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Designated according to Article 29 of Regulation (EU) No 305/2011

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European Technical Assessment ETA 16/0325 – version 03 of 31/10/2025

General Part

Technical Assessment Body issuing the ETA and designated according to Article 29 of the Regulation (EU) No 305/2011:	**Technický a skúšobný ústav stavebný, n. o.**
Trade name of the construction product	VARIANT-HAUS®
Product family to which the construction product belongs	Product area code: 34 Building Kits, Units and Prefabricated Elements
Manufacturer	VARIANT-HAUS-GROUP ICF Manufacturing & Sales GmbH Theodor-Heuss-Allee 112 60486 Frankfurt am Main Germany
Manufacturing plant	POLYFORM, s.r.o. Terézie Vansovej 10 065 03 Podolínec Slovak Republic
This European Technical Assessment contains	46 pages including 2 Annexes which form an integral part of this assessment.
This European Technical Assessment is issued in accordance with regulation (EU) No 305/2011, on the basis of	EAD 340309-00-0305, edition January 2019. Non load-bearing permanent shuttering kits/systems based on hollow blocks or panels of insulating materials and sometimes concrete
This version replaces	ETA 16/0325 – version 02 issued on 31/07/2019

Translations of this European Technical Assessment in other languages shall fully correspond to the original issued document and should be identified as such.

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Specific part

1 Technical description of the product

1.1 General

The VARIANT-HAUS® is formwork comprising from factory assembled blocks (units) consisting of the wall, rim, starting and lintel blocks made of expanded polystyrene (EPS) and accessory part applied as the formwork for reinforced concrete walls cast in-situ. The VARIANT-HAUS® consisting of two expanded polystyrene (EPS) leaves mechanically fixed together using an arrangement of polystyrene or polypropylene spacers moulded into each leaf at production stage. The modules VARIANT-HAUS® are forming nominal concrete core thickness of 150 mm and 200 mm. The system's components are available in the range given in Annex 1.

1.2 Definition of the system

For the shuttering leaves NEOPOR® F 2400 expanded polystyrene EPS-EN 13163-T1-L1-W1-S2-P4-DS(70,-)1-BS200-DS(N)5-TR150-CS(10)150 according to EN 13163 is used. The EPS has a nominal density of 24 kg/m^3 with a nominal thermal conductivity of 0,030 W/(m·K).

For the shuttering leaves STYROPOR® F 495 E expanded polystyrene EPS-EN 13163-T1-L1-W1-S2-P4-DS(70,-)1-BS150-DS(N)5-TR120-CS(10)120 according to EN 13163 is used. The EPS has a nominal density of 26 kg/m3 with a nominal thermal conductivity of 0,033 W/(m·K).

Forms are white – STYROPOR® F 495 E or grey NEOPOR® F 2400 in colour.

The spacers are made from polypropylene TIPPLEN R 959 A. The spacers are designed with slots to receive horizontal reinforcement built into the concrete core of wall. Length of the modules is 1 250 mm and all 250 mm in height. The upper and lower surfaces of the EPS forms incorporate small castellations so that adjoining forms effectively lock together without fixings. For better interlocking with render and concrete core the small castellations are at external and internal surface too.

The forms are interlocked and built up horizontally and vertically into a tight rigid formwork. The wall is formed by filling of the forms with concrete. The formwork is used in conjunction with concrete class C 16/20 (according to EN 206) to build plain concrete walls or in conjunction with concrete of classes in the range from C 20/25 to C 30/37 to build reinforced concrete walls. Class of slump ≥ F2; recommended and maximum size of aggregate used in concrete walls is 32 mm. The concrete is possible to apply according to national rules. The walls made of the VARIANT-HAUS® may be used in building works designed according to EN 1992-1-1 or to the applicable national rules.

The concrete can contain an admixture, which comply with EN 934-2 to allow its placement by either rodding or free flow and eventually allow adequate time of concreting. For the intended use it is essential to protect the formwork against effects of the weather.

Components and finishes used in conjunction with the formwork, not covered by this document, are as follow:

- steel reinforcement - where required, should comply with applicable national rules;
- external rendering or external masonry or gypsum plasterboards;
- internal finishing;
- brickwork/stonework wall ties;
- trestle supports.

Main dimensions and types of the shuttering elements are in the following Table 1 and Table 2. The accessories of the shuttering elements are presented in Table 3.

Table 1 – Main dimensions of the shuttering elements

Wall type	Nominal thickness of the inner shuttering leaf [mm]	Nominal thickness of the concrete core [mm]	Nominal thickness of the outer shuttering leaf [mm]	Overall wall thickness (without rendering) [mm]	Overall wall mass (without rendering) [kg/m^2]
Standard	50	150, 200	50	250	362
Iso block	50	150, 200	150	350	364
Iso block plus	50	150, 200	250	450	366

Table 2 – Main types of the shuttering elements

Element type	Thickness of						Length of shuttering element [mm]	Mass of shuttering element [g]	Annex
	inner shuttering leaf [mm]		concrete core [mm]		outer shuttering leaf [mm]				
	min.	max.	min.	max.	min.	max.			
VARIANT-HAUS® Standard ICF primary block E 01	45	50	150	160	45	50	1 250	961	1.1
VARIANT-HAUS® Standard ICF primary block E 01 G	45	50	150	160	45	50	1 250	1 087	1.2
VARIANT-HAUS® Standard ICF block with plastic tie E 02	45	50	150	160	45	50	1 250	875	1.3
VARIANT-HAUS® Standard ICF lintel block E 03	45	50	150	160	45	50	1 250	1 170	1.4
VARIANT-HAUS® Standard ICF ceiling element E 04	45	50	150	160	45	50	1 250	796	1.5
VARIANT-HAUS® Standard ICF half block E 06	45	50	150	160	45	50	1 250	600	1.6
VARIANT-HAUS® Standard ICF half block with plastic tie E 07	45	50	150	160	45	50	1 250	437	1.7
VARIANT-HAUS® Standard ICF bay block left + right E 08	45	50	150	160	45	50	373 + 273	525	1.8
VARIANT-HAUS® ISO block ICF primary block N 20	45	50	150	160	145	150	1 250	1 987	1.9
VARIANT-HAUS® ISO block ICF block with plastic tie N 21	45	50	150	160	145	150	1 250	1 812	1.10
VARIANT-HAUS® ISO block ICF ceiling element N 22	45	50	150	160	145	150	1 250	1 578	1.11
VARIANT-HAUS® ISO block ICF lintel block N 23	45	50	150	160	145	150	1 250	2 107	1.12
VARIANT-HAUS® ISO block plus ICF block with plastic tie N 24	70	75	200	210	70	75	1 260	1 463	1.13
VARIANT-HAUS® ISO block plus ICF block with plastic tie N 31	45	50	150	160	245	250	1 250	2 934	1.14
VARIANT-HAUS® ISO block plus ICF primary block N 30	45	50	150	160	245	250	1 250	2 924	1.15
VARIANT-HAUS® ISO block plus ICF block with plastic tie N 34	70	75	200	210	170	175	1 260	2 400	1.16
VARIANT-HAUS® ICF block E 09		40		70		40	1 250	815	1.17

Table 3 – Accessories of the shuttering elements

Element type	Height of the element [mm]	Width of the element [mm]	Length of the element [mm]	Mass of shuttering element [g]	Annex
VARIANT-HAUS® Standard ICF height compensation element E 05	35	250	1 250	173	1.18
VARIANT-HAUS® Standard ICF locking piece N 11A	119	50	160	39	1.19
VARIANT-HAUS® Standard ICF locking piece N 11 B	129	50	160	39	1.20
VARIANT-HAUS® Standard ICF locking piece N 12	250	50	160	56	1.21
VARIANT-HAUS® ISO block plus ICF locking piece N 13	250	50	210	75	1.22
VARIANT-HAUS® ICF edge protection upper	25	50	700	19	1.23
VARIANT-HAUS® ICF edge protection lower	25	50	700	19	
VARIANT-HAUS® ICF edge protection upper	25	50	500	13	1.24
VARIANT-HAUS® ICF edge protection lower	25	50	500	13	
VARIANT-HAUS® ISO block plus ICF height compensation element HCE 1	35	100	1 250	128	1.25
VARIANT-HAUS® ISO block plus ICF height compensation element HCE 2	125	100	1 250	458	1.26
VARIANT-HAUS® ISO block plus ICF height compensation element HCE 3	250	100	1 250	916	1.27

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

2.1 Intended use

VARIANT-HAUS® is determined for the use in forming load-bearing and non-load-bearing internal or external walls. Once filled on site with concrete, the EPS formwork remains as a permanent part of the wall and so contributes to the overall thermal resistance of the completed wall construction. During the pouring of the concrete infill, the formwork resists the pressure of fresh concrete through the inherent strength and interlocking action of castellated horizontal joints and tying action of the spacers.

While using this system below ground, then according to applicable national rules, the waterproofing membrane should be provided on the external surface. The membrane should be applied in accordance with the manufacturer's installation instructions and should be protected from damage using an impact-resistant protective layer or sand blinding.

The provisions made in this European Technical Assessment are based on the assumed working life of 50 years, provided that the product is subject to appropriate installation, use and maintenance. These provisions are based upon the current state of the art and the available knowledge and experience. The assumed working life of a system cannot be taken as a guarantee given by the producer, but is to be used as a mean for selecting the appropriate product in relation to the expected economically reasonable working life of the works. Assumed intended working life means that it is expected that, when the working life has elapsed, the real working life may be, under normal use

conditions, considerably longer without major degradation affecting the Basic requirements for construction works.

The relevant and applicable use categories in accordance with EOTA GD 14 for the product are:
− Category IA2: product with no direct contact but possible impact on indoor air;
− Category S/W3: product with no contact to and no impact on soil, ground or surface water.

2.2 Manufacturing

The VARIANT-HAUS® is produced in a heat-moulded chamber where the dimensions, castellations and spacer positions are controlled by the template of the mould. Tolerances for dimensional stability are maintained by curing the EPS forms in elevated-temperature places, in accordance with the agreed control plan. The shuttering elements are manufactured in the basis of agreed data/information, deposited with the Technical Assessment Body “Building Testing and Research Institute”, which identified the kit that has been assessed and judged. Changes to the kit or production process, which could result in this deposited data/information being incorrect, shall be notified to the Technical Assessment Body “Building Testing and Research Institute” before the changes are introduced. The Technical Assessment Body “Building Testing and Research Institute” will decide whether or not such changes affect the ETA and consequently the validity of the CE marking on the basis of the ETA and if so whether further assessment or alternations to the ETA shall be necessary.

2.3 Design and installation

The installation instructions including special installation techniques and provisions for the qualifications of the personnel are given in the manufacturer's technical documentation.

2.4 Usage, maintenance and repair

The information on use, maintenance and repair is given in the manufacturer's technical documentation. It is responsibility of the manufacturer(s) to ensure that these provisions are easily accessible to the concerned people.

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

3.1 Resulting structural pattern

The resulting structural pattern was assessed according to EAD 340309-00-0305 clause 2.2.1. Based on concrete infill structural pattern, the walls made of VARIANT-HAUS® shuttering elements with polypropylene spacers are continuous type walls according to EAD 340309-00-0305, Clause 1.3.3 with concrete core thickness of 150 mm and 200 mm.

The walls made of VARIANT-HAUS® shuttering elements with EPS spacers are grid type walls according to EAD 340309-00-0305, Clause 1.3.3 concrete core thickness of 150 mm.

