL PIZ H89 AND PIZ ROCK METABIO H89 HORIZONTAL JOINT 0 mm.

"PIZ CLADDING SYSTEM"	Annex 1 (6/6)
PIZ H89 joint 0 details groove and spacer PIZ Rock Metabio H 89 joint 0 details groove and spacer	

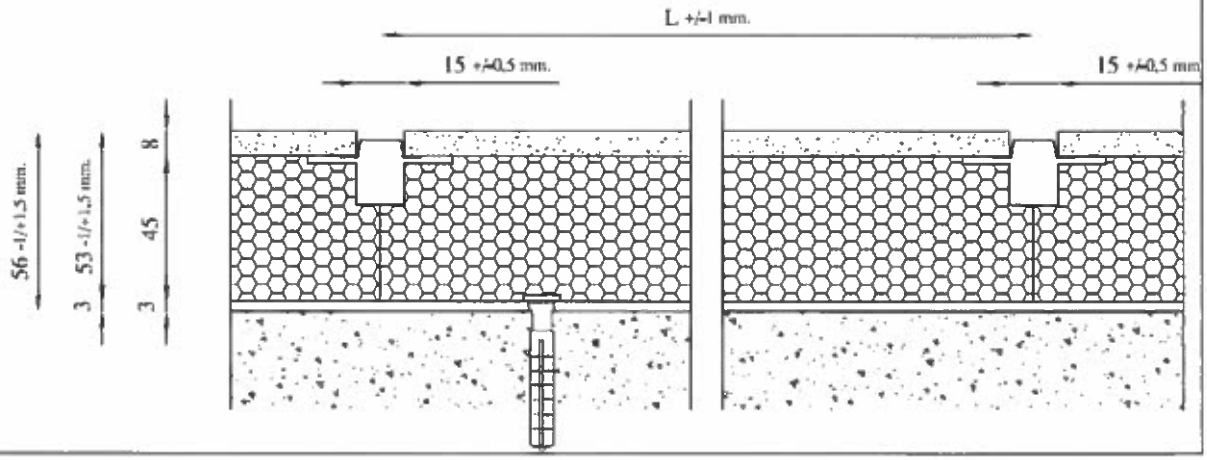
VERTICAL SECTION



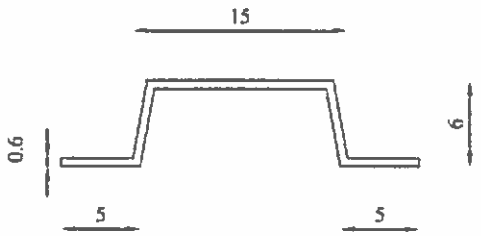
STANDARD PANEL SIZE

H = 450 mm.	**H = 600 mm.**
L = 450 mm.	L = 600 mm.
L = 675 mm.	L = 1200 mm.
L = 900 mm.	

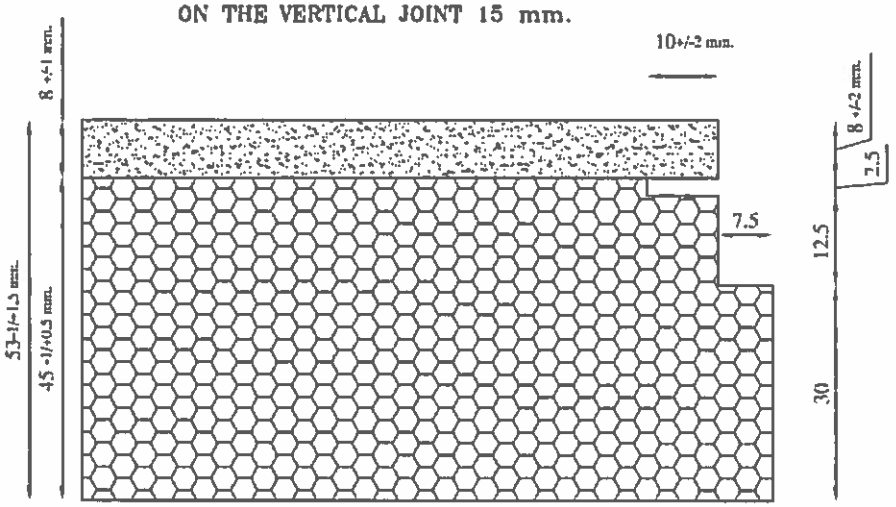
HORIZONTAL SECTION



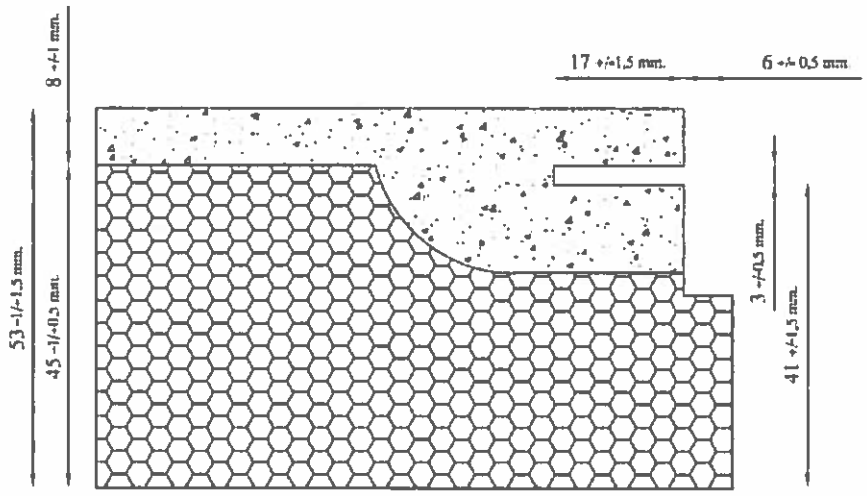
"PIZ CLADDING SYSTEM"	Annex 2 (1/6)
PIZ Standard 54 joint 15 PIZ Rock Metabio 54 joint 15	



ALLUMINIUM OMEGA SPACER PROFILE
ON THE VERTICAL JOINT 15 mm.



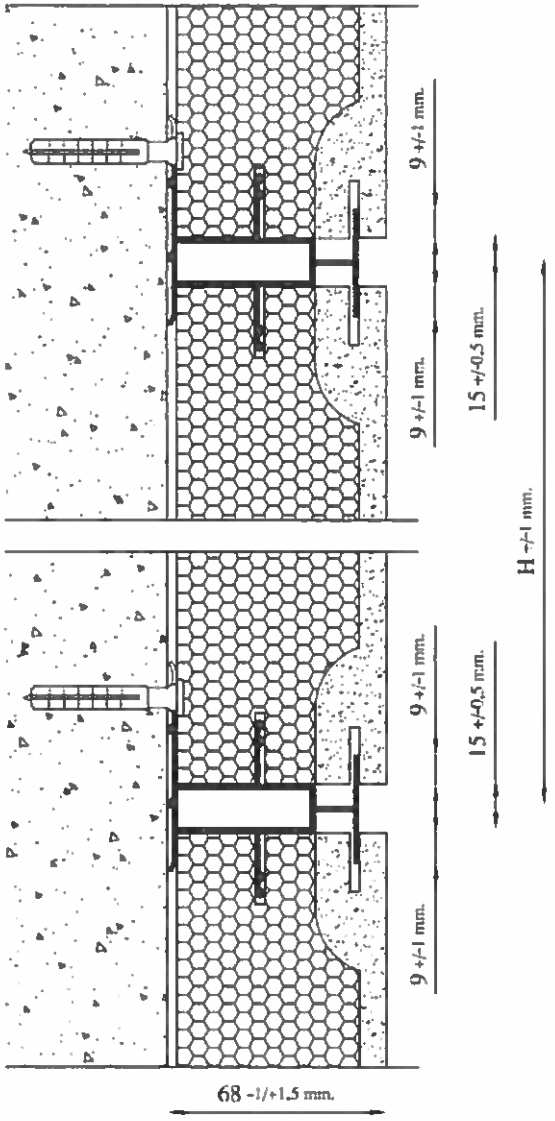
GROOVE ON THE PIZ STANDARD AND PIZ ROCK METABIO 54 PANNEL VERTICAL JOINT 15 mm.



