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Italian Technical Assessment Body

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European Technical Assessment ETA 08/0023 of 23/07/2025

GENERAL PART

Trade name of the construction product	**ISOTEX**
Product family to which the construction product belongs	**PAC 34: BUILDING KITS, UNITS, AND PREFABRICATED ELEMENTS** **Non load-bearing permanent shuttering kits/systems based on hollow blocks or panels of insulating materials and sometimes concrete: hollow blocks resistant to seismic actions.**
Manufacturer	**ISOTEX S.r.l.** **Via d'Este, 5/7 – 5/8** **42028 Poviglio (RE) - Italy**
Manufacturing plant	**Via d'Este, 5/7 – 5/8** **42028 Poviglio (RE) - Italy**
This European Technical Assessment contains:	**23 pages, including 11 annexes which form an integral part of this assessment**
This European Technical Assessment is issued in accordance with Regulation (EU) n° 305/2011, on the basis of	**EAD 340309-00-0305 – Non load-bearing permanent shuttering kits/systems based on hollow blocks or panels of insulating materials and sometimes concrete.** **EAD 340309-00-0305-v01 Non load-bearing permanent shuttering kits or systems based on hollow blocks or panels of insulating materials and sometimes concrete: hollow blocks resistant to seismic actions**
This version replaces	**ETA 08/0023 (version 03) of 11/10/2023**

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SPECIFIC PARTS

1. TECHNICAL DESCRIPTION OF THE PRODUCT

The system **ISOTEX** is a seismic resistant shuttering kit based on hollow blocks made of concrete with wood-chips as aggregate according to definition given in clause 1.1 of EAD 340309-00-0305-v01. The wood-chip concrete hollow blocks are CE marked in accordance with the product standard EN 15498. The nominal density is equal to 534 kg/m^3 ± 10%. All packages contain a minimum of 4 hollow blocks showing CE marking, manufacturer name, reference to product standard and batch number.
The jointing surfaces are levelled by milling-machine to obtain a good mounting.
The length of elements is 500 mm, and the height is 250 mm.
The blocks with additional insulating materials (EPS with graphite) are generally used for external walls. They are delivered in form of elements to be inserted into the blocks. Insulating materials with the designations reported in Table 1 are used.

Table 1: Insulating material designation codes

Material	Standard	Code
(-)	(-)	(-)
EPS graphite	EN 13163	EPS – EN 13163 – T2 – L2- W2-S2-P4-DS(N)2-BS115-CS(10) 70-TR100-WL(T)2

The thickness of blocks leaves is from 30 mm to 55 mm.
The maximum thickness of the space for the concrete core is 350 mm, the minimum thickness is 120 mm. Special hollow blocks as end blocks, angular and pillar blocks are also part of the system.
Area categories according to Eurocode 1 are: A, B, C, D and E.
The product description, with reference to its components, is given in Annex A.

2. SPECIFICATION OF THE INTENDED USE IN ACCORDANCE WITH EUROPEAN ASSESSMENT DOCUMENT N° 340309-00-0305-v01 (hereinafter EAD)

The kit **ISOTEX** is a non-load-bearing permanent shuttering system intended to be used only for construction of internal and external walls (according to the intended use given in clause 1.2.1 of EAD 340309-00-0305) above or below ground. The walls could be load-bearing or not load-bearing, included those which are subject to fire regulation. This ETA covers the seismic applications of the kit (according to the intended use given in clause 1.2.1 of EAD 340309-00-0305-v01).

Concerning product packaging, transport and storage it is the responsibility of the manufacturer to undertake the appropriate measures and to advise his clients on the transport and storage, as he considers necessary in order to reach the declared performances.
The information about installation is provided with the technical documentation from the manufacturer and it is assumed that the product will be installed according to it or (in absence of such instructions) according to the usual practice of the building professionals.

The performances assessed in this European Technical Assessment, according to the applicable EAD, are based on an assumed intended working life of at least 50 years, provided that the conditions for packaging, transport, storage, installation as well as appropriate use, maintenance and repair are met. The indications given on the working life cannot be interpreted as a guarantee given by the manufacturer, but are to be regarded only as a means for choosing the right products in relation to the expected economically reasonable working life of the works.

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

The tests for performance assessment of the kit **ISOTEX** were carried out in compliance with EAD 340309-00-0305-v01 according to the test methods reported herein, as well for what concerns sampling, conditioning and testing provisions.
The numbering (#) in the following tables corresponds to the numbering of Table 2.1.1 of EAD 340309-00-0305-v01.

3.1 MECHANICAL RESISTANCE AND STABILITY (BWR 1)

#	Essential characteristic	Performance	
1	Resulting structural pattern	The type of structural pattern is grid	
2	Efficiency of filling	See Annex B1	
3	Possibility of inserting the steel reinforcement	By examining technical drawings, the possibility of inserting at least the minimum required steel reinforcement for reinforced concrete walls is verified. Such results are confirmed by the on-site practice tests carried out in the conditions given in Annex B1.	
4	Assessment of the monotonic and cyclic structural response of the seismic resistant shuttering kit with and without openings and connections:	All the Essential Characteristics listed in the following (4.1 to 4.14) have been assessed for t_{cm} = 14 cm	
4.1	Elastic modulus E	E_m [MPa] = 25725, σ_E [MPa] = 59	
4.2	Compression strength	$S_{c,m}$ [MPa] = 50.575, σ_{Sc} [MPa] = 2.044	
4.3	Shear strength	$S_{sv,m}$ [MPa] = 21.875, σ_{Ssv} [MPa] =1.789 G_m [MPa] = 11772, σ_G [MPa] = 170	
4.4	Shear strength of the inner horizontal connections	$S_{sh,m}$ [MPa] = 17.675, σ_{Sh} [MPa] =2.044	
4.5	Lateral strength	Without openings	$F_{u,m}$ [kN] = 253.70 σ_{Fu} [kN] = 38.41
		With door	$F_{u,m}$ [kN] = 229.65 σ_{Fu} [kN] = 11.96
		With windows	$F_{u,m}$ [kN] = 213.21 σ_{Fu} [kN] = 11.44
4.6	Elastic and post elastic displacement capacities	Without openings	$\delta_{y,m}$ [-] = 0.0019, $\sigma_{\delta y}$ [kN] = $3.34 \cdot 10^{-4}$ $\delta_{pl,m}$ [-] = 0.0067 $\sigma_{\delta pl}$ [kN] = $8.37 \cdot 10^{-4}$
		With door	δ_y [-] = 0.0019 $\sigma_{\delta y}$ [kN] = $1.65 \cdot 10^{-5}$ δ_{pl} [-] = 0.0072 $\sigma_{\delta pl}$ [kN] = $8.67 \cdot 10^{-4}$
		With windows	δ_y [-] = 0.0019 $\sigma_{\delta y}$ [kN] = $2.98 \cdot 10^{-4}$ δ_{pl} [-] = 0.0078 $\sigma_{\delta pl}$ [kN] = $4.57 \cdot 10^{-4}$
4.7	Initial stiffness	Without openings	$K_{init,m}$ [kN/mm] = 45081.44 σ_{Kinit} [kN/mm] = 2797.49
		With door	K_{init} [kN/mm] = 40316.37 σ_{Kinit} [kN/mm] = 1749.18
		With windows	K_{init} [kN/mm] = 38339.00 σ_{Kinit} [kN/mm] = 3416.82
4.8	Stiffness secant to yielding	Without openings	$K_{y,m}$ [kN/mm] = 9831.97 σ_{Ky} [kN/mm] = 1319.81
		With door	K_y [kN/mm] = 8499.32 σ_{Ky} [kN/mm] = 1237.02