The compatibility of different types of blocks (assessed by erection of a trial structure in-situ) provides they maintain the structural pattern.

3.2 Efficiency of filling

The efficiency of filling was assessed according to EAD 340309-00-0305 clause 2.2.2 by erection of a trial structure in-situ. Considering the instructions of Annex 2 and the installation guide of the ETA-holder the efficient filling without bursting of the shuttering and without voids or any uncovered reinforcement in the concrete wall is possible. The trial structure remains tightness, completeness of filling was preserved, and setting and hardening of concrete were correct.

3.3 Possibility of steel reinforcement

Possibility of steel reinforcement has been assessed by visual inspection according to EAD 340309-00-0305, Clause 2.2.3. The instructions in the installation guide of the ETA-holder enable installation of walls steel

reinforcement according to EN 1992-1-1 or corresponding national rules. The placing the reinforcement with sufficient cover and maintaining it in right place during concrete casting is ensured.

3.4 Reaction to fire

The reaction to fire of the EPS blocks used in the VARIANT-HAUS® building block shuttering system covered in this ETA is class E according to EN 13501-1.

3.5 Influence of the shuttering kit on the fire resistance

The fire-resistance class of walls with polypropylene spacers (continuous type walls) of minimum concrete strength of C 16/20, exposed on one side is according to Table A.1 of Annex A of EAD 340309-00-0305 for:

- load-bearing walls (thickness of concrete infill of 150 mm and 200 mm): REI 120;
- non-load-bearing walls (thickness of concrete infill of 150 mm and 200 mm): EI 120.

With the minimum thickness of the grid concrete core and minimum concrete strength C 16/20, the fire-resistance class of walls with EPS spacers (grid type walls) exposed on more than one side is according to Table A.2 of Annex A of EAD 340309-00-0305 for:

- load-bearing walls (min. dimension of concrete infill of 150 mm): R 30

Limitations of the grid concrete core shuttering:

a) Non-load-bearing wall
   The ratio of clear height of wall l_w to concrete thickness t should not exceed 40 in case of non-load-bearing wall and EI duration criteria less or equal to 60 minutes
b) Load-bearing wall
   The μ_{fi} value, according to EN 1992-1-2, shall not exceed 0,7.
   The slenderness of the concrete infill shall not exceed 50.

3.6 Content, emission and/or release of dangerous substances

The performance of the product related to the content of dangerous substances was assessed according to EAD 340309-00-0305, Clause 2.2.6. The relevant and applicable use categories in accordance with EAD 340309-00-0305 for the product are:

- Category IA3: product with no direct contact on indoor air;
- Category S/W3: product with no contact to and no impact on soil, ground or surface water.

Based on the information provided by the manufacturer the content of isopentane is < 1,4 % ww and the product does not contain substances of very high concern (SVHC), as detailed in the REACH regulation. The performance of the product related to the emissions and/or release of other substances have not been assessed. Within the scope of this assessment, there may be other requirements applicable to dangerous substances resulting from transposed European legislation or applicable national regulations and administrative provisions (see EU database and the different national regulations).

3.7 Water vapour permeability

The water vapour resistance factor of EPS assessed according to EN 12086 m = 43 ().

The values for the water vapour resistance factor of concrete depending on density and type of concrete are tabulated in EN ISO 10456.

3.8 Water absorption

No adverse reaction caused by the capillarity of the shuttering leaves was observed during the filling assessment. The long-term water absorption of expanded polystyrene, in accordance with EN ISO 16535, is max 2,0%.

The water absorption has been determined by observation of the finished shuttering elements during the filling too. Water absorption of shuttering in contact with fresh concrete or from internal or external sources not caused any damage and shuttering was dry out again during the evaporation period.

3.9 Water tightness

Wall finishes (internal and external) are not part of the kit. For internal protection (in rooms with splashing water and/or high humidity), the recommendations of the ETA-holder shall be followed.

3.10 Bond strength

The bond strength was assessed according to EAD 340309-00-0305, Clause 2.2.10.2. The expanded polystyrene is bonded to the concrete by mechanical interlocking of the spacers running in the inner surfaces of the shuttering leaves and interlocking between small castellations on shuttering leaves. Minimal bond strength between the shuttering leaves and the concrete core is 0,04 MPa.

3.11 Resistance to impact load

No performance assessed. (According to EAD 340309-00-0305, Clause 2.2.11, the concrete infill generally provides for the safety resistance of the completed wall under impact loads).

3.12 Resistance to filling pressure

The resistance to filling pressure has been determined by observation of the finished shuttering elements for both stages, during filling and on completion of the filling according to EAD 340309-00-0305, Clause 2.2.12.1. The requirements in respect to cracking and failure of the system elements and horizontal bowing of shuttering are also satisfactorily met.

The resistance to filling pressure has been determined by tests of tensile strength of spacer webs and flexural strength of the shells filling according to EAD 340309-00-0305, Clause 2.2.12.2.1.

The characteristic pull-out load of spacer P_{slk} is:

- 850 N for polypropylene spacer in STYROPOR® F 495 E leaves;
- 580 N for polypropylene spacer in NEOPOR® F 2400 leaves;
- 580 N for STYROPOR® F 495 E spacer in STYROPOR® F 495 E leaves

The characteristic flexural strength of shuttering leave f_{fk} =0,08 MPa.

3.13 Safety to personal injuries

Safety to personal injuries was assessed according to EAD 340309-00-0305, Clause 2.2.13. As delivered on site the shuttering elements do not have sharp or cutting edges. Because of the soft surface of the shuttering leaves there is no risk of abrasion or cutting people.

3.14 Airborne sound insulation of the wall

No performance assessed.

3.15 Sound absorption

No performance assessed.

3.16 Thermal resistance

Thermal resistance was assessed according to EAD 340309-00-0305, Clause 2.2.16, The values have been determined by numerical calculations according to EN ISO 10456 for each particular application. In calculations the following thermal conductivities were used:

- test result according to EN 12667 of the expanded polystyrene NEOPOR® F 2400 is 0,030 W/(m·K);
- test result according to EN 12667 of the EPS STYROPOR® F 495 E is 0,033 W/(m·K);
- tabulated value according to EN ISO 10456 for the concrete is 2,3 W/(m·K).

Table 4 – Thermal resistance values (calculated without plaster)

Type of shuttering element	VARIANT-HAUS® Standard	VARIANT-HAUS® ISO block	VARIANT-HAUS® ISO block plus
	R (m^2·K/W)	***R*** (m^2·K/W)	***R*** (m^2·K/W)
NEOPOR® F 2400	3,11	6,44	9,77
STYROPOR® F 495 E	2,83	5,86	8,89

3.17 Thermal inertia

No performance assessed.

3.18 Resistance to deterioration

Not relevant. Wall finishes (internal and external) are not part of the kit.

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

According to the decision 98/279/EC of the European Commission, as amended by 2001/596/EC, the system(s) of assessment and verification of constancy of performance (see Annex III to Regulation (EU) No 305/2011) is 2+.

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

In order to help the Notified Body to make an evaluation of conformity, the Technical Assessment Body issuing the ETA shall supply the information detailed below. This information together with the requirements given in EC Guidance Paper B will generally form the basis on which the factory production control (FPC) is assessed by the Notified Body.

This information shall initially be prepared or collected by the Technical Assessment Body and shall be agreed with the manufacturer. The following gives guidance on the type of information required:

1) The ETA

Where confidentiality of information is required, this ETA makes reference to the manufacturer's technical documentation which contains such information.

2) Basic manufacturing process

The basic manufacturing process is described in sufficient detail to support the proposed FPC methods.

The different components are generally manufactured using conventional techniques. Any critical process or treatment of the components which affects performance are highlighted in the manufacturer's documentation.

3) Product and materials specifications

The manufacturer's documentation includes:

- detailed drawings (possibly including manufacturing tolerances);
- incoming (raw) materials specifications and declarations;
- references to European and/or international standards;
- technical data sheets.

4) Control Plan (as a part of FPC)

The manufacturer and the "Technický a skúšobný ústav stavebný, n. o." have agreed a Control Plan which is deposited with the "Technický a skúšobný ústav stavebný, n. o." in documentation which accompanies the ETA. The Control Plan specifies the type and frequency of checks/tests conducted during production and on the final product. This includes the checks conducted during manufacture on properties that cannot be inspected at a later stage and for checks on the final product.

Products not manufactured by the kit manufacturer shall also be tested according to the Control Plan. It must be demonstrated to the Notified Body that the FPC system contains elements securing that the kit manufacturer takes products conforming to the Control Plan from his supplier(s).

Where materials/components are not manufactured and tested by the supplier in accordance with agreed methods, then where appropriate they shall be subject to suitable checks/tests by the kit manufacturer before acceptance.

In cases where the provisions of the European Technical Assessment and its Control Plan are no longer fulfilled, the Notified Body shall withdraw the certificate and inform Technický a skúšobný ústav stavebný, n. o. without delay.

Technický a skúšobný ústav stavebný, n. o.
Building Testing and Research Institute
Studená 3, 821 04 Bratislava, Slovak Republic

On behalf of the Technický a skúšobný ústav stavebný, n. o.
Bratislava, 31 October 2025

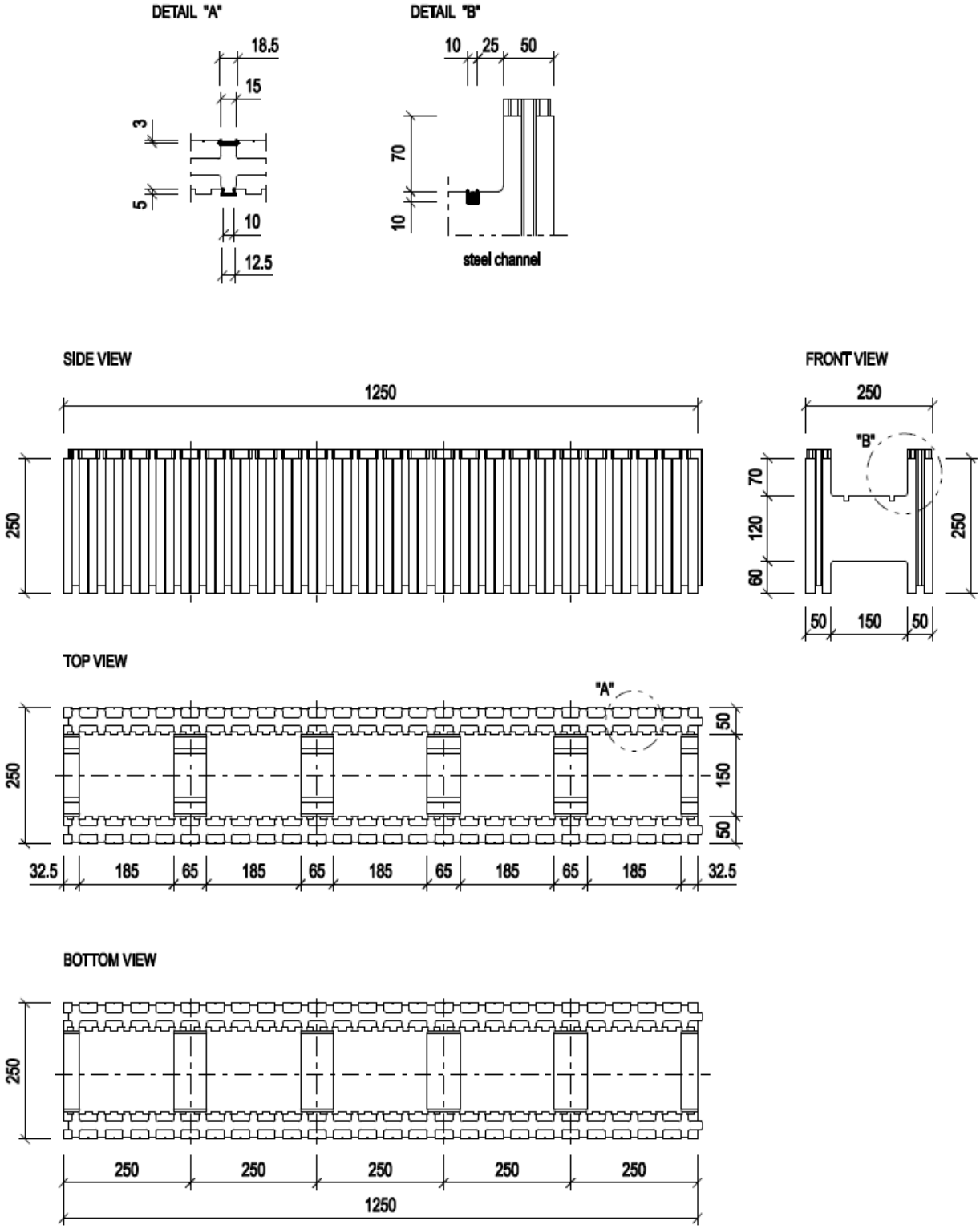
Prof. Ing. Zuzana Sternová, PhD.
Head of Technical Assessment Body