GROOVE ON THE PIZ STANDARD AND PIZ ROCK METABIO 54 PANNEL HORIZONTAL JOINT 15 mm.

"PIZ CLADDING SYSTEM"	Annex 2 (2/6)
PIZ Standard 54 joint 15 details groove and spacer PIZ Rock Metabio 54 joint 15 details groove and spacer	

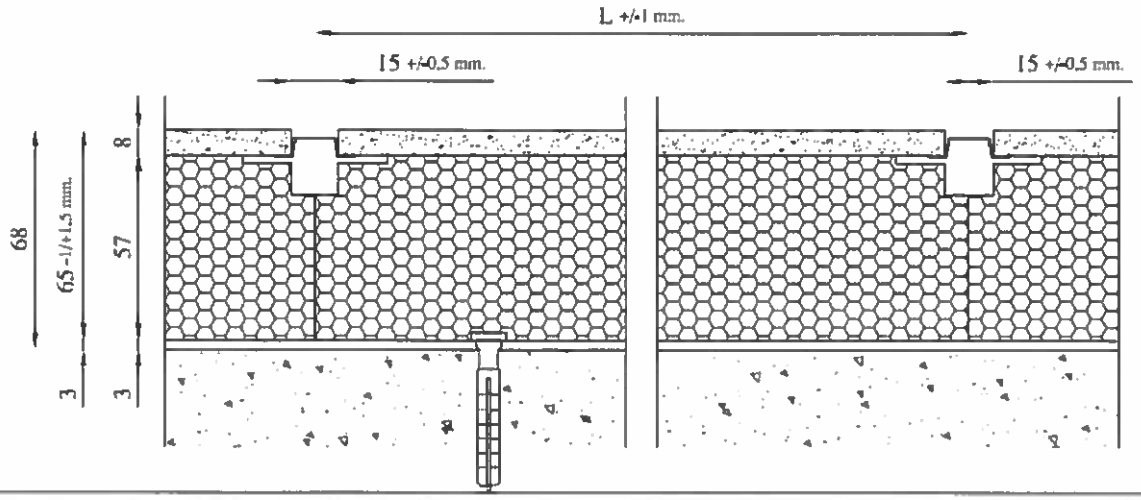
VERTICAL SECTION



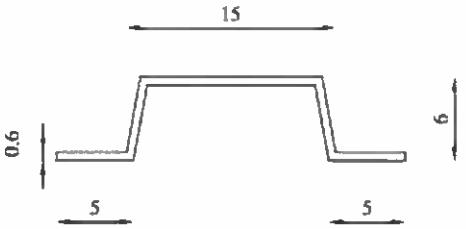
STANDARD DIMENSIONS

H = 450 mm.	**H = 600 mm.**
L = 450 mm.	L = 600 mm.
L = 675 mm.	L = 1200 mm.
L = 900 mm.	

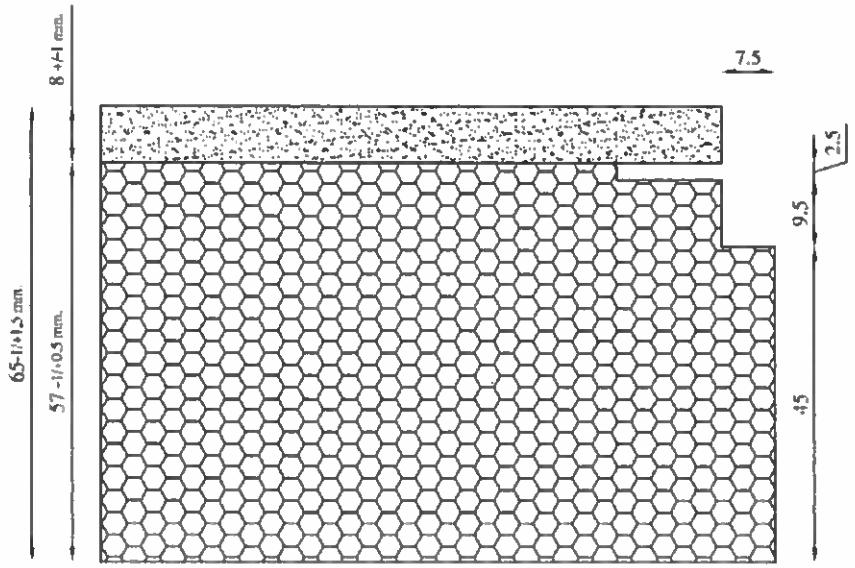
HORIZONTAL SECTION



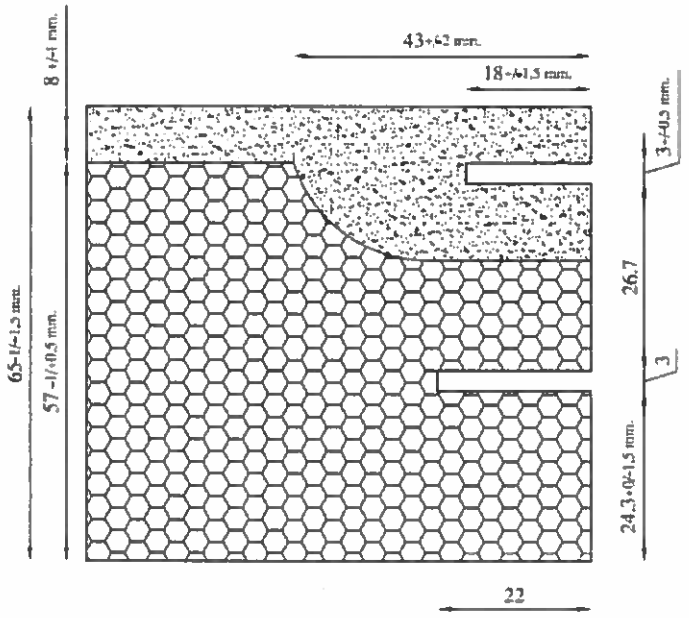
"PIZ CLADDING SYSTEM"	Annex 2 (3/6)
PIZ Plus 66 joint 15	



ALLUMINIUM OMEGA SPACER PROFILE
ON THE VERTICAL JOINT 15 mm.



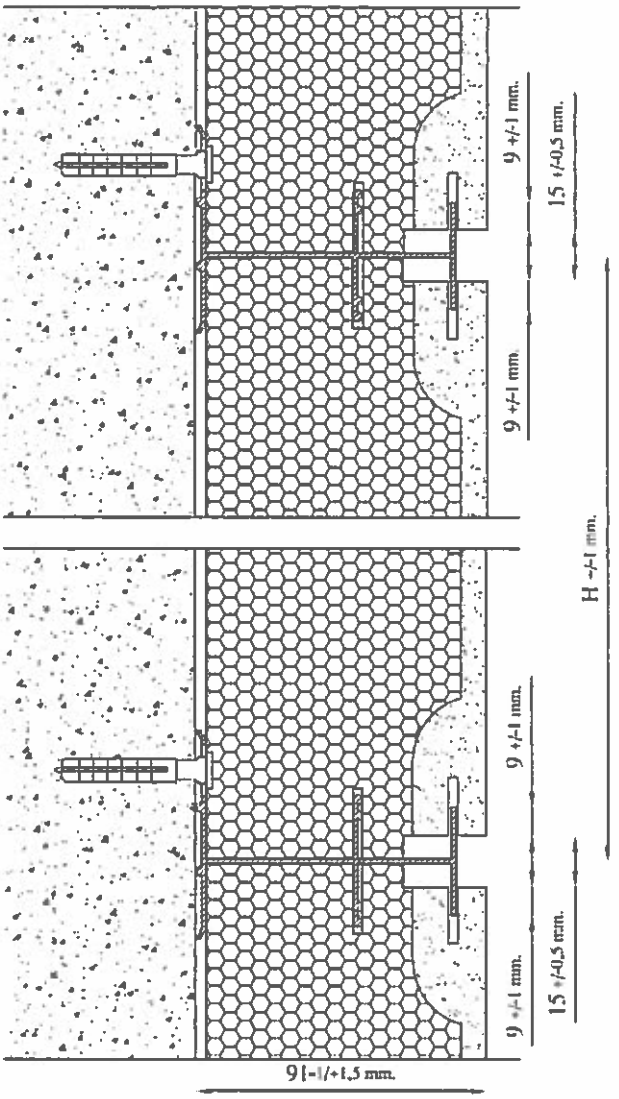
GROOVE ON THE PANNEL PLUS VERTICAL JOINT 15 mm.