		With windows	K_y [kN/mm] = 7345.57 σ_{Ky} [kN/mm] = 789.14
4.9	Ductility	Without openings	$\mu_{local,m}$ [-] = 4.66 $\sigma_{\mu local}$ [-] = 0.77
		With door	$\mu_{local,m}$ [-] = 4.43 $\sigma_{\mu local}$ [-] = 0.16
		With windows	$\mu_{local,m}$ [-] = 4.10 $\sigma_{\mu local}$ [-] = 0.08
4.10	Overstrength ratio	Without openings	$\rho_{local,m}$ [-] = 1.08 $\sigma_{\rho local}$ [-] = 0.008
		With door	ρ_{local} [-] = 1.02 $\sigma_{\rho local}$ [-] = 0.007
		With windows	ρ_{local} [-] = 1.03 $\sigma_{\rho local}$ [-] = 0.014
4.11	Dissipated energy	Without openings	$E_{diss,m}$ [kN·mm] = 5.14 σ_{Ediss} [kN·mm] = 1.01
		With door	E_{diss} [kN·mm] = 3.30 σ_{Ediss} [kN·mm] = 0.39
		With windows	E_{diss} [kN·mm] = 2.60 σ_{Ediss} [kN·mm] = 0.85
4.12	Damping	Without openings	$\xi_{eq,m}$ [-] = 0.19 $\sigma_{\zeta eq}$ [-] = 0.008
		With door	ξ_{eq} [-] = 0.13 $\sigma_{\zeta eq}$ [-] = 0.014
		With windows	ξ_{eq} [-] = 0.11 $\sigma_{\zeta eq}$ [-] = 0.007
4.13	Strength of T and L connections	L connection	M^+_u [kN·m] = 31.2 M^-_u [KN·m] = 14.7
		T connection	M^+_u [kN·m] = 28.6 M^-_u [KN·m] = 18.6
4.14	Strength and deformation capacity of a multi-story structure	F^*_u [kN] = 445 d_y^* [mm] = 11.21 d_{pl}^* [mm] = 82.21 μ_{global} [-] = 7.33 ρ_{global} [-] = 1.045	

3.2 SAFETY IN CASE OF FIRE (BWR 2)

#	Essential characteristic	Performance
5	Reaction to fire	See Annex B2, Table B4
6	Influence of the shuttering kit on the fire resistance	See Annex B2, Table B5 and Table B6

3.3 HYGIENE, HEALTH AND THE ENVIRONMENT (BWR 3)

#	Essential characteristic	Performance
7	Content, emission and/or release of dangerous substances	No Performance Assessed
8	Water vapour permeability	See Annex B3, Table B7
9	Water absorption	Based on the results of the on-site inspection carried out in the conditions given in Annex B1, it is observed that water absorption by the shuttering in contact with fresh concrete is negligible so that it is drained out again during the evaporation period.
10	Watertightness	Not applicable, since no finishing is incorporated in the shuttering kit.

3.4 SAFETY AND ACCESSIBILITY IN USE (BWR 4)

#	Essential characteristic	Performance
11	Bond strength	Not applicable, since no finish is incorporated in the shuttering kit.
12	Resistance to impact load	Normal use impacts Not applicable, since no finish is incorporated in the shuttering kit. Incorporation of the ducts The integrity of any of the kit components is provided by the voids for horizontal passing ducts made on site; the diameter of the voids shall coincide with the diameter of the ducts; the ducts must be installed in the voids before filling in with concrete. Fixing of objects Fixing of objects in the shuttering leaves is not possible; for what concerns the mechanical resistance of the fixing devices, only their part inserted in the concrete can be considered.
13	Resistance to filling pressure	Resistance to filling pressure is assessed by both testing of blocks and on-site inspection on the complete shuttering systems carried out in the conditions given in Annex B1. During the on-site inspection, the shuttering kits showed adequate resistance to filling pressure under the most extreme filling conditions specified by the manufacturer with no cracks nor failure in the current position and at junctions, and no significant irreversible bowing was observed (maximum deflection value lower than 5 mm). Adequate resistance to filling pressure has been confirmed also by the results of the tests carried out according to clauses 4.2.6.2 and 4.2.6.3 of EN 15498.
14	Safety against personal injuries	Delivered on site, the hollow blocks do not have sharp or cutting edges even if they are curtailed at door or windows opening. In any case there is a certain risk of abrasion due to of the rough surfaces of the hollow blocks, therefore, handling on site shall be done with gloves.

3.5 PROTECTION AGAINST NOISE (BWR 5)

#	Essential characteristic	Performance
15	Airborne sound insulation	See Annex B3, Table B8
16	Sound absorption	Not applicable, since no finishing is incorporated in the shuttering kit.

3.6 ENERGY ECONOMY AND HEAT RETENTION (BWR 6)

#	Essential characteristic	Performance
17	Thermal resistance	See Annexes B4
18	Thermal inertia	See Annexes B5

3.7 SUSTAINABLE USE OF NATURAL RESOURCES (BWR 7)

#	Essential characteristic	Performance
19	Resistance to deterioration	Physical agents Since the thermal expansion coefficient of wood-chip concrete is not higher than normal weight concrete, the hollow blocks do not have dimensional variations higher than 0.07% after exposition for 48 h at 70°C. With respect to the effect of low temperature, the hollow blocks, as required in EN 15498:2008 were tested (EN 14474:2005) both with distilled water and with 3%NaCl, showed a loss of less than 0.5%. Chemical agents The hollow blocks contain no steel parts where corrosion could occur. Biological agents The ETA Holder demonstrated that, if the walls are protected by standard finishes in relation with the conditions of use of the building, the application of the wood-chips aggregate concrete as thermal insulating materials sufficiently protects against fungi, bacteria, algae and insects. Wood-chips aggregate concrete and the used thermal insulating materials do not provide a food value and in general it does not contain voids suitable for habitation by vermin.