TECHNICKÝ A SKÚŠOBNÝ ÚSTAV STAVEBNÝ, n. o.
Building Testing and Research Institute
TSUS
Slovak Republic
Technical Assessment Body
Orgán technického posudzovania

Annexes

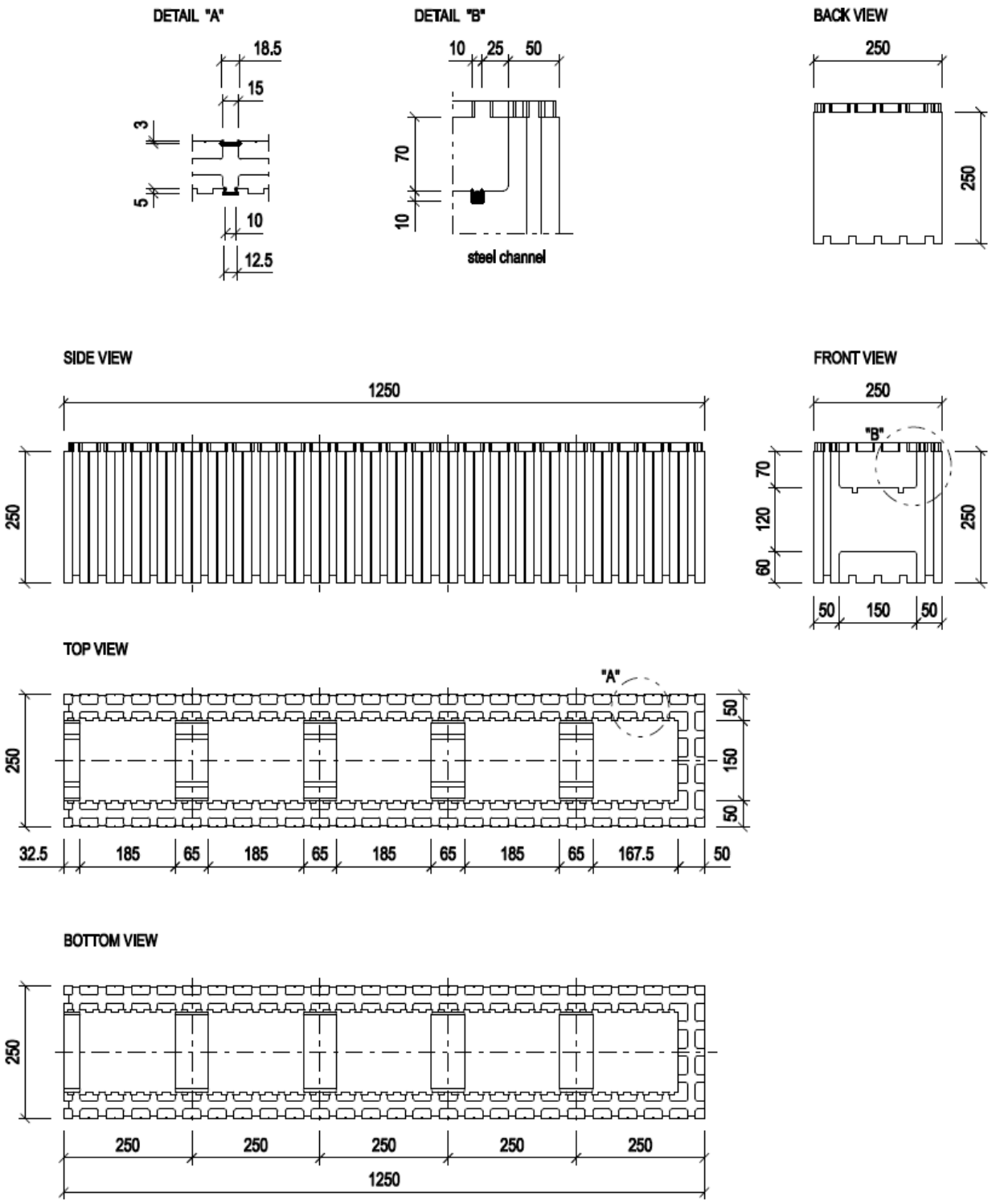
Annex 1 – Main types of the shuttering elements VARIANT-HAUS®

Annex 2 – Joint details



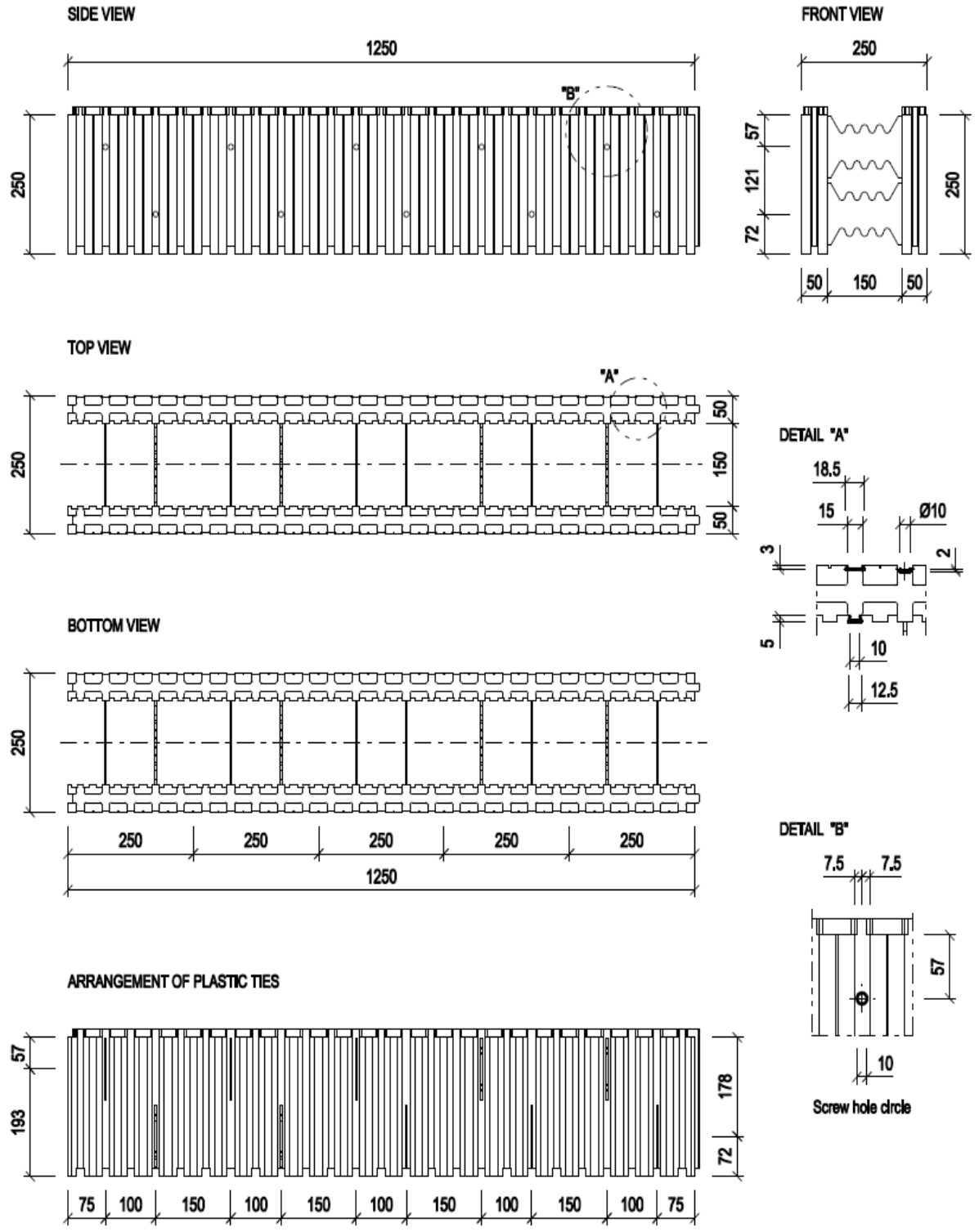
All dimensions are given in mm

VARIANT-HAUS®	**Annex 1.1** **of European Technical Assessment ETA 16/0325**
Standard ICF primary block E 01	