GROOVE ON THE PANNEL PLUS HORIZONTAL JOINT 15 mm.

"PIZ CLADDING SYSTEM"	Annex 2 (4/6)
PIZ Plus 66 joint 15 details groove and spacer	

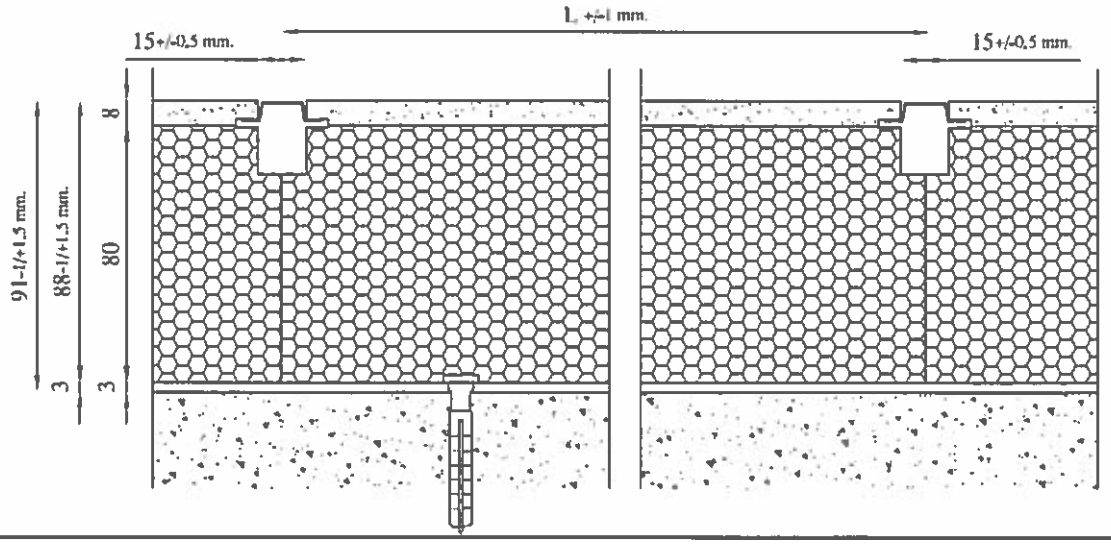
VERTICAL SECTION



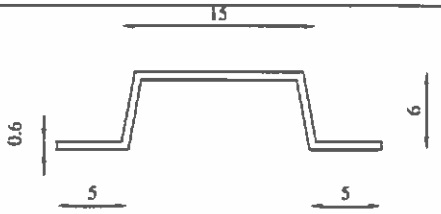
STANDARD SIZE

H = 450 mm.	H = 600 mm.
L = 450 mm.	L = 600 mm.
L = 675 mm.	L = 1200 mm.
L = 900 mm.	

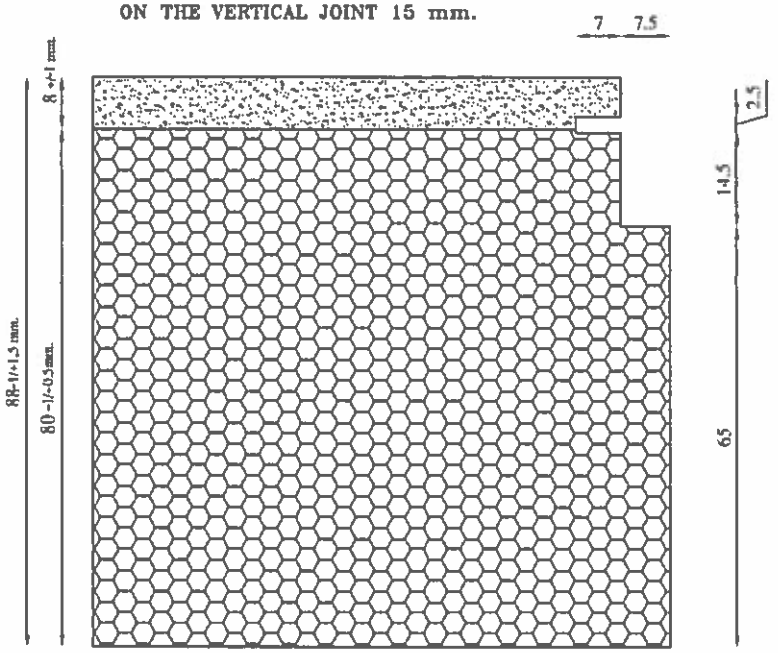
HORIZONTAL SECTION



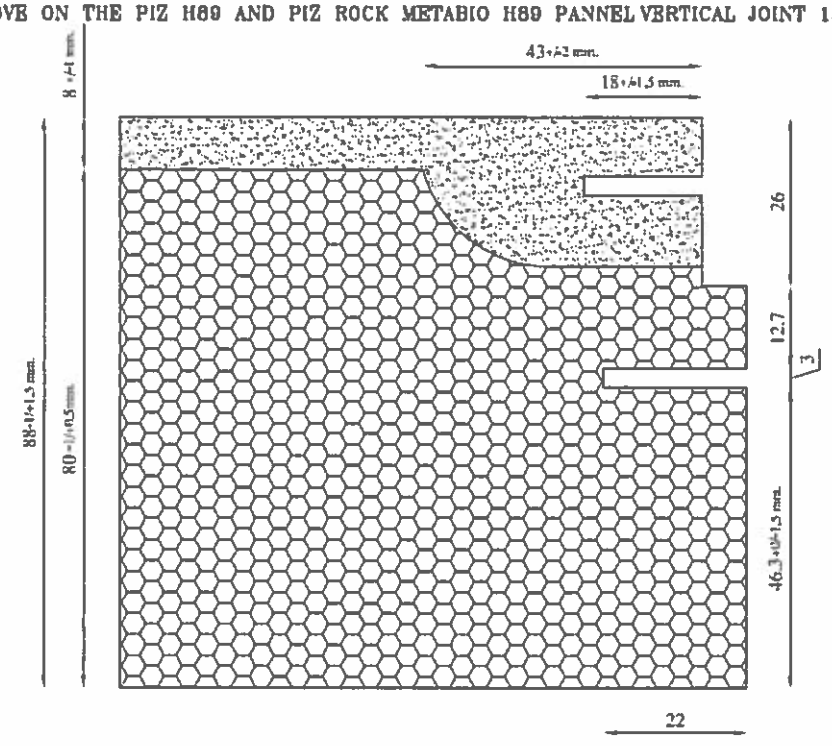
"PIZ CLADDING SYSTEM"	Annex 2 (5/6)
PIZ H89 joint 15 PIZ Rock Metabio H89 joint 15	



ALLUMINIUM OMEGA SPACER PROFILE
ON THE VERTICAL JOINT 15 mm.