4. ASSESSMENT AND VERIFICATION OF CONSTANCY OF PERFORMANCE (AVCP) SYSTEM APPLIED, WITH REFERENCE TO ITS LEGAL BASE

In accordance with the EAD 340309-00-0305 the applicable European legal act is: **Commission Decision 1998/279/EC** as amended by **Commission Decision 2001/596/EC** of 8 January 2001.
The AVCP system to be applied is: **2+**.

5. TECHNICAL DETAILS NECESSARY FOR THE IMPLEMENTATION OF THE AVCP SYSTEM, AS PROVIDED FOR IN EAD 340309-00-0305-v01

Technical details necessary for the implementation of the AVCP system are laid down in the Control Plan deposited at ITAB/ITC-CNR.

Issued in San Giuliano Milanese, Italy on 23/07/2025
by ITAB / ITC–CNR

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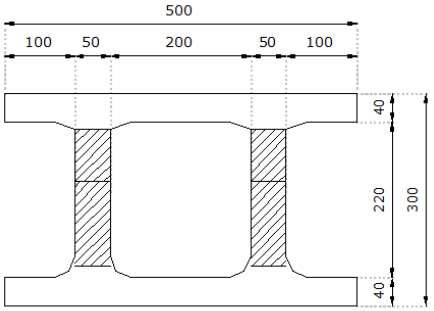
HDII 30/22



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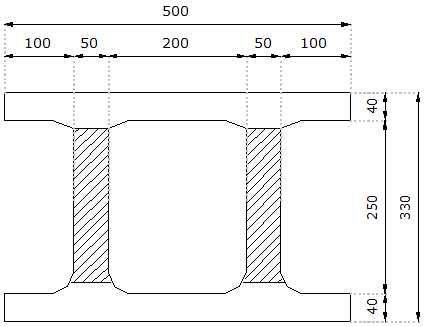

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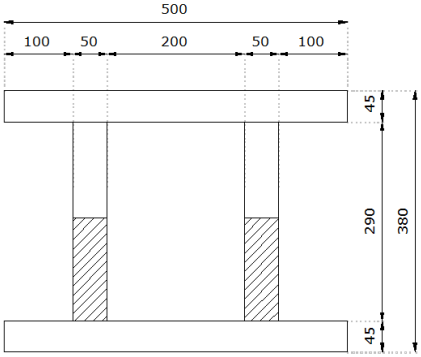

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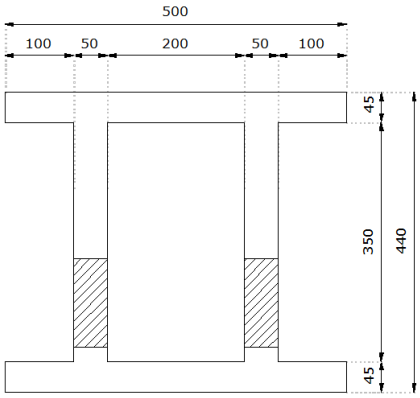
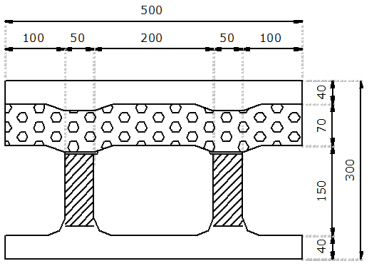


ISOTEX	**Annex A1/1** **of ETA N° 08/0023**
Product Description: ISOTEX elements “HDII” and “HDIII”	

HDIII 30/7



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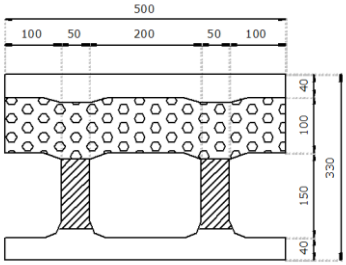

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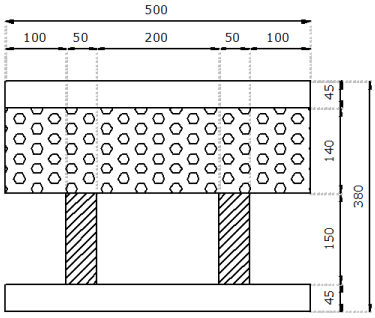

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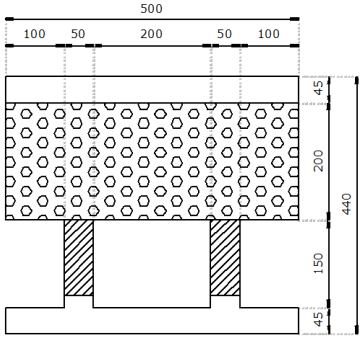

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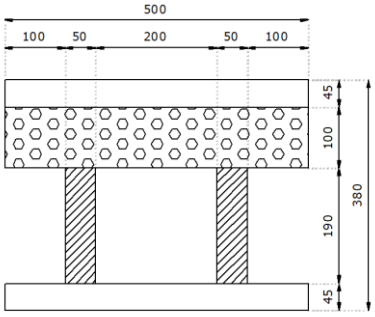

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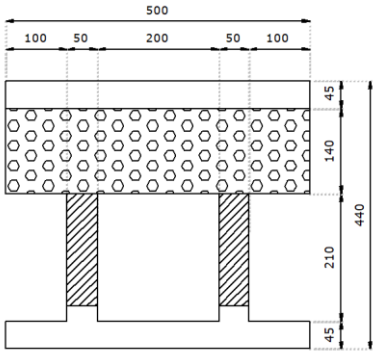

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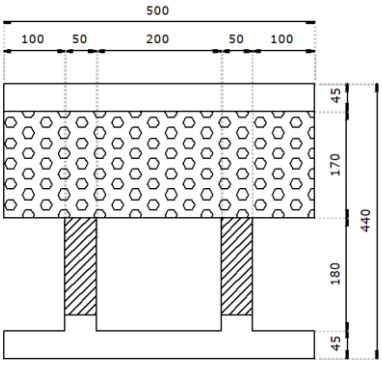
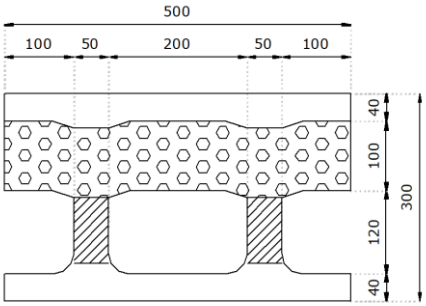