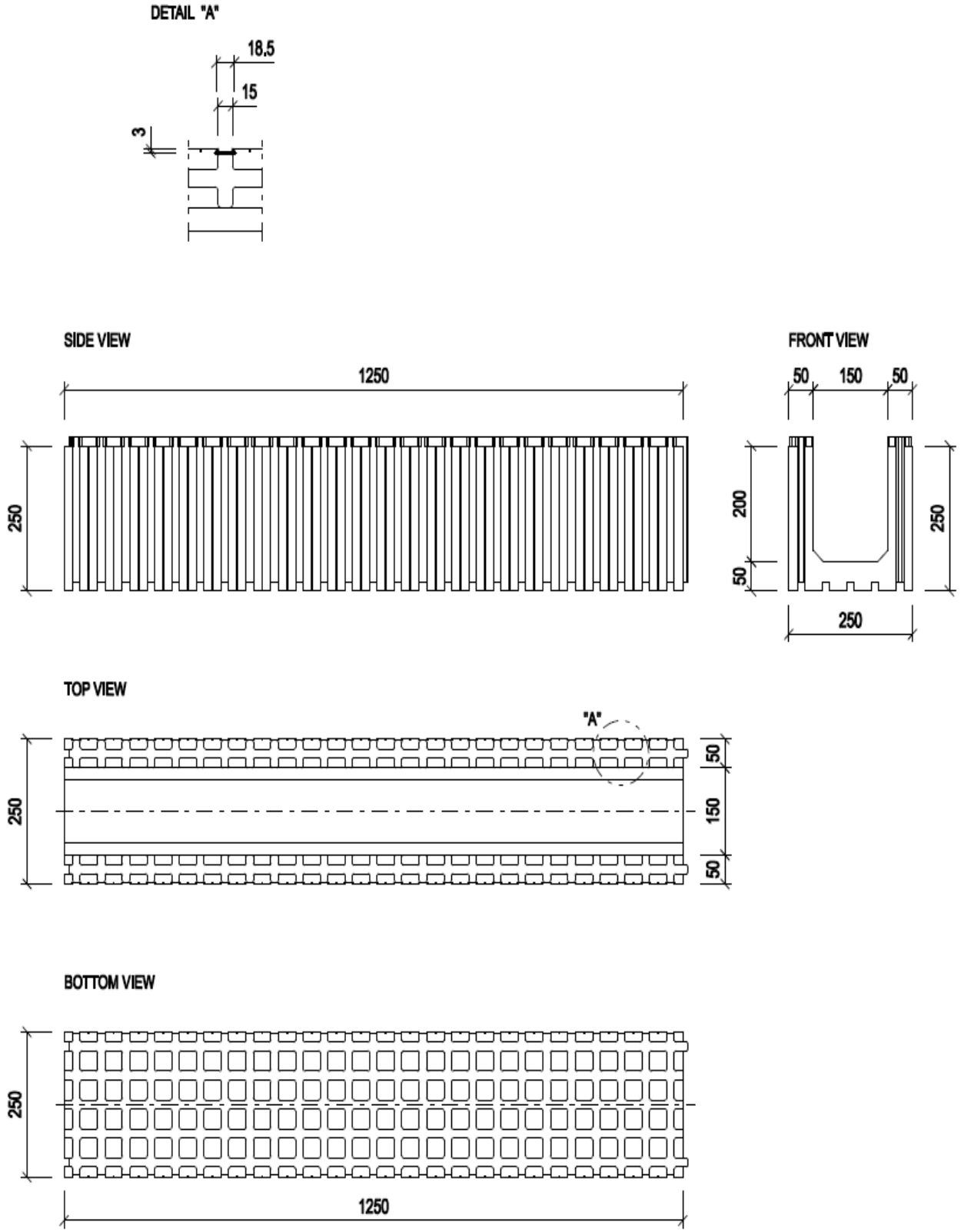
All dimensions are given in mm

VARIANT-HAUS®	**Annex 1.2** **of European Technical Assessment ETA 16/0325**
Standard ICF primary block E 01 G	



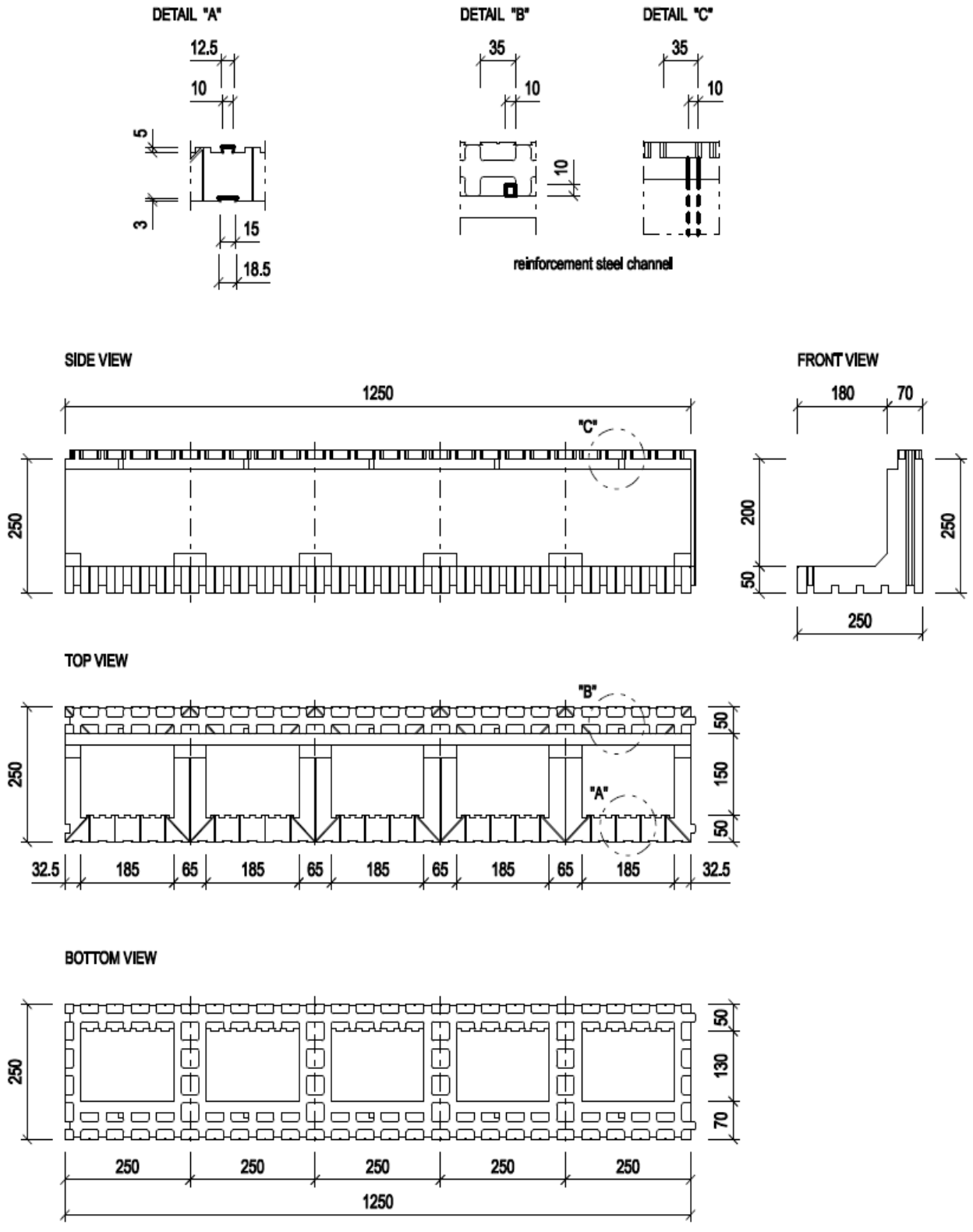
All dimensions are given in mm

VARIANT-HAUS®	**Annex 1.3** **of European Technical Assessment ETA 16/0325**
Standard ICF block with plastic tie E 02	



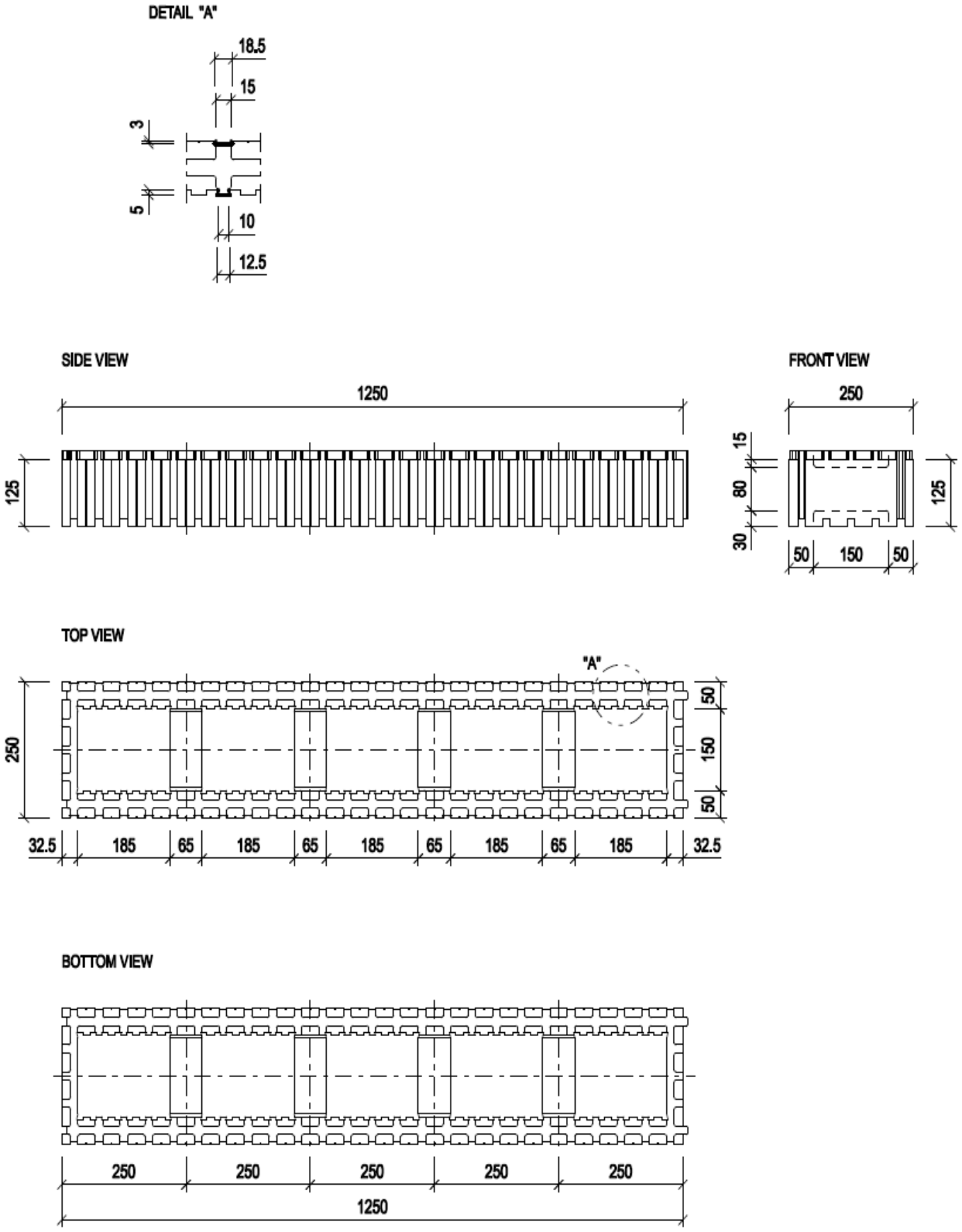
All dimensions are given in mm

VARIANT-HAUS®	**Annex 1.4** **of European Technical Assessment ETA 16/0325**
Standard ICF lintel block E 03	