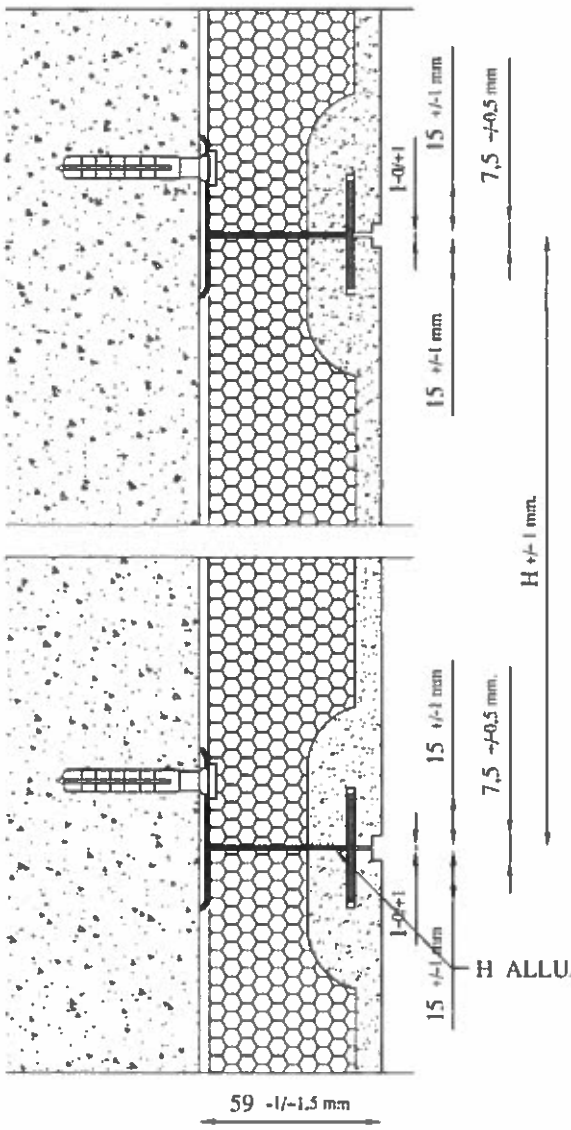
GROOVE ON THE PIZ H89 AND PIZ ROCK METABIO H89 PANNEL VERTICAL JOINT 15 mm.



GROOVE ON THE PIZ H89 AND PIZ ROCK METABIO H89 PANNEL HORIZONTAL JOINT 15 mm.

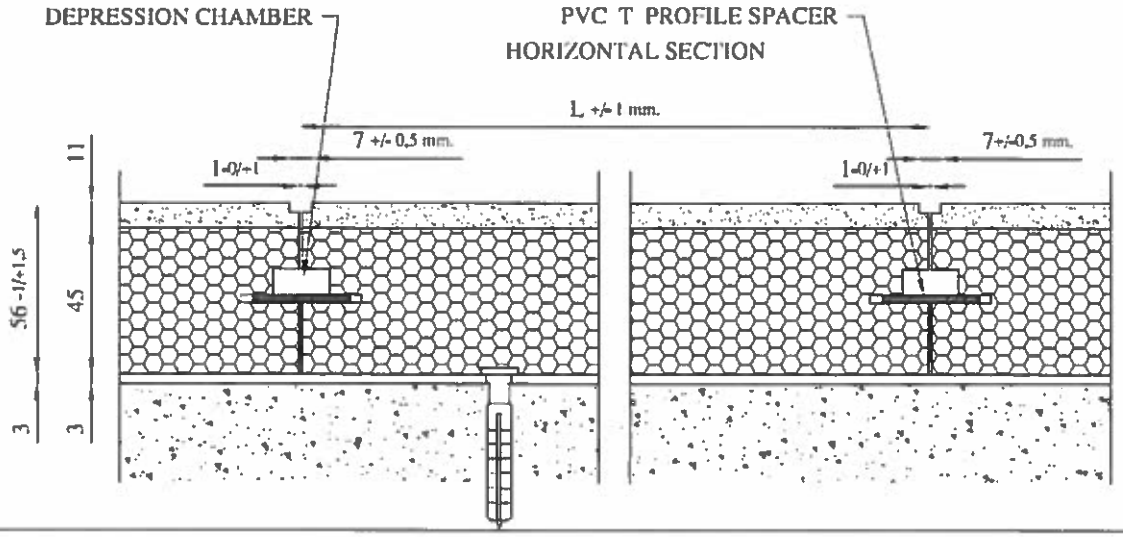
"PIZ CLADDING SYSTEM"	Annex 2 (6/6)
PIZ H89 joint 15 details groove and spacer PIZ Rock Metabio H89 joint 15 details groove and spacer	

VERTICAL SECTION



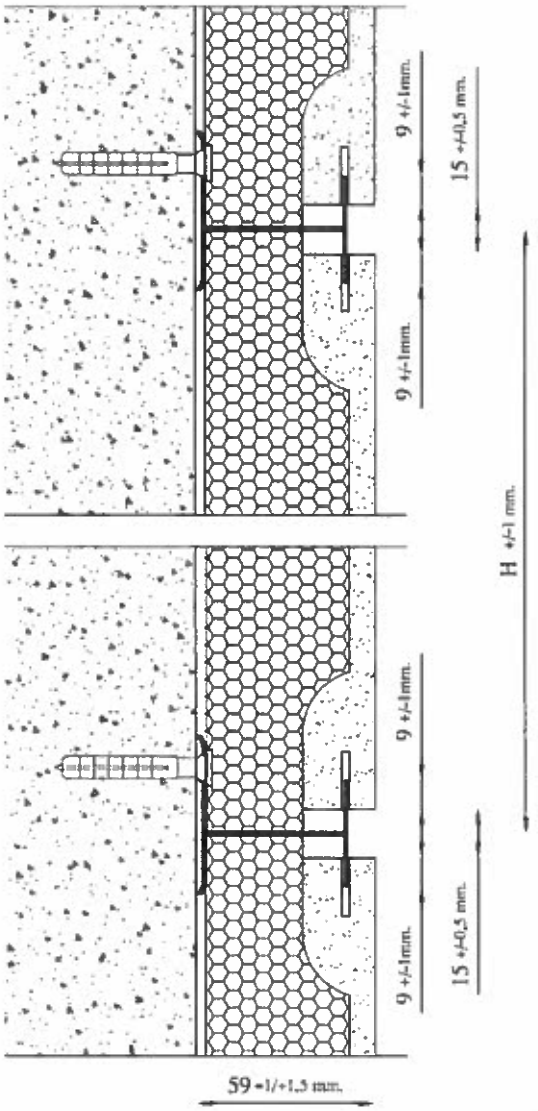
STANDARD PANEL SIZE
REINFORCED SKIN TYPE

H = 450 mm.	H = 600 mm.
L = 450 mm.	L = 600 mm.
L = 675 mm.	L = 1200 mm.
L = 900 mm.	



"PIZ CLADDING SYSTEM"	Annex 3 (1/6)
PIZ Standard 54 reinforced skin joint 0 details groove and spacer PIZ Rock Metabio 54 reinforced skin join 0 details groove and spacer	