INSULATING MATERIAL

ISOTEX	
Product Description: ISOTEX elements “HDII” and “HDIII”	**Annex A1/2** **of ETA N° 08/0023**

HDIII 30/10



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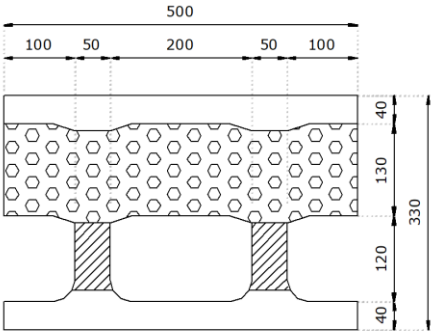

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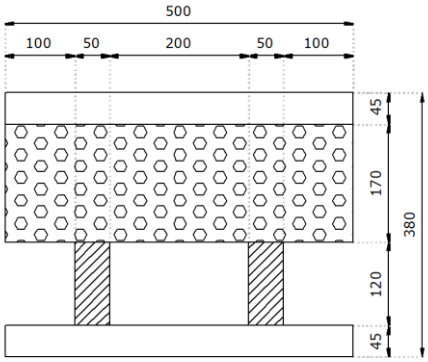

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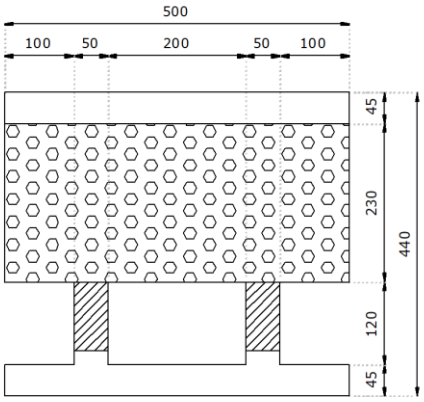

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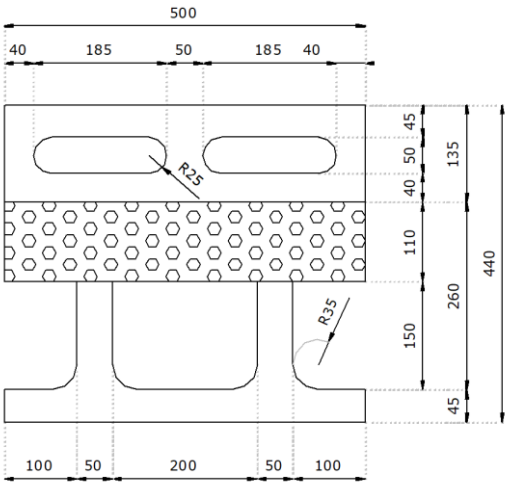
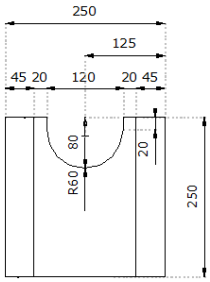


INSULATING MATERIAL

ISOTEX	**Annex A1/3** **of ETA N° 08/0023**
Product Description: ISOTEX elements “HDII” and “HDIII”	

HB 25



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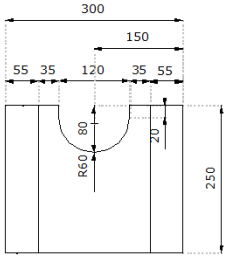

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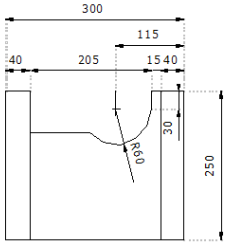

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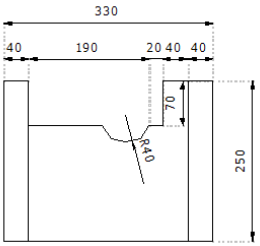

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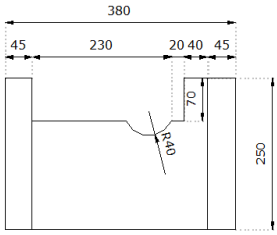

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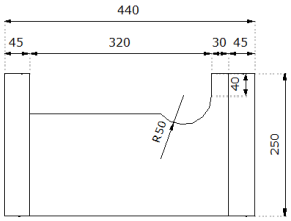

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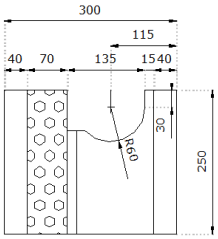

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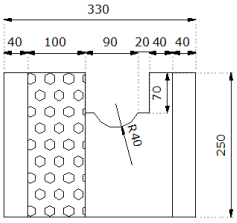

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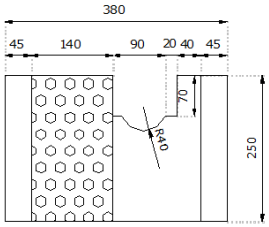

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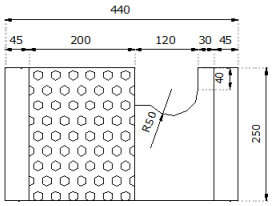
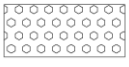




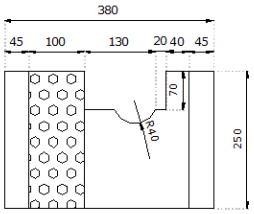
INSULATING MATERIAL

ISOTEX

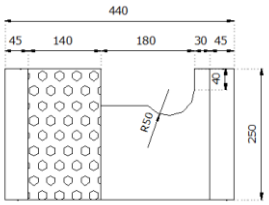
Product Description:
ISOTEX elements “HD” front and lateral views

Annex A2/1
of ETA N° 08/0023

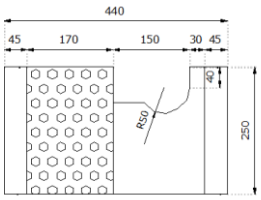
HDIII 38/10



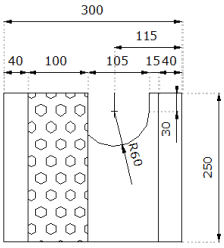
HDIII 44/14



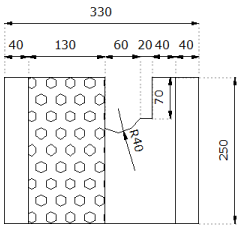
HDIII 44/17



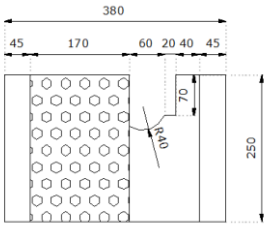
HDIII 30/10



HDIII 33/13



HDIII 38/17



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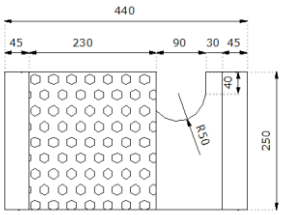