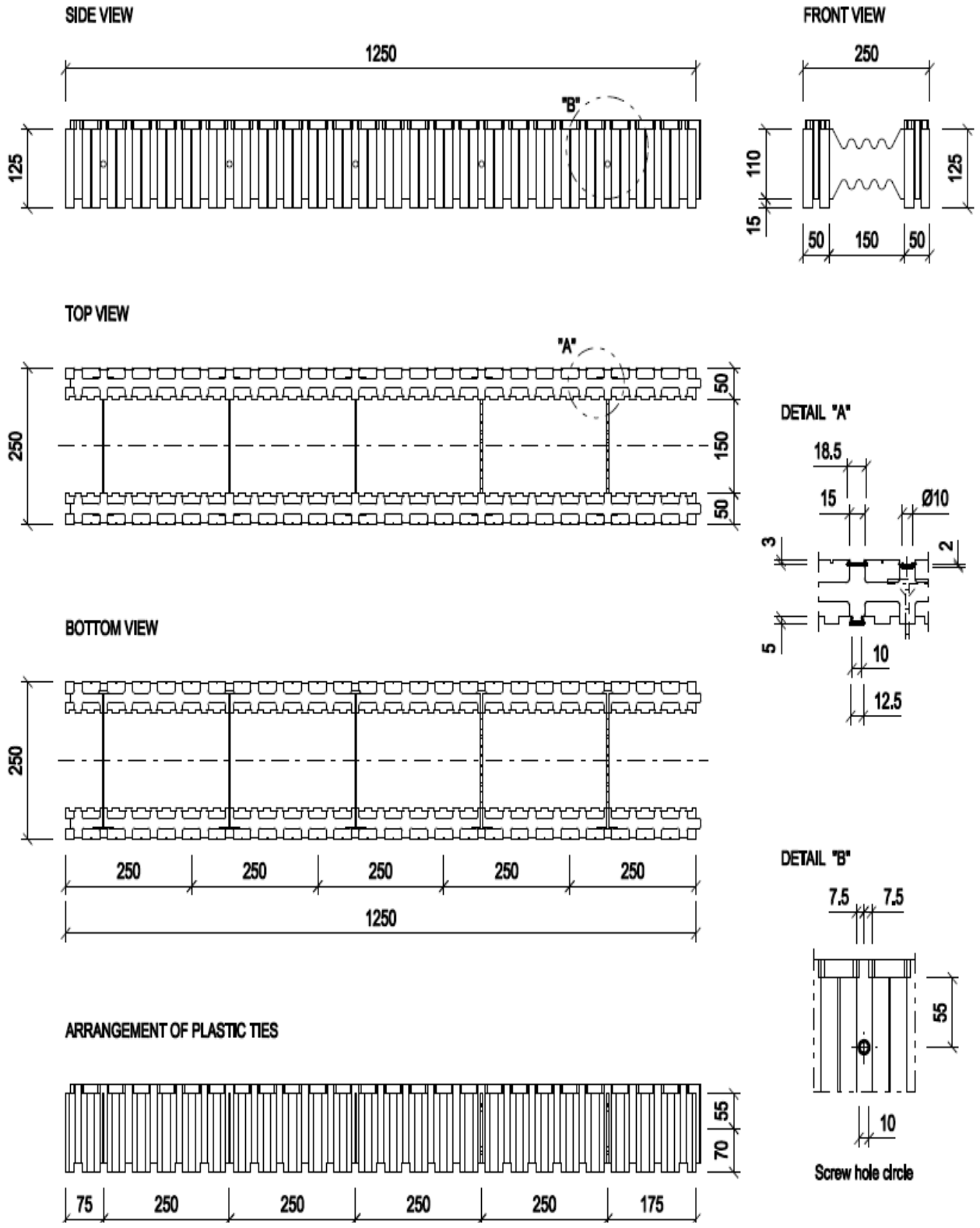
All dimensions are given in mm

VARIANT-HAUS®	**Annex 1.5** **of European Technical Assessment ETA 16/0325**
Standard ICF ceiling element E 04	



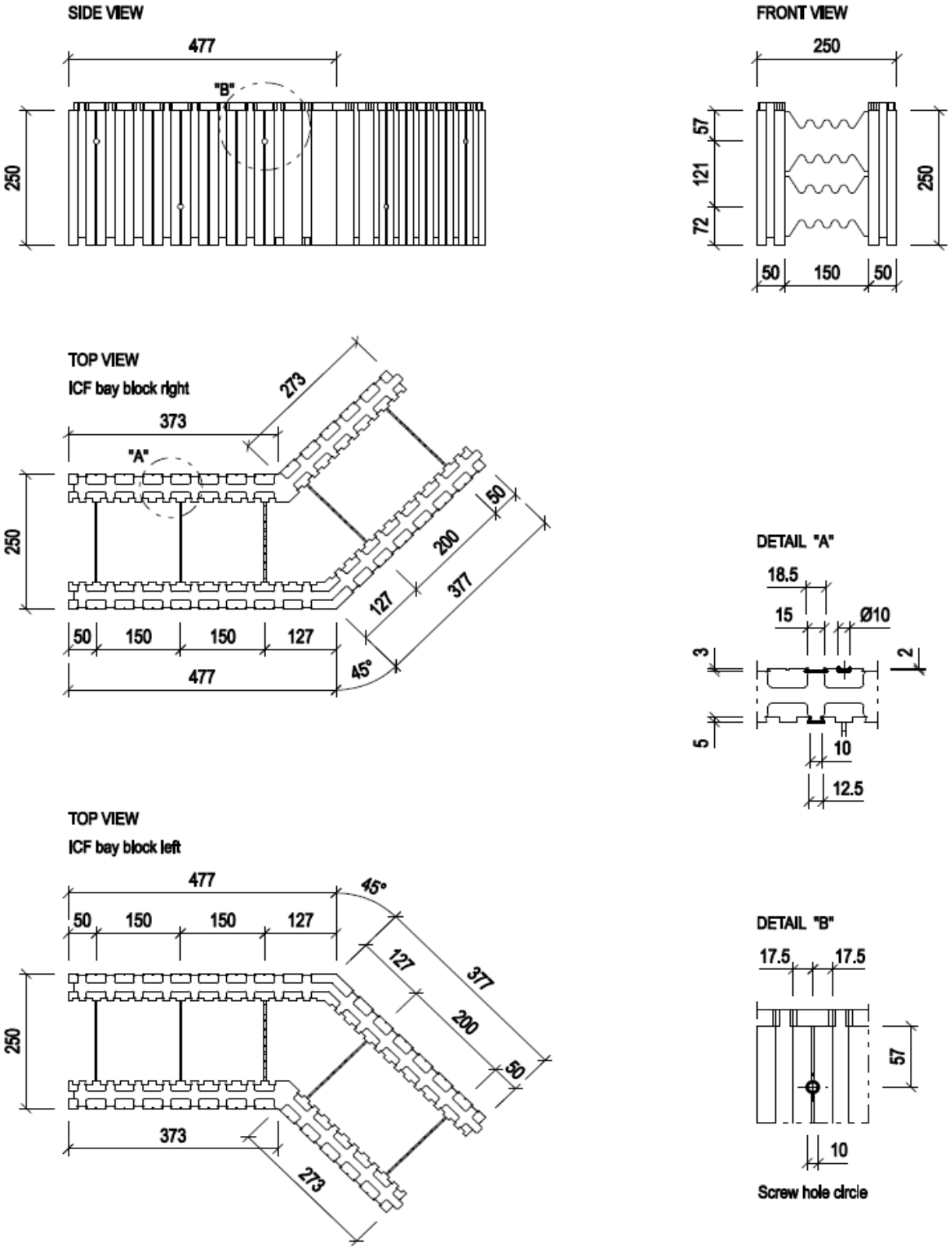
All dimensions are given in mm

VARIANT-HAUS®	**Annex 1.6** **of European Technical Assessment** **ETA 16/0325**
Standard ICF half block E 06	



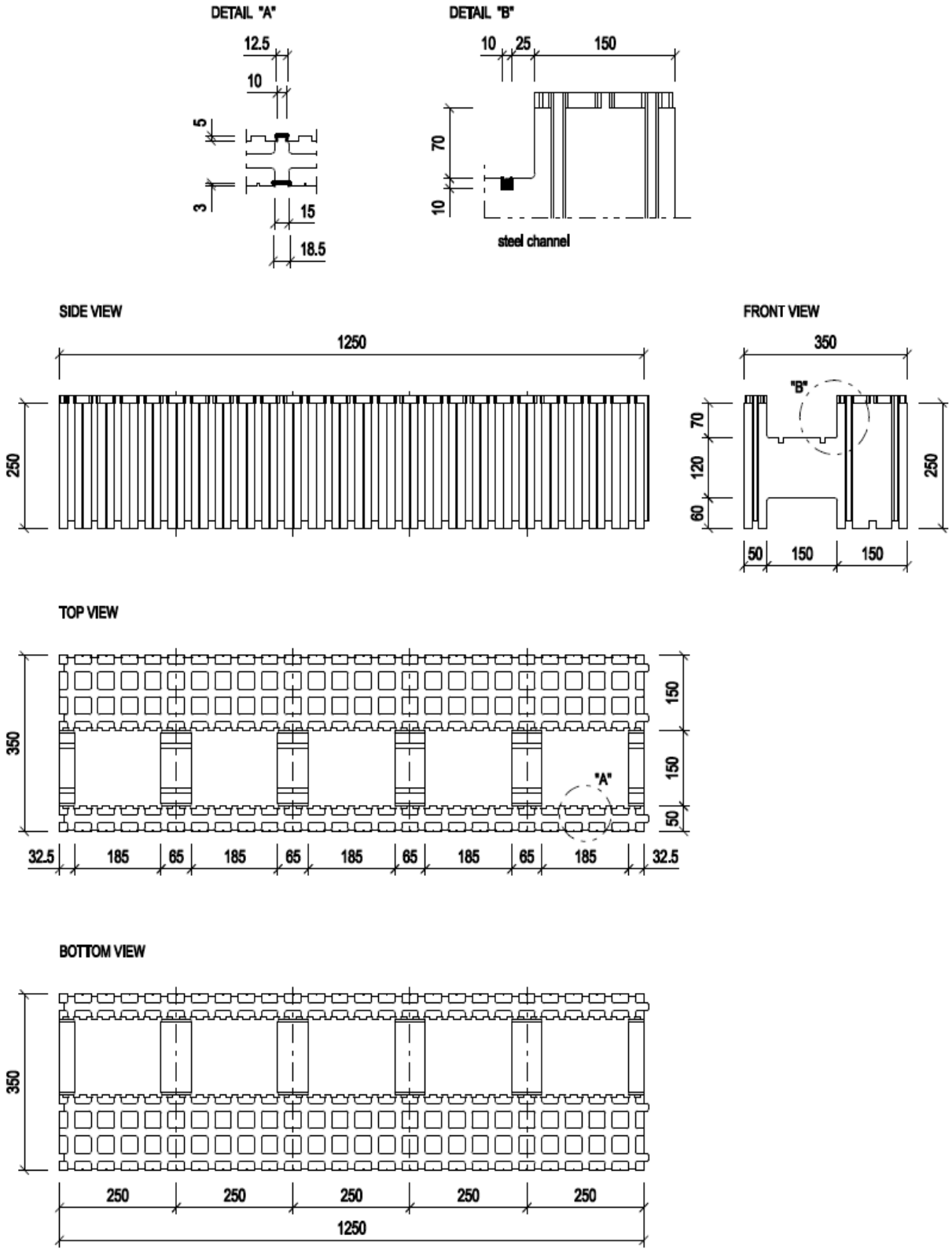
All dimensions are given in mm

VARIANT-HAUS®	**Annex 1.7** **of European Technical Assessment ETA 16/0325**
Standard ICF half block with plastic tie E 07	