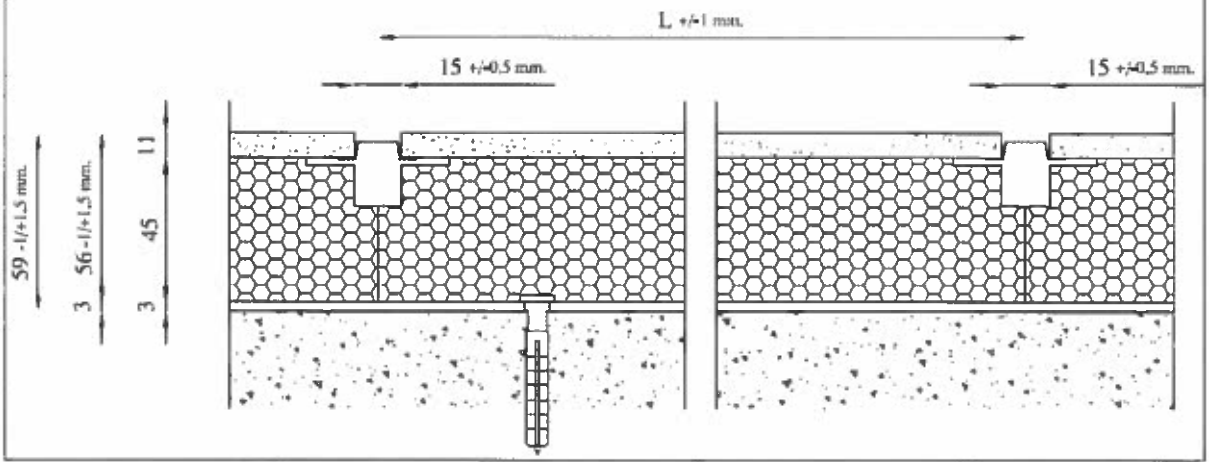
VERTICAL SECTION



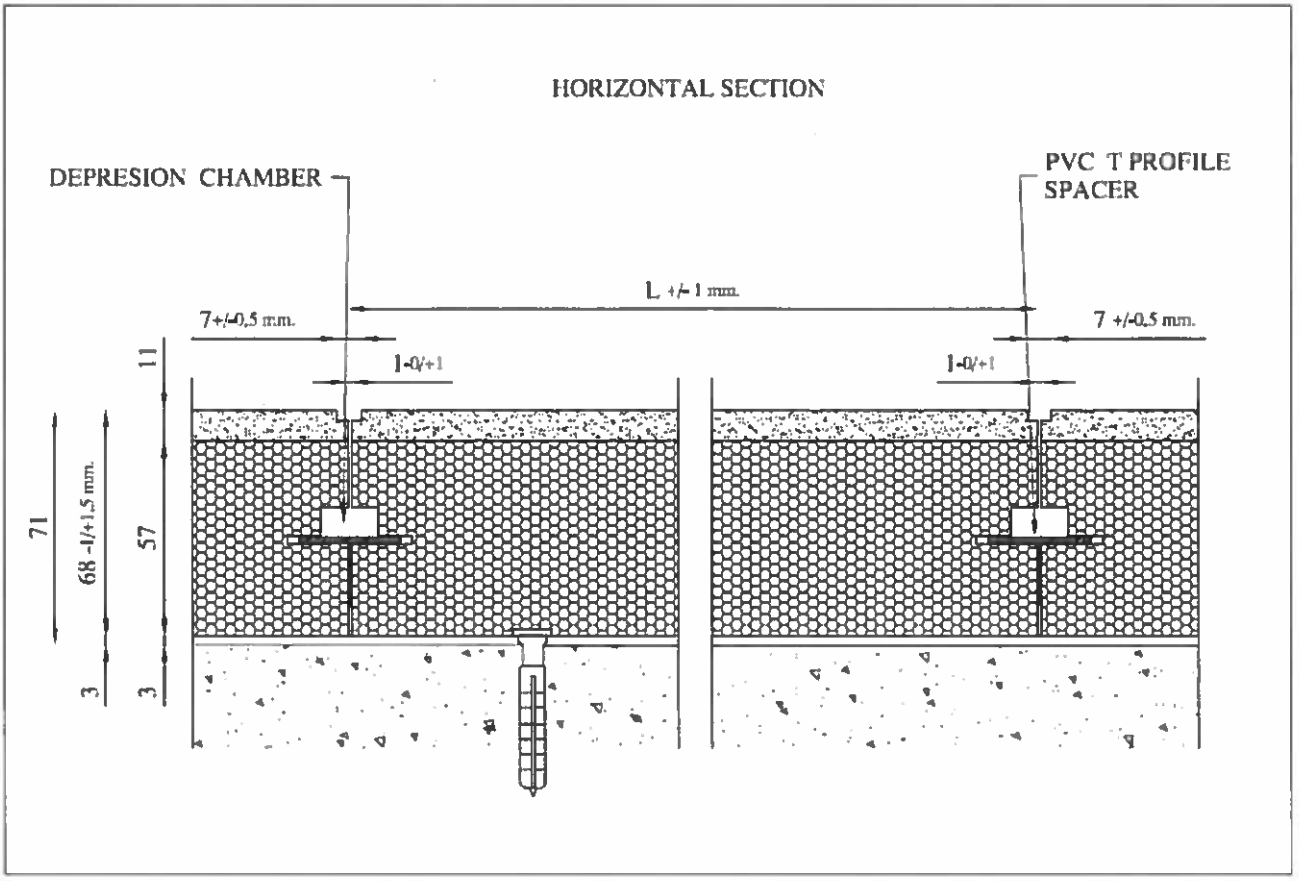
STANDARD PANEL SIZE
REINFORCED SKIN TYPE

H = 450 mm.	**H = 600 mm.**
L = 450 mm.	L = 600 mm.
L = 675 mm.	L = 1200 mm.
L = 900 mm.	

HORIZONTAL SECTION

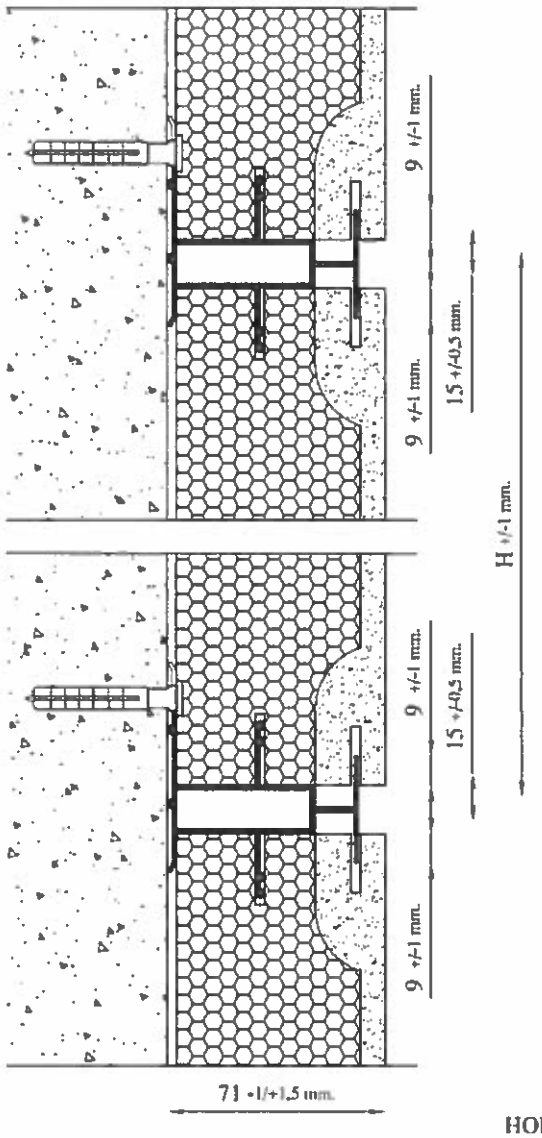


"PIZ CLADDING SYSTEM"	
PIZ Plus 66 reinforced skin groove and spacer joint 15	**Annex 3 (2/6)**



"PIZ CLADDING SYSTEM"	"PIZ CLADDING SYSTEM"
PIZ Plus 66 reinforced skin type joint 0 mm details groove and spacer	**Annex 3 (3/6)**