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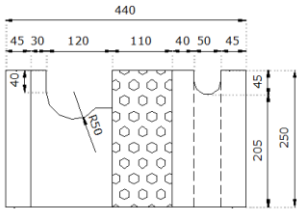
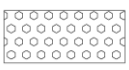




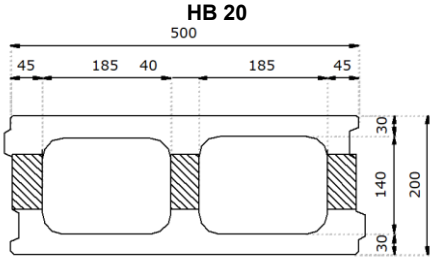
INSULATING MATERIAL

ISOTEX

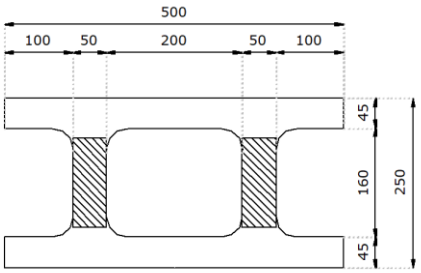
Product Description:
ISOTEX elements “HD” front and lateral views

Annex A2/2
of ETA N° 08/0023

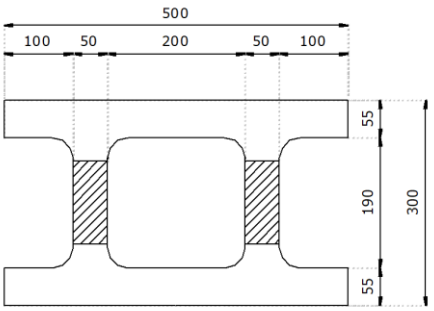
HB 20



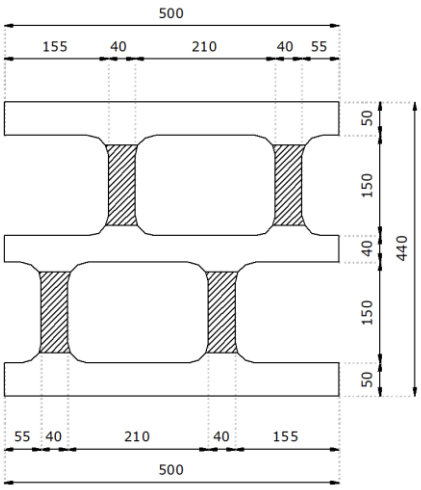
HB 25/16



HB 30/19

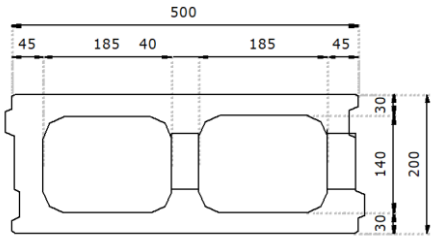


HB 44/15-2

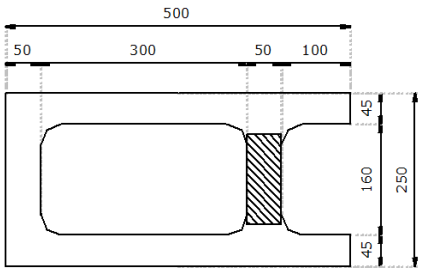


ISOTEX	**Annex A3** **of ETA N° 08/0023**
Product Description: ISOTEX elements “HB”	

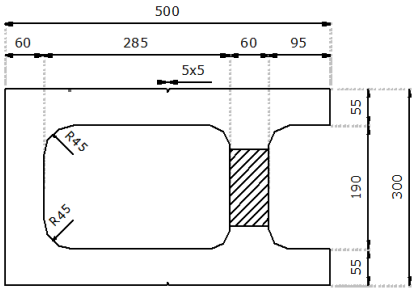
HB 20 UNI



HB 25 UNI

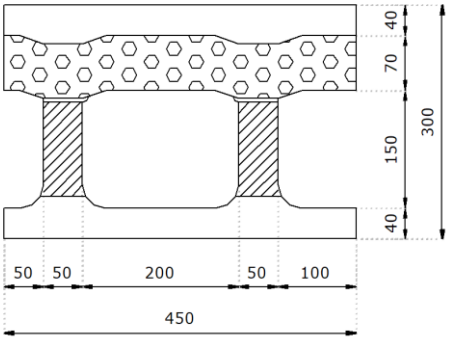


HB 30 UNI

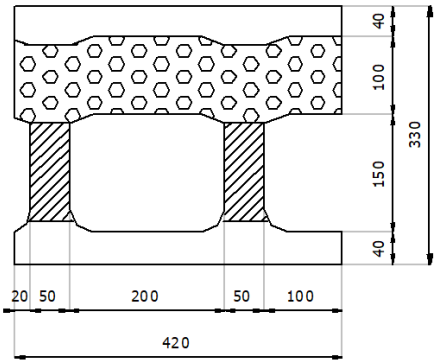


ISOTEX	**Annex A4/1** **of ETA N° 08/0023**
Product Description: ISOTEX special elements	