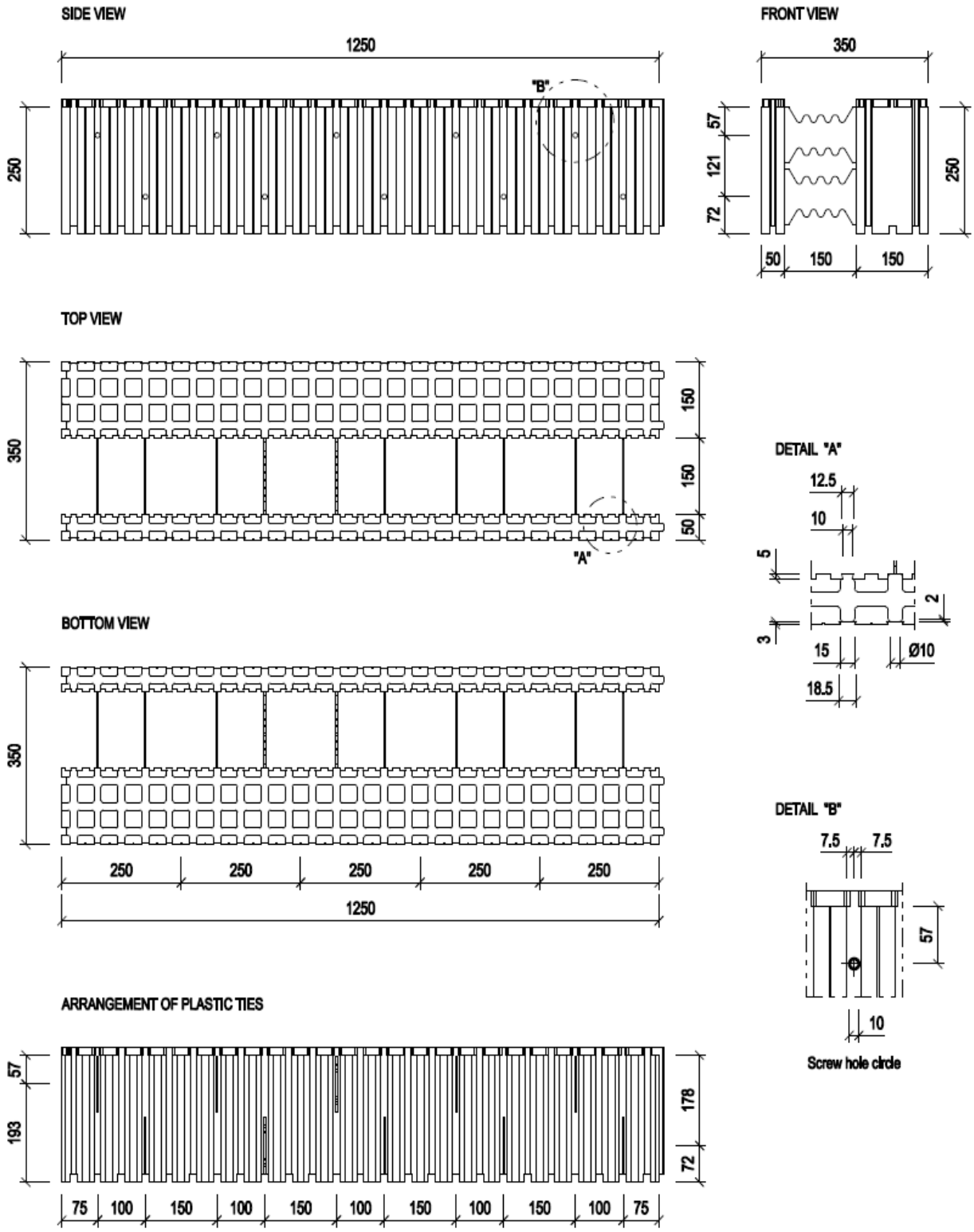
All dimensions are given in mm

VARIANT-HAUS®	**Annex 1.8** **of European Technical Assessment ETA 16/0325**
Standard ICF bay block left + right E 08	



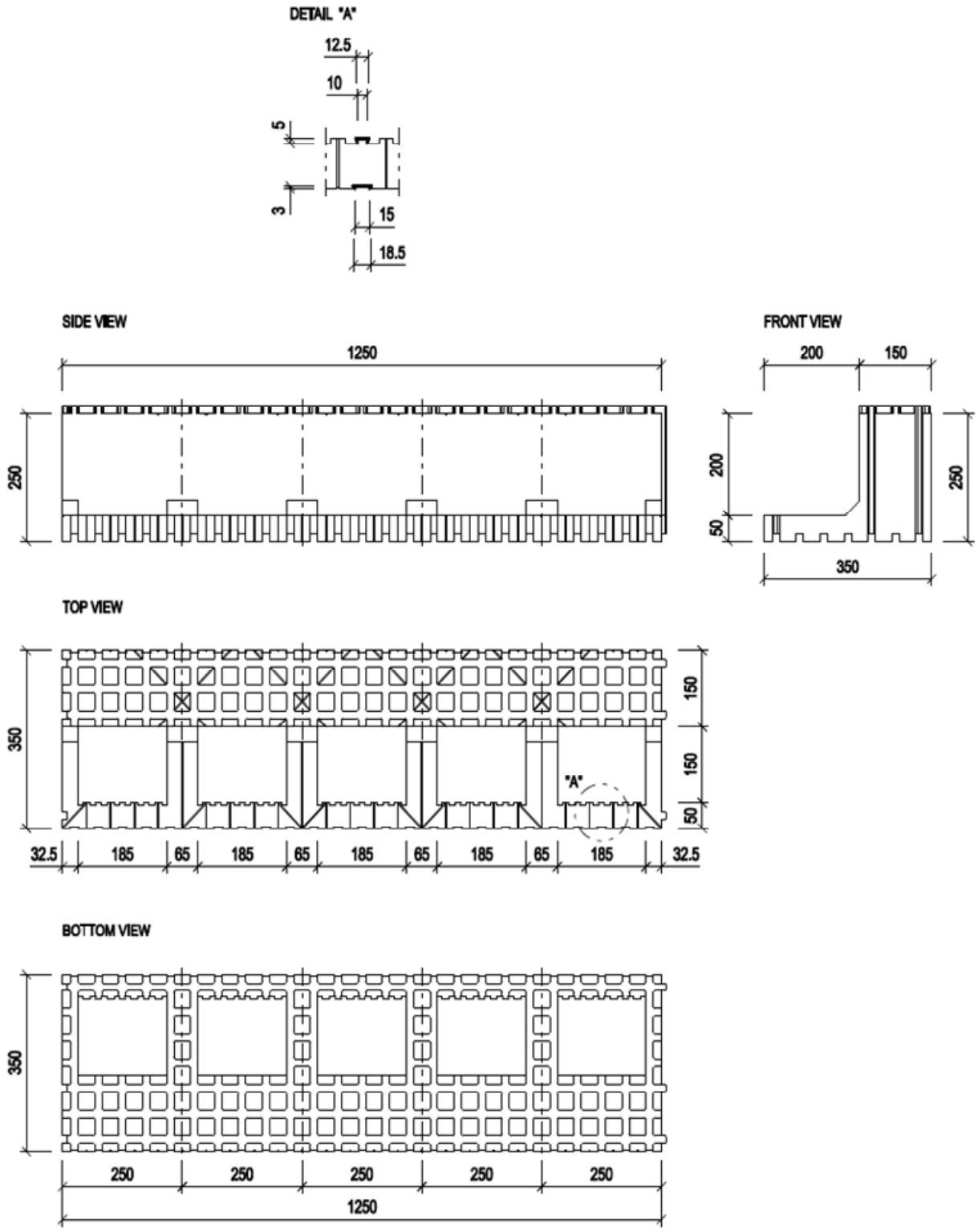
All dimensions are given in mm

VARIANT-HAUS®	**Annex 1.9** **of European Technical Assessment ETA 16/0325**
ISO block ICF primary block N 20	



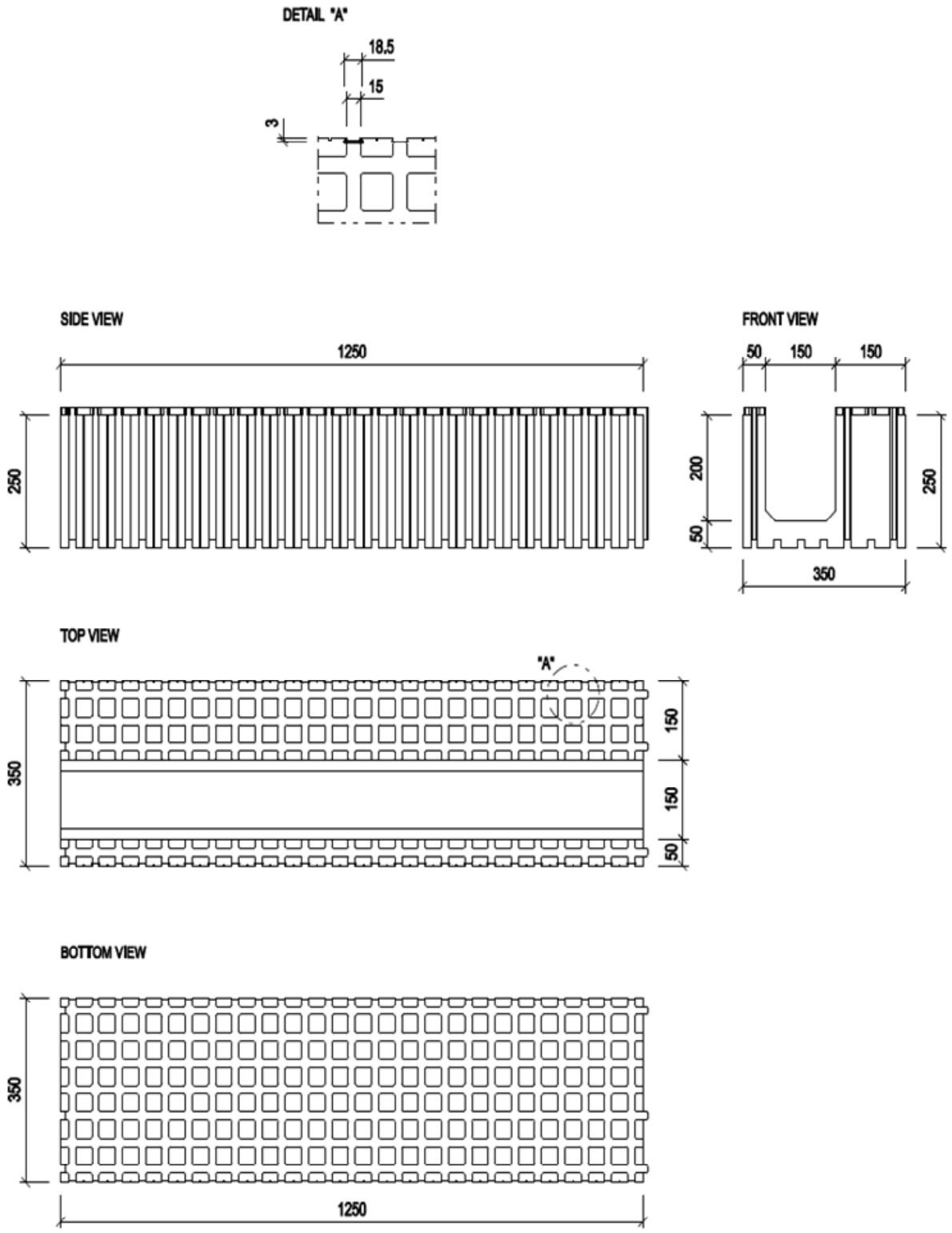
All dimensions are given in mm

VARIANT-HAUS®	**Annex 1.10** **of European Technical Assessment ETA 16/0325**
ISO block ICF block with plastic tie N 21	