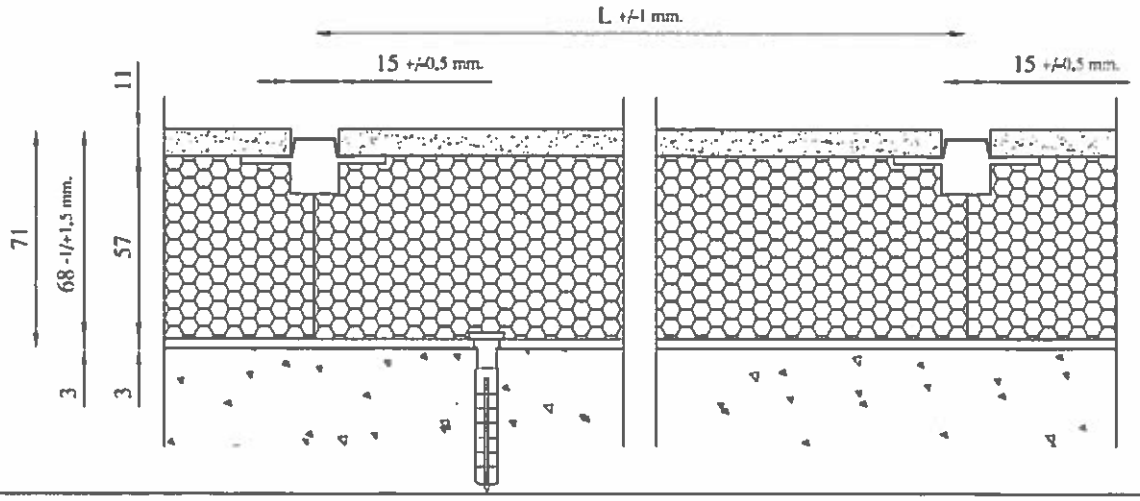
VERTICAL SECTION



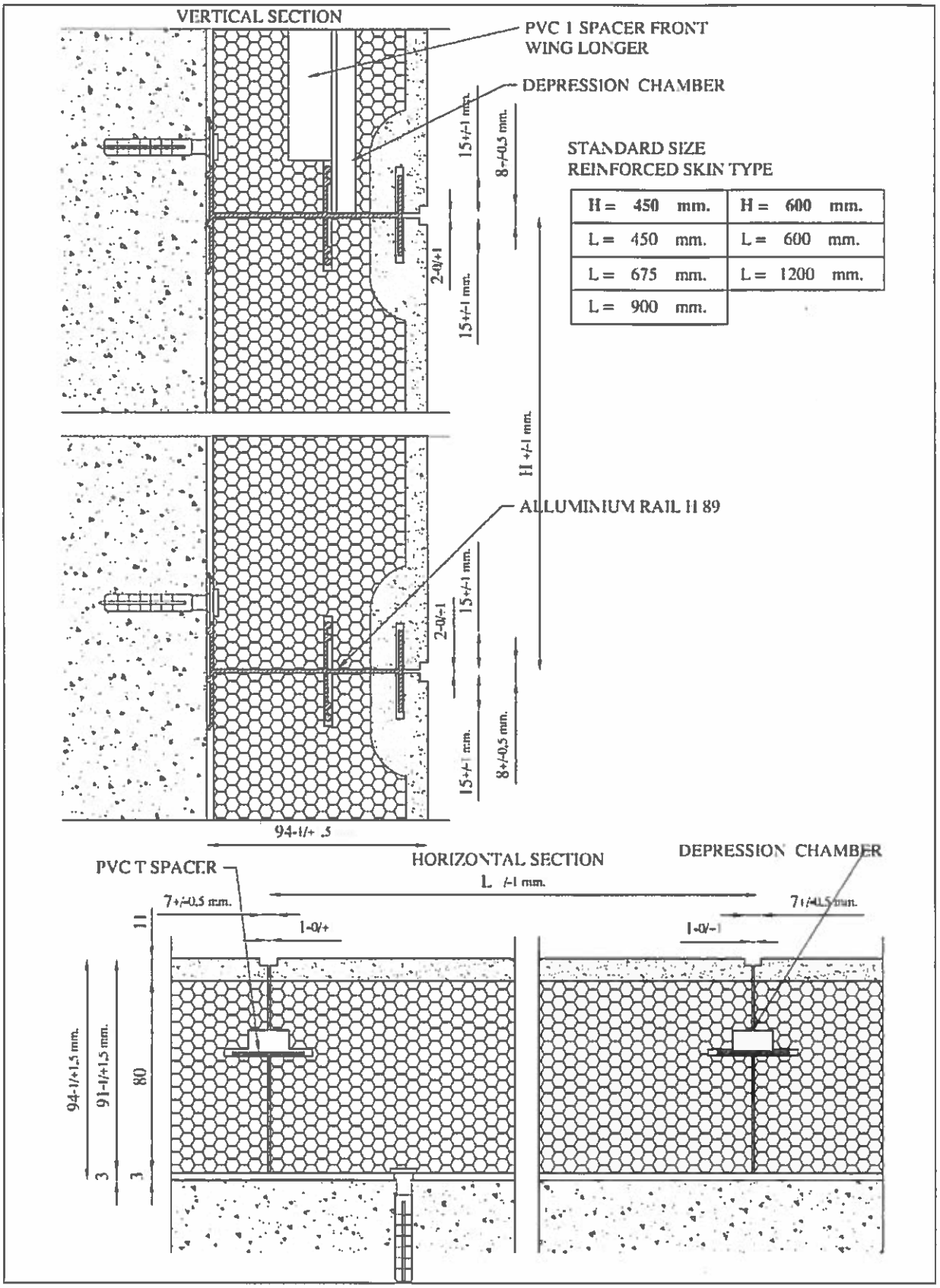
STANDARD DIMENSIONS
REINFORCED SKIN TYPE

H = 450 mm.	H = 600 mm.
L = 450 mm.	L = 600 mm.
L = 675 mm.	L = 1200 mm.
L = 900 mm.	

HORIZONTAL SECTION



"PIZ CLADDING SYSTEM"	Annex 3 (4/6)
PIZ Plus 66 reinforced skin type joint 15 mm details groove and spacer	

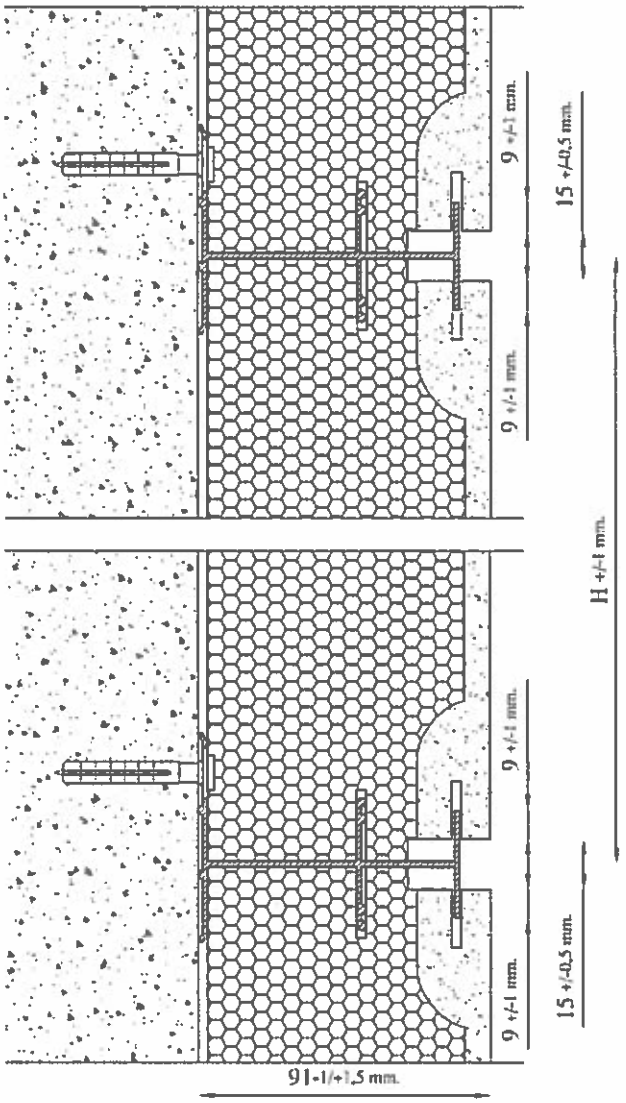


STANDARD SIZE
REINFORCED SKIN TYPE

H = 450 mm.	H = 600 mm.
L = 450 mm.	L = 600 mm.
L = 675 mm.	L = 1200 mm.
L = 900 mm.	

"PIZ CLADDING SYSTEM"	Annex 3 (5/6)
PIZ H89 reinforced skin joint 0 details groove and spacer PIZ Rock Metabio H89 reinforced skin joint 0 details groove and spacer	