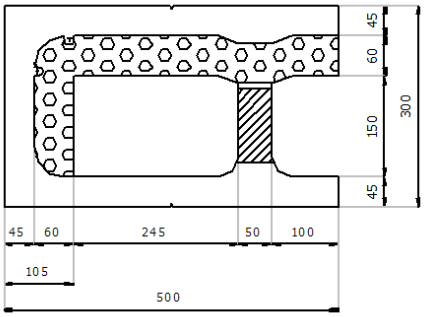
HDIII 30/7 - PASS



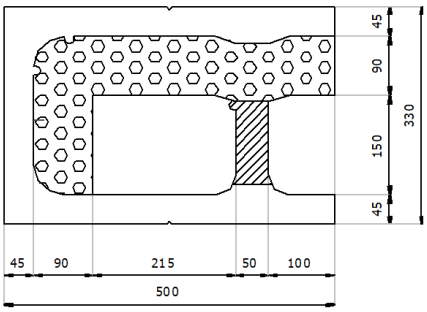
HDIII 33/10 – PASS



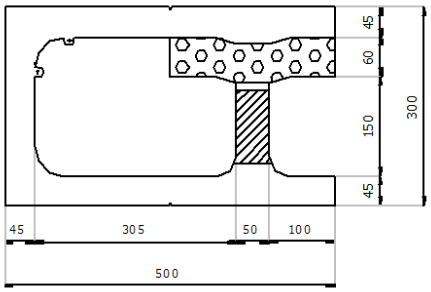
HDIII 30/7 – UNI/SPALLA



HDIII 33/10 – UNI/SPALLA



HDIII 30/7 – UNI INTERNO



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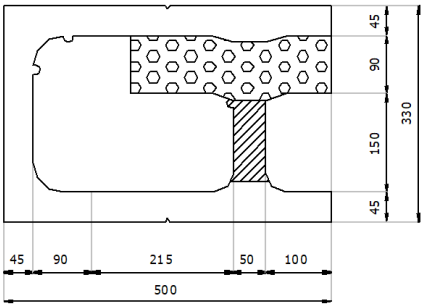
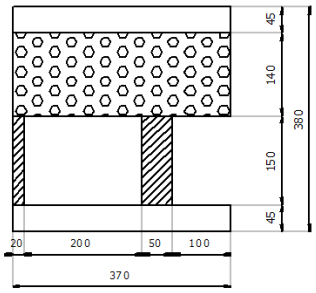


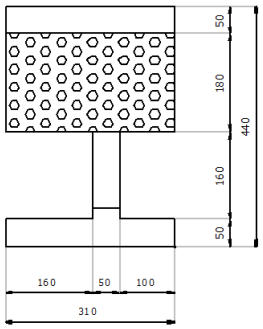
INSULATING MATERIAL

ISOTEX	**Annex A4/2** **of ETA N° 08/0023**
Product Description: ISOTEX special elements	

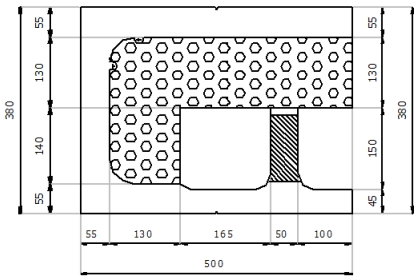
HDIII 38/14 – PASS



HDIII 44/20 – PASS



HDIII 38/14 – UNI



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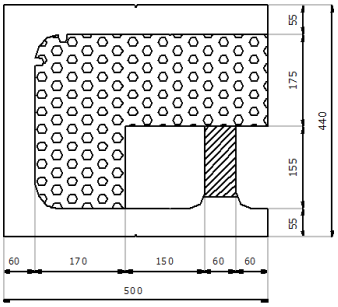
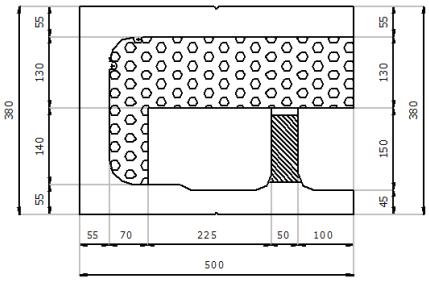
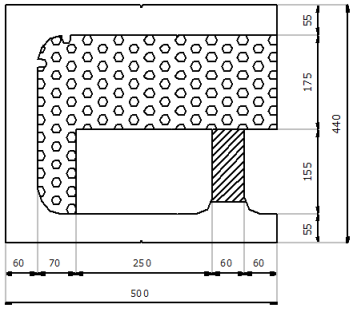


HDIII 38/14 – SPALLA



HDIII 44/20 – SPALLA



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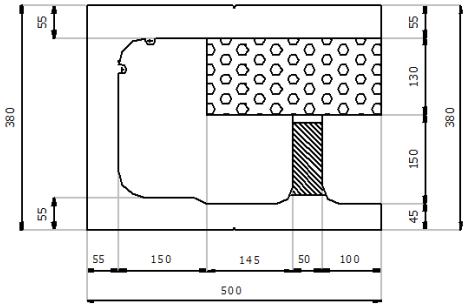

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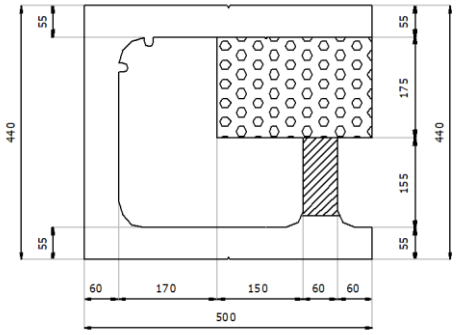


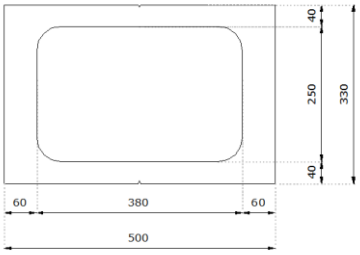
INSULATING MATERIAL

ISOTEX

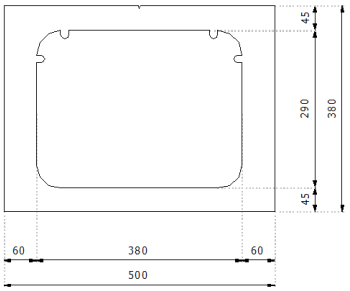
Product Description:
ISOTEX special elements