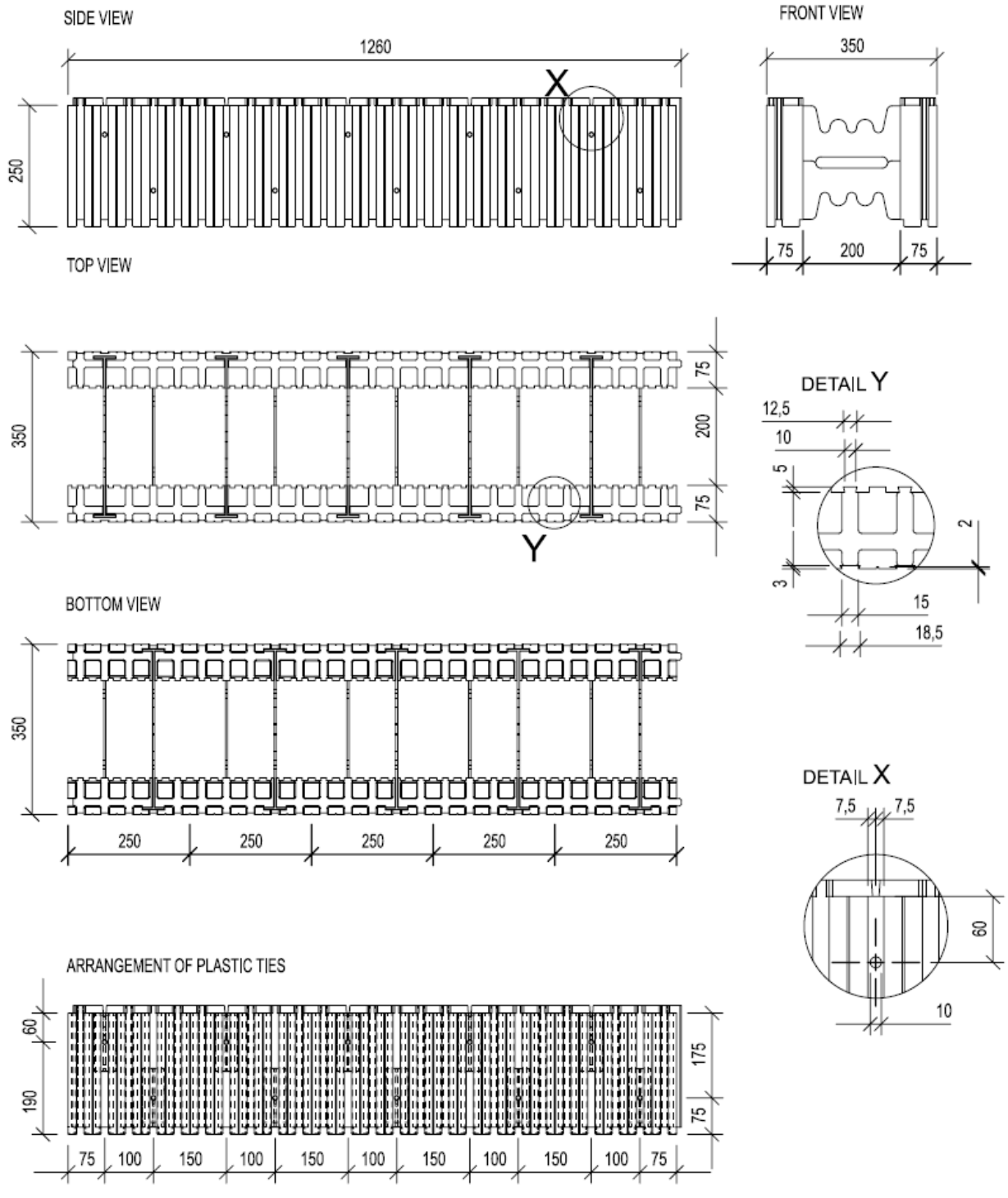
All dimensions are given in mm

VARIANT-HAUS®	**Annex 1.11** **of European Technical Assessment ETA 16/0325**
ISO block ICF ceiling element N 22	



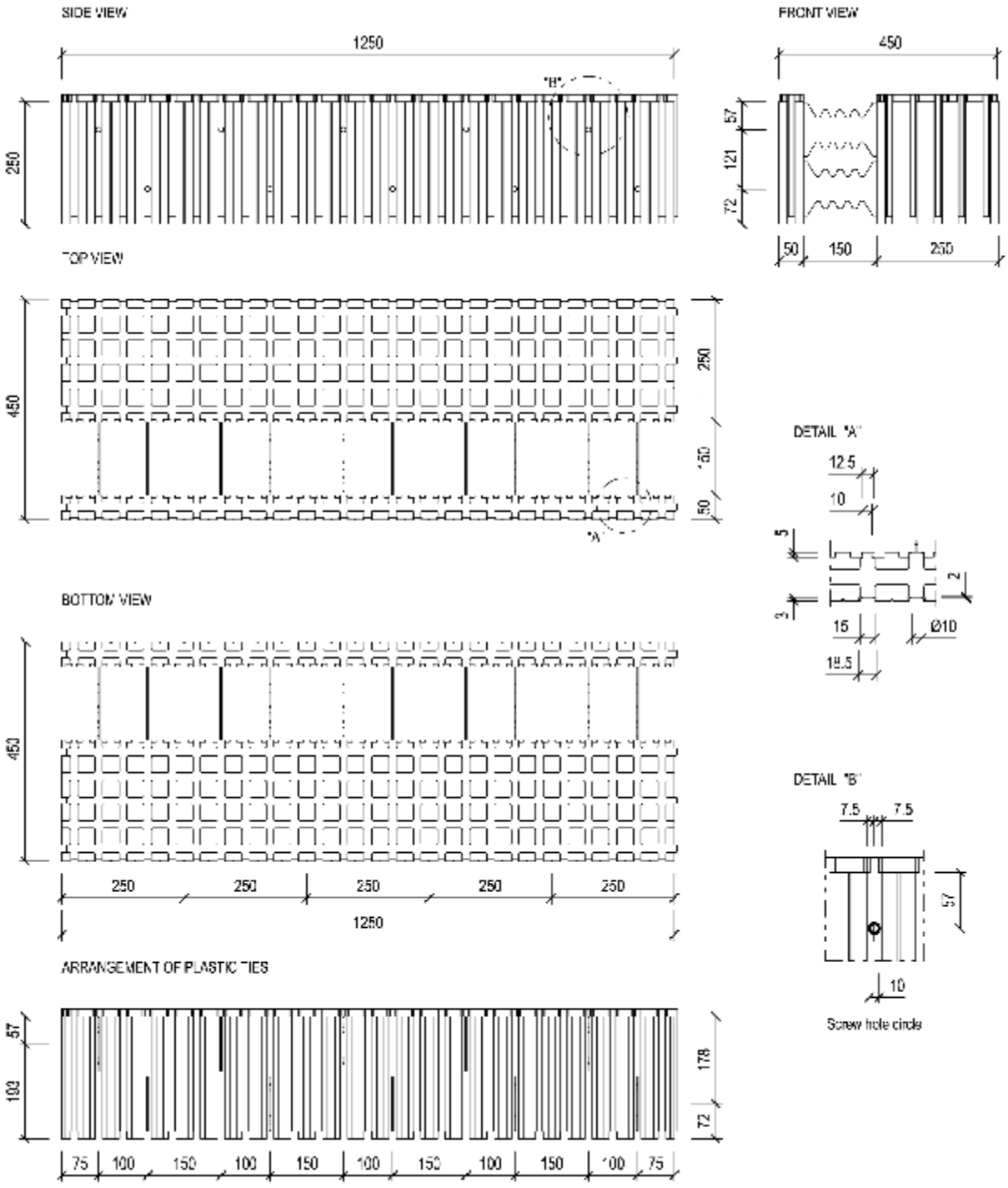
All dimensions are given in mm

VARIANT-HAUS®	**Annex 1.12** **of European Technical Assessment ETA 16/0325**
ISO block ICF lintel block N 23	



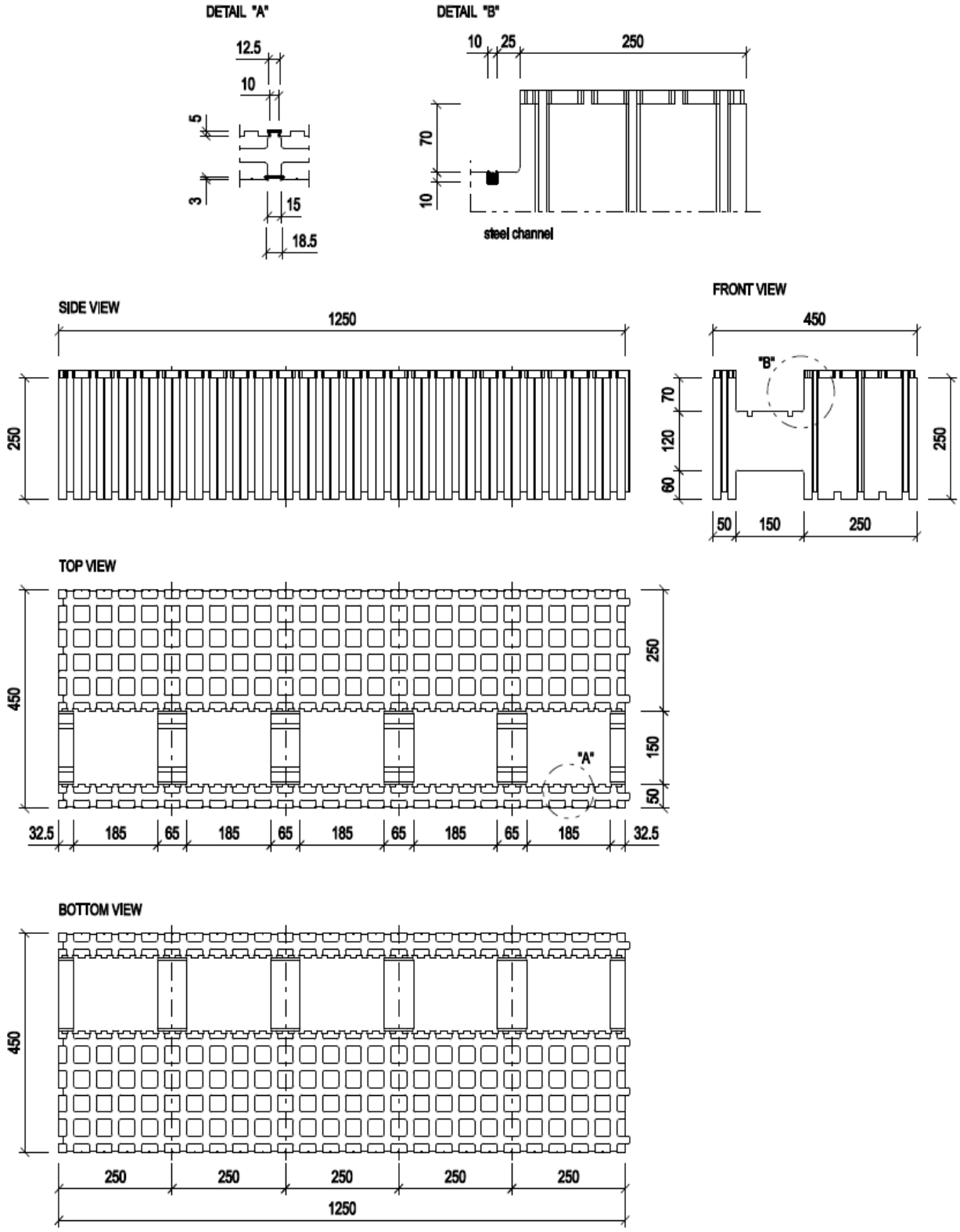
All dimensions are given in mm

VARIANT-HAUS®	**Annex 1.13** **of European Technical Assessment ETA 16/0325**
ISO block plus ICF block with plastic tie N 24	