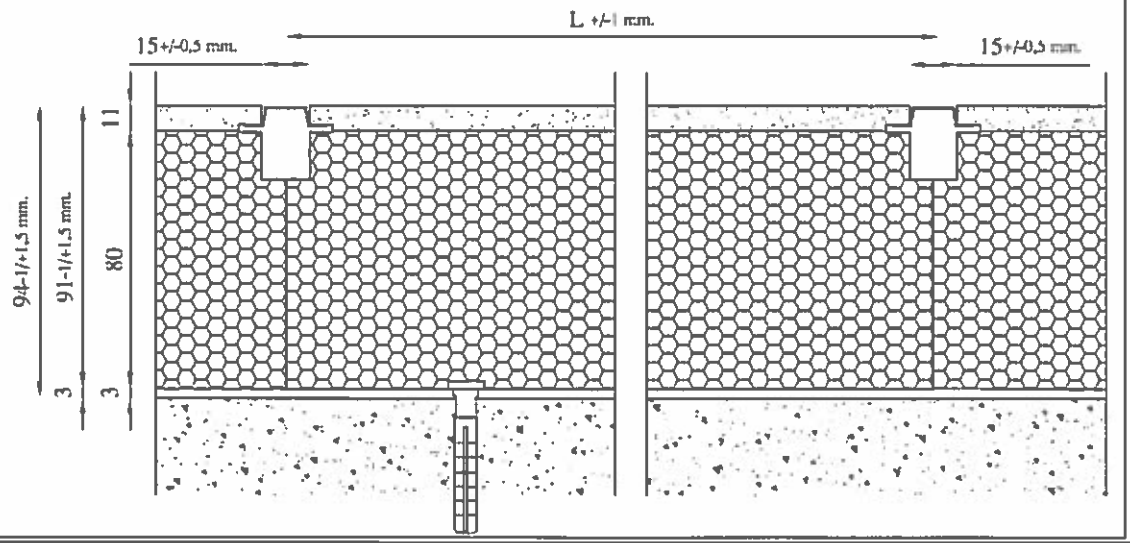
VERTICAL SECTION



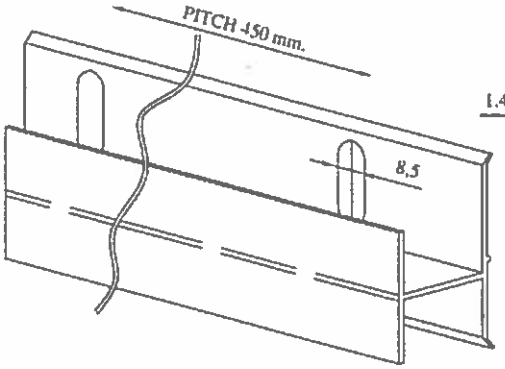
STANDARD SIZE
REINFORCED SKIN TYPE

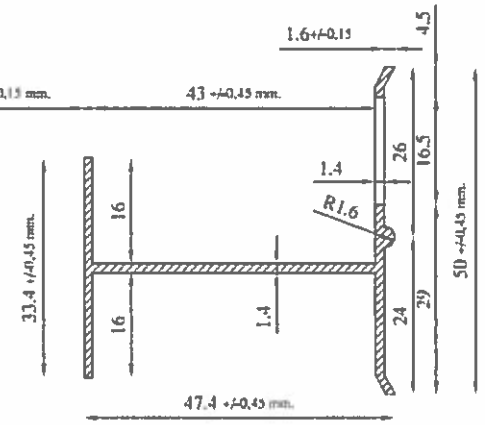
H = 450 mm.	H = 600 mm.
L = 450 mm.	L = 600 mm.
L = 675 mm.	L = 1200 mm.
L = 900 mm.	

HORIZONTAL SECTION

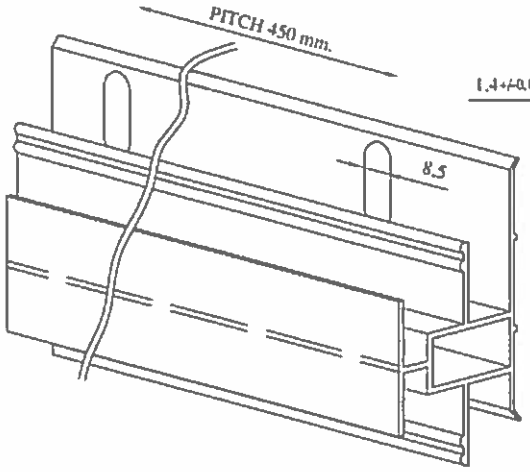


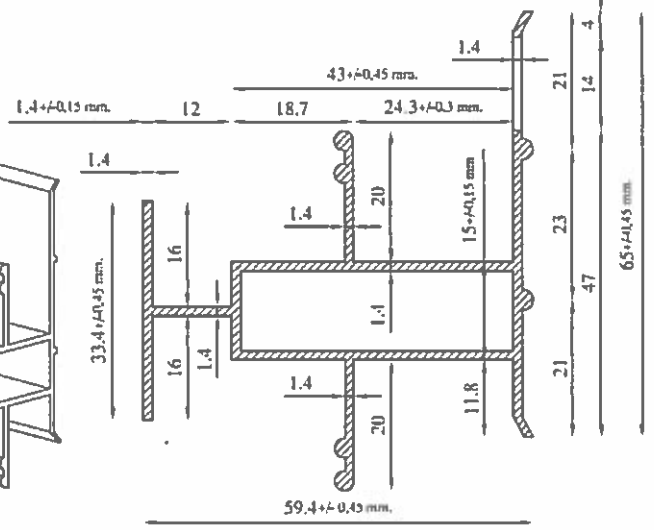
"PIZ CLADDING SYSTEM"	
PIZ H89 reinforced skin joint 15 mm details groove and spacer PIZ Rock Metabio H89 reinforced skin joint 15 mm details grooved an spacer	**Annex 3 (6/6)**



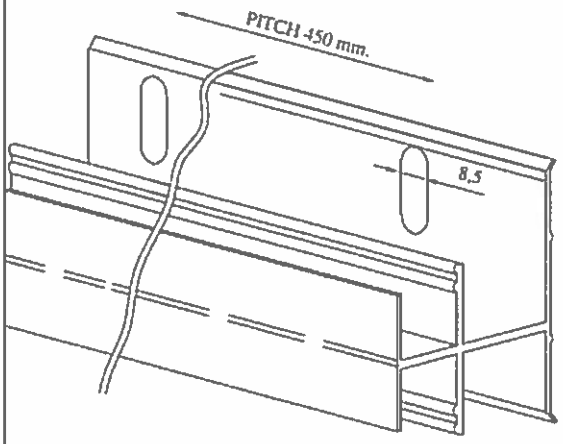


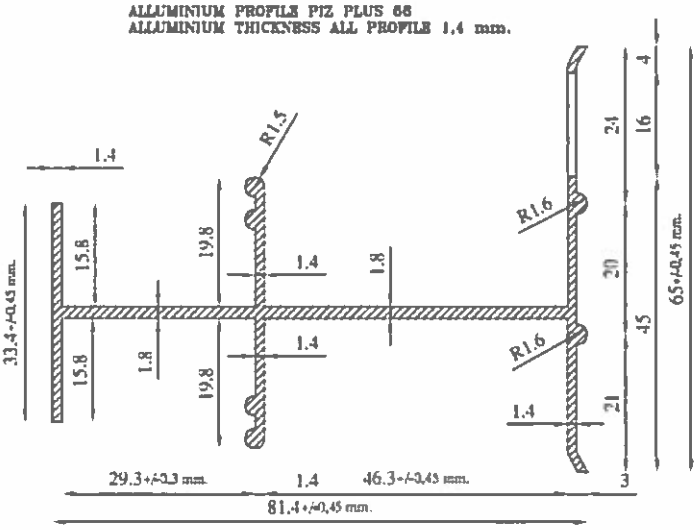
ALLUMINIUM PROFILE PIZ STANDARD AND PIZ ROCK METABIO 54
ALLUMINIUM THICKNESS ALL PROFILE 1.4 mm.