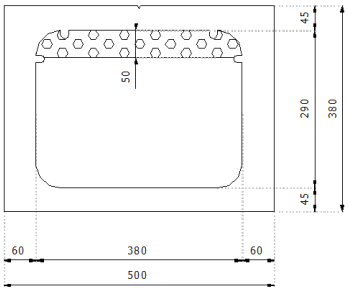
Annex A4/3
of ETA N° 08/0023

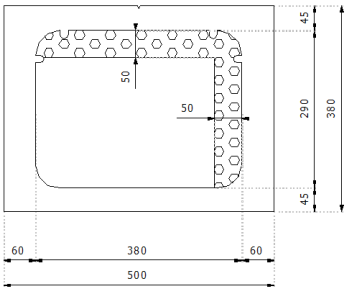
PIL 33



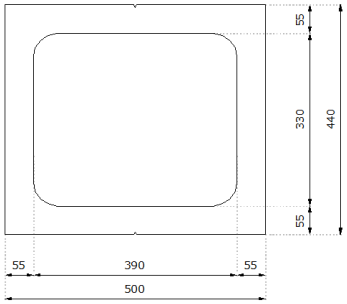
PIL 38

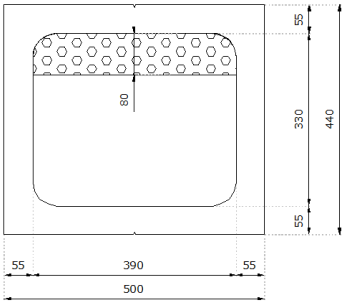


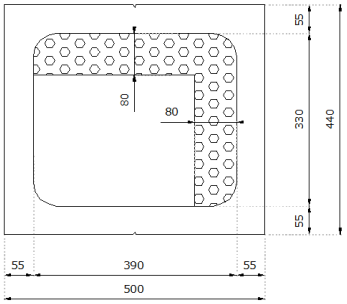


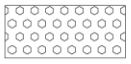


PIL 44







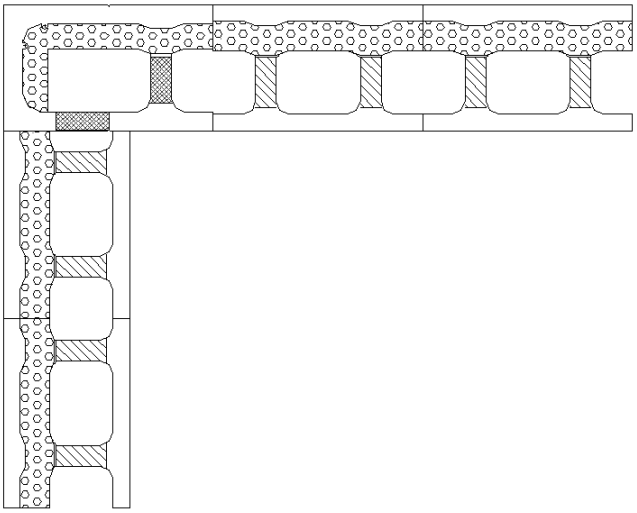


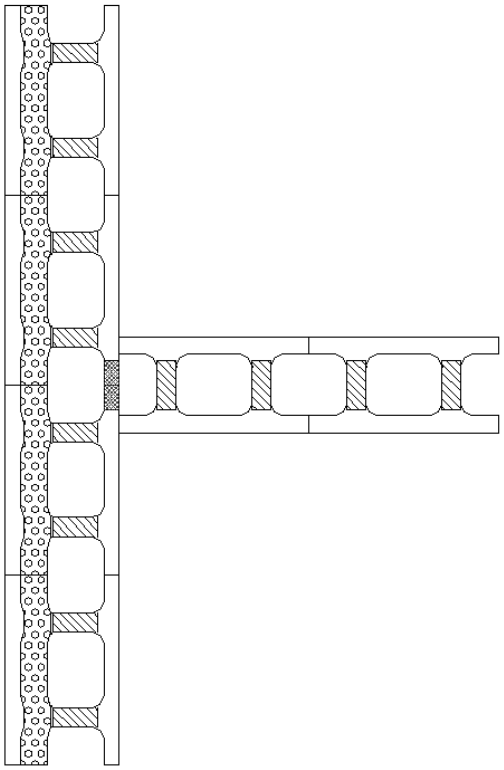
INSULATING MATERIAL

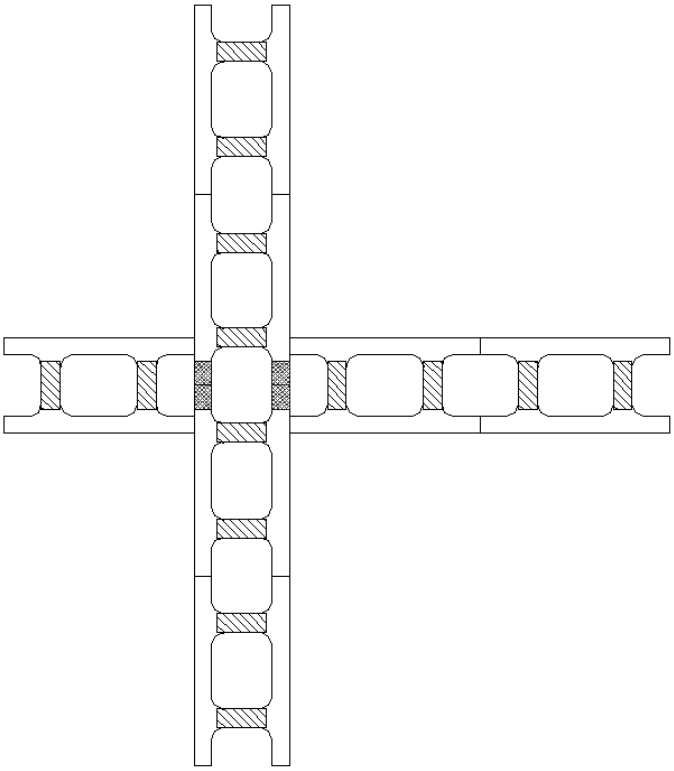
ISOTEX

Product Description:
ISOTEX column elements

Annex A5
of ETA N° 08/0023







ISOTEX	Annex A6 of ETA N° 08/0023
Product Description: ISOTEX examples of wall corners	

Table B1: Properties of the concrete

Minimum concrete strength	Compliant with EN 206:2013 + A2:2021 – Tab. 12
Slump class	S4 – S5
Maximum aggregates size (mm) *	16
Fresh concrete consistency	Compliant with 2.2.2 of EAD

Table B2: Method of filling

Method of concreting and maximum height of filling
Pneumatic concrete pouring is adopted and concrete compaction by means of a shaking device is provided. The maximum height of filling is not greater than 1,50 m (6 layers) and the next filling with fresh concrete is made after 2 hours at least.

Table B3: Efficiency of filling

Shuttering kit
No loss of fines, bursting or distortion of the shuttering panels is observed. Water loss between joints was negligible.
Structure
Correct setting and hardening of the concrete infill is observed, without voids or segregation. The reinforcement was completely covered.

ISOTEX	**Annex B1** **of ETA N° 08/0023**
Performances: Efficiency of filling	

Table B4: Reaction to fire according to EN 13501-1 with and without the insulating material EPS*

	Fire behaviour		Smoke production			Dripping	
Euroclass	B	-	s	1	,	d	0

* For all types of blocks with other insulating materials “No Performance Assessed” (NPA) is adopted.

Note: A European reference fire scenario has not been laid down for façade. In some Member States, the classification of external wall obtained with the kit ISOTEX according to Standard EN 13501-1 might not be sufficient for the use in façades. An additional assessment of the system according to the National provisions (i.e. based on a large-scale test) might be necessary to comply with specific Member State Regulations, until the existing European classification system has been completed.