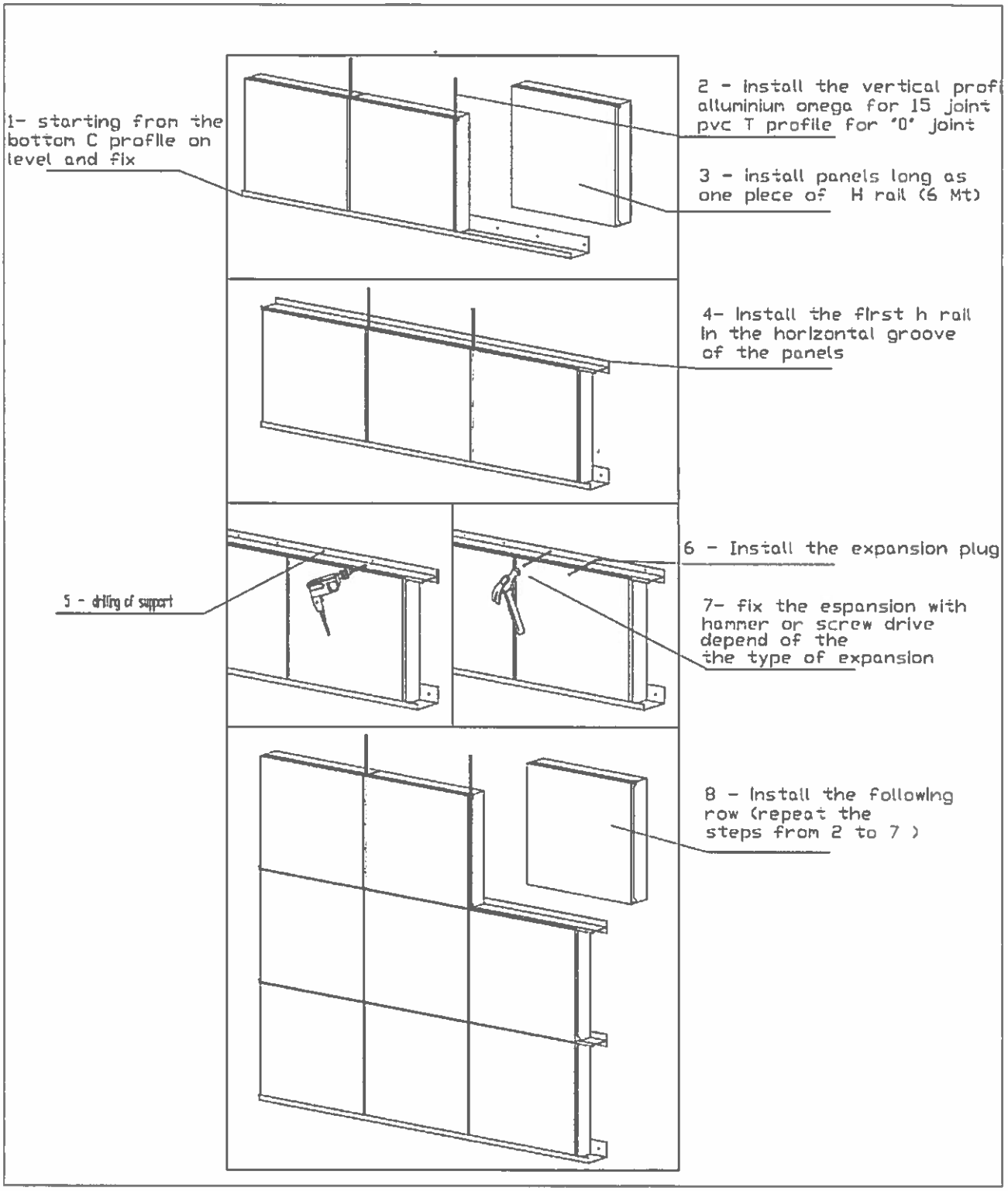
ALLUMINIUM PROFILE PIZ PLUS 66
ALLUMINIUM THICKNESS ALL PROFILE 1.4 mm.



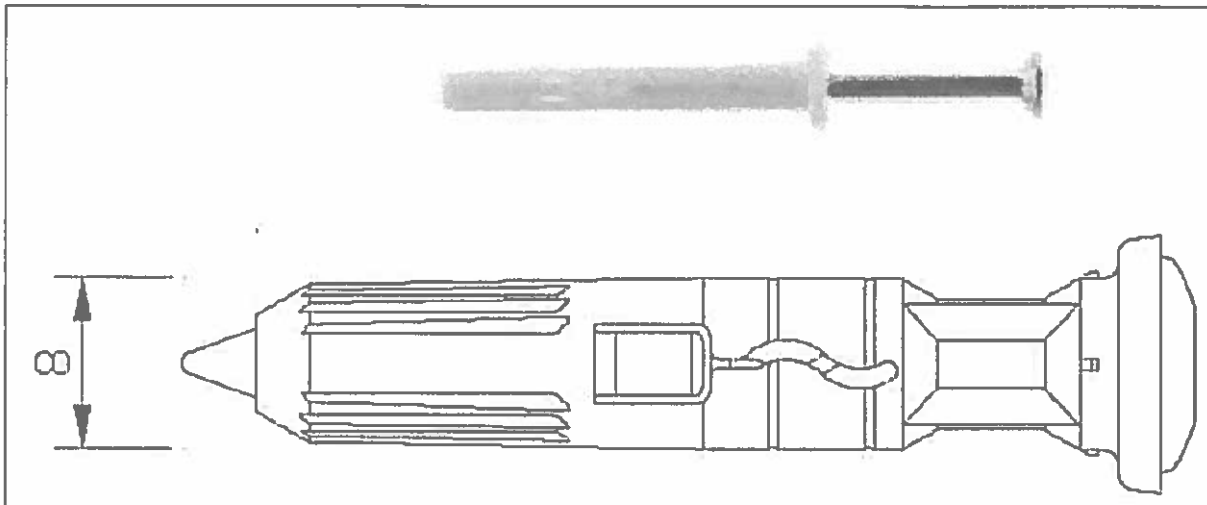


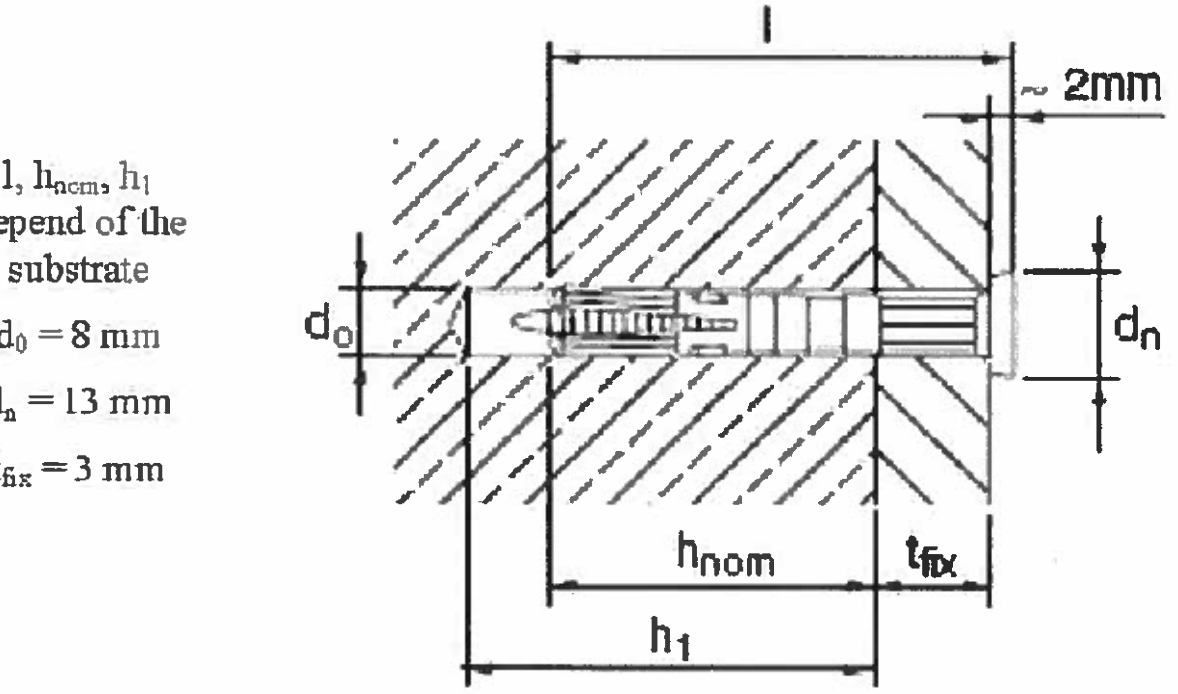
ALLUMINIUM PROFILE PIZ H50 AND PIZ ROCK METABIO H50
ALLUMINIUM THICKNESS FROM 1.4 TO 1.8 mm.

"PIZ CLADDING SYSTEM"	**Annex 4 (1/1)**
PIZ aluminium extruded H profile	



"PIZ CLADDING SYSTEM"	**Annex 5 (1/1)**
PIZ Example of installation	





l, h_{nom}, h_1 depend of the substrate

$d_0 = 8$ mm

$d_n = 13$ mm

$t_{fix} = 3$ mm

"PIZ CLADDING SYSTEM"	Annex 6 (1/1)
Piz example of plastic anchor	