Table B5: Resistance to fire of load bearing walls based on experimental results of tests performed according to EN 1365-1

Element	Width	Height	Finishing type	Block type	Concrete class	Maximum load	REI
(-)	(m)	(m)	(-)	(-)	(-)	(daN)	(min)
Wall	3.0	3.0	-	HDIII 44/21	C25/30	40000	120

Table B6: Resistance to fire depending on the minimum thickness of the concrete infill

	Load bearing wall	Non load bearing wall
Thickness range (mm)	**REI** (min)	**EI** (min)
≤ 90	-	-
90 - 100	-	60
100 - 110	30	90
110 – 120	60	90
120 - 150	90	120
≥ 150	120	120

NOTE: The above reported classification is referred to wall exposed on one side and assuming that the following preconditions are fulfilled.

- The design of the building has to take into consideration the secondary effects of fire. Especially constraints, introduced by thermal strain, should be sufficiently low and appropriate building joints should be foreseen. The rules, valid in place of use, govern. Structural requirements on work in normal conditions, valid in the place of use, may require larger dimensions. Concrete cover for the reinforcement has to be observed according to the rules valid in the place of use
- Ordinary concrete (as defined in EN 206:2013 + A2:2021 and its amendments or in EN 1992-1-1) and concrete strength between C16/20 and C50/60 according to EN 206:2013 + A2:2021 and its amendments.

ISOTEX	**Annex B2** **of ETA N° 08/0023**
Performances: Reaction and resistance to fire	

Table B7: Nominal water vapour permeability factor (μ)

Material	μ
(-)	(-)
Concrete with wood-chips as aggregate	5,9 ± 0,6

Note: Nominal vapour permeability determined according to EN ISO 12572:2006.

Table B8: Airborne sound insulation

Block	Single-number quantity	
(-)	Type	Value (dB)
DIII 30/5	D_{2mnTx}	55.0*
DIII 38/13 NS	R_w	54.0**
HB 25/16	R_w	56.0***
HB 30/19	R_w	55.0**
HB 44/15-2 NS	R_w	60.0***
DIII (HDIII) 44/18	R_w	53.0**
All the remaining blocks	NPA(1)	

(1) NPA: No Performance Assessed.
* : According to EN ISO 140-5:2000 and ISO 717-1.
** : According to EN ISO 140-3:2006 and ISO 717-1.
*** : According to EN ISO 10140-2:2010 and ISO 717-1.

ISOTEX	Annex B3 of ETA N° 08/0023
Performances: Water vapour permeability and Airborne sound insulation	

Table B9: Thermal conductivity (λ)

Material	λ
(-)	(W/mK)
Wood-chips aggregate concrete	0,107

Thermal resistance (R) and transmittance (U) has been assessed by calculation for some blocks. Specifically, Table B10 is referred to HDIII blocks and the values reported herein are obtained considering a bi-dimensional structure according to EN 6946. The values reported in Table B11 are calculated considering 3D elements according to EN 10211-1 for different block types (HDIII, HB).

Table B10: Values of thermal resistance (R) and transmittance (U) from 2D model according to EN 6946*

Block	R	U
(-)	(m^2K/W)	(W/m^2K)
HDIII 30-7 (EPS+graphite)	3,31	0,30
HDIII 30-10 (EPS+graphite)	4,28	0,23
HDIII 33-10 (EPS+graphite)	4,28	0,23
HDIII 33-13 (EPS+graphite)	5,26	0,19
HDIII 38-10 (EPS+graphite)	4,28	0,23
HDIII 38-14 (EPS+graphite)	5,67	0,18
HDIII 38-17 (EPS+graphite)	6,67	0,15
HDIII 44-17 (EPS+graphite)	6,67	0,15
HDIII 44-23 (EPS+graphite)	9,09	0,11
HDIII 44-11 AIR (EPS+graphite)	5,26	0,19

*For all types of blocks not listed in Tables B10 and B11, “No Performance Assessed” (NPA) is adopted.

ISOTEX	Annex B4/1 of ETA N° 08/0023
Performances: Thermal resistance	

Table B11: Values of thermal resistance and transmittance of blocks and wall from 3D FEM model according to EN 10211-1*

Block	**R**	**U**	**R''**	**U''**
(-)	(m^2K/W)	(W/m^2K)	(m^2K/W)	(W/m^2K)
HDIII 30-7 (EPS + graphite)	2,68	0,37	2,90	0,34
HDIII 33-10 (EPS+ graphite)	3,41	0,29	3,64	0,27
HDIII 38-14 (EPS+ graphite)	4,47	0,22	4,69	0,21
HDIII 44-14 (EPS+ graphite)	4,44	0,22	4,66	0,21
HDIII 44-20 (EPS+ graphite)	5,92	0,16	6,14	0,16
HB 25-16	0,94	1,06	1,26	0,79
HB 30-19	1,16	0,86	1,47	0,68
HB 44 15-2	1,56	0,64	1,78	0,56

*For all types of blocks not listed in Tables B10 and B11 "No Performance Assessed" (NPA) is adopted.

Note:

1. Results of Table B11 are referred to the following input data:

   λ=0, 031 W/mK – (EPS graphite)
   λ=1,91 W/mK – (Concrete)
   Te=0°C – (External temperature)
   Ti=20°C – (Internal temperature)
   S=0.0616 m^2 – (Area)

2. Symbols reported in Table B11 are intended as follows:

   R: global thermal resistance of the block
   U: global thermal transmittance of the block
   R": global thermal resistance (R_{se} + R_{si} = 0,17 m^2K/W) of the wall with 2 cm mortar rendering
   U'': global thermal transmittance (R_{se} + R_{si} = 0,17 m^2K/W) of the wall with 2 cm mortar rendering.

ISOTEX	**Annex B4/2** **of ETA N° 08/0023**
Performances: Thermal resistance	

Table B12: Assessment of thermal inertia in terms of time shift

Block	Time shift
(-)	(h s)
DIII 30-7 (EPS + graphite)	12h 11s
DIII 33-9 (EPS + graphite)	12h 32s
DIII 38-13 (EPS + graphite)	14h 14s
HDIII 44-18 (EPS + graphite)	15h 34s
All the remaining blocks	NPA(1)

(1) NPA: No Performance Assessed.

The heat capacity of wood-chip aggregate concrete can be assumed to be 1,50 kJ/(kg K) according to § 5.2.8.2 of EN 15498. For concrete and expanded polystyrene tabulated values can be considered as reported in EN ISO 10456.

ISOTEX	Annex B5 of ETA N° 08/0023
Performances: Thermal inertia	