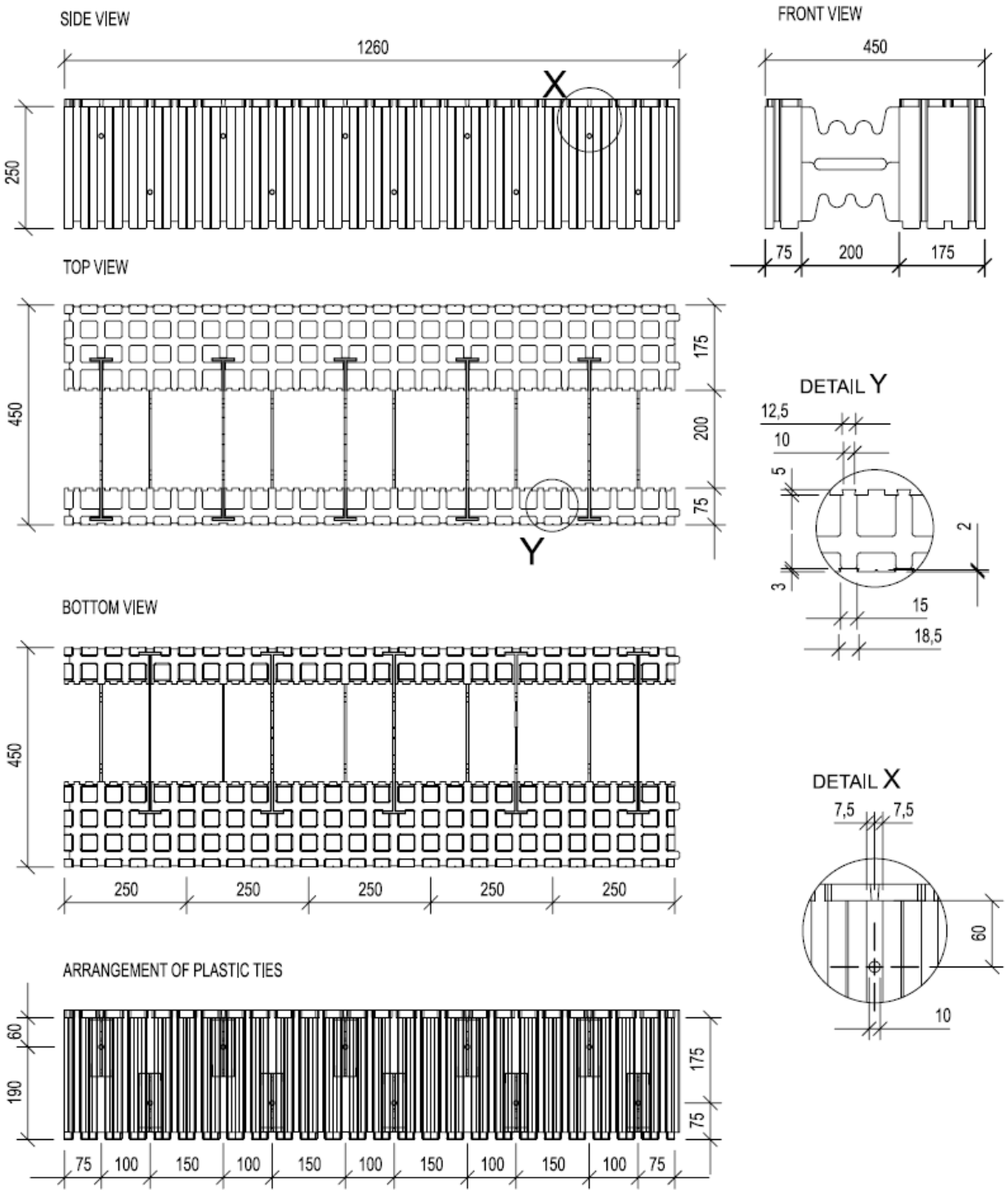
All dimensions are given in mm

VARIANT-HAUS®	**Annex 1.14** **of European Technical Assessment ETA 16/0325**
ISO block plus ICF primary block N 31	



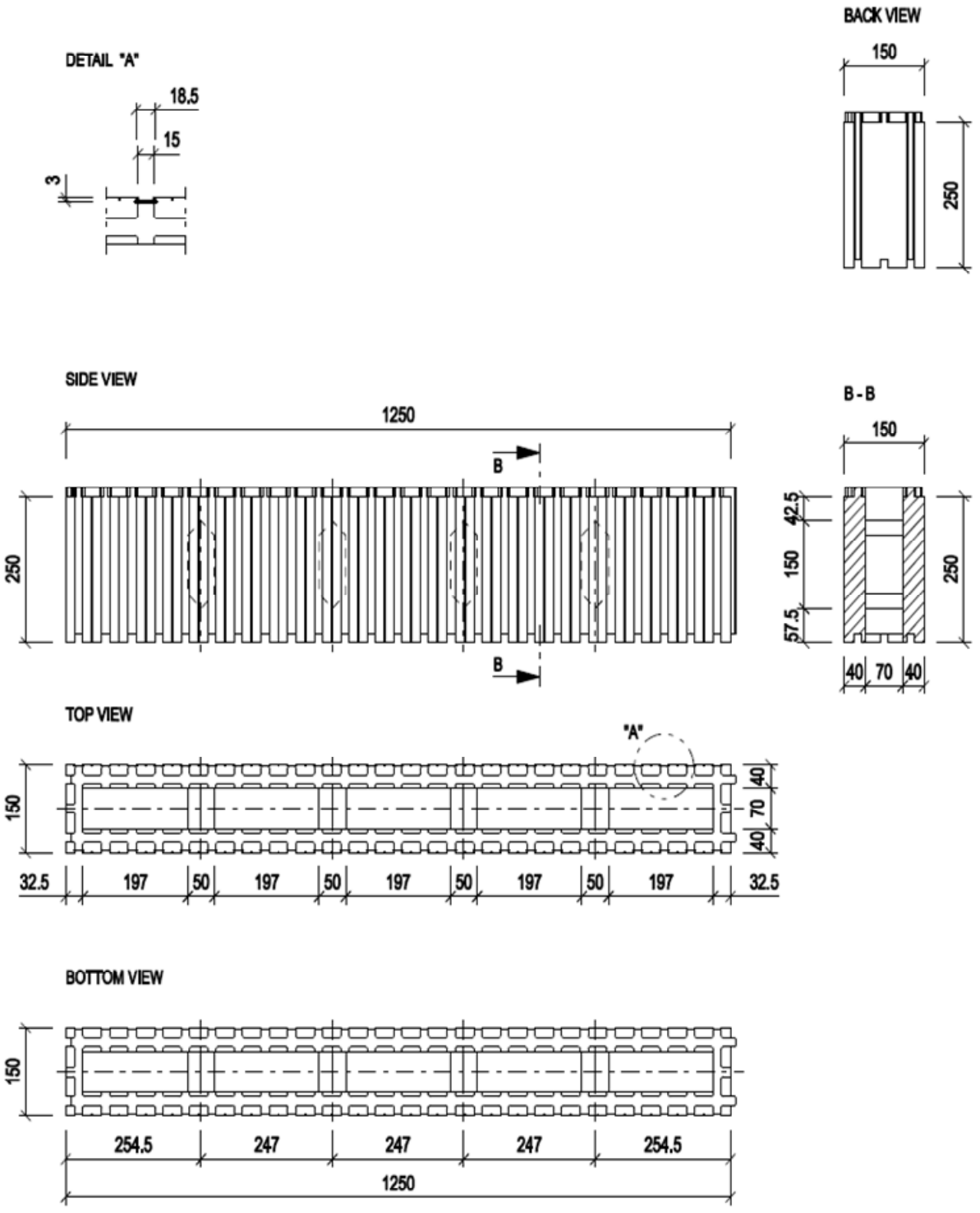
All dimensions are given in mm

VARIANT-HAUS®	**Annex 1.15** **of European Technical Assessment ETA 16/0325**
ISO block plus ICF primary block N 30	



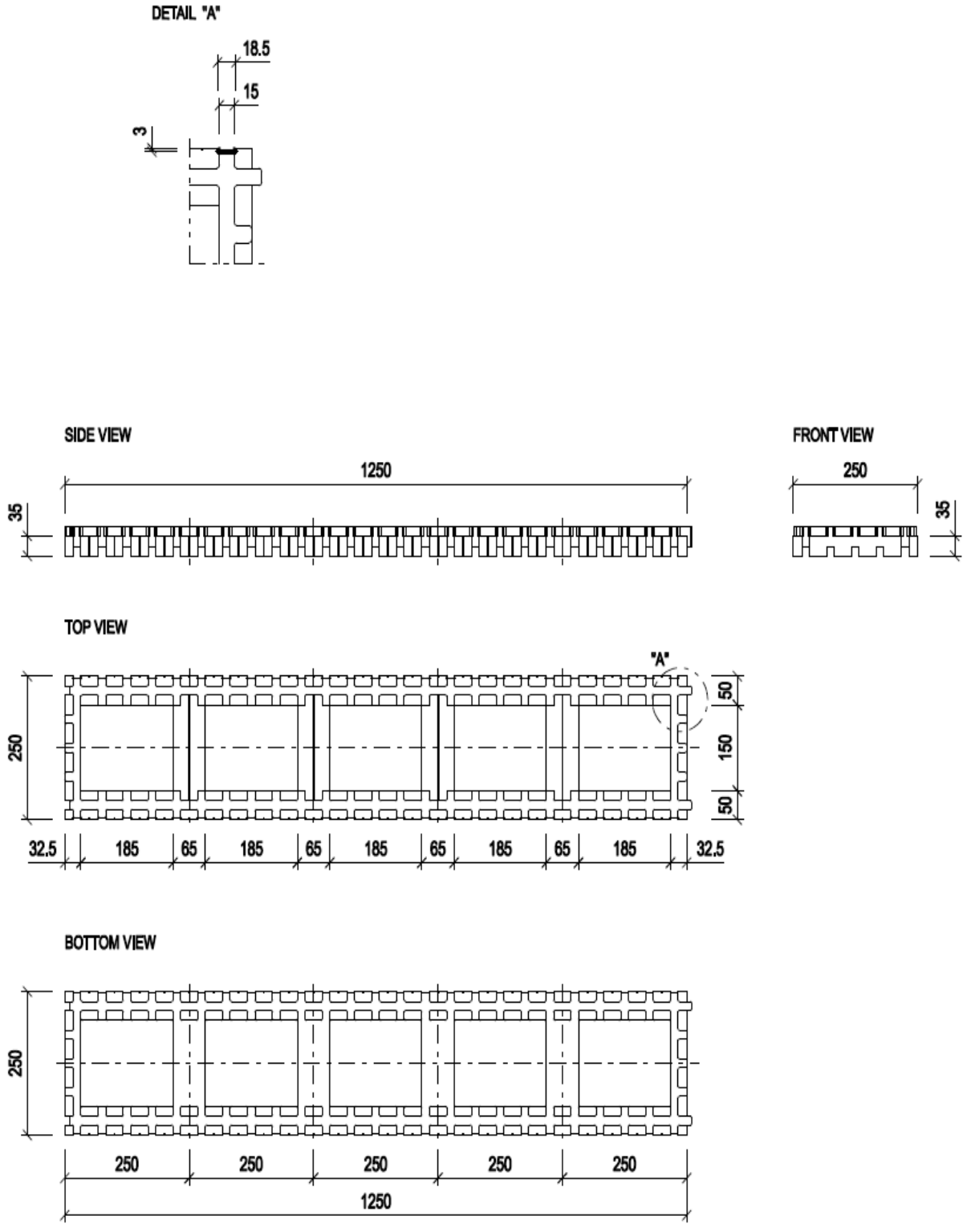
All dimensions are given in mm

VARIANT-HAUS®	**Annex 1.16** **of European Technical Assessment ETA 16/0325**
ISO block plus ICF block with plastic tie N 34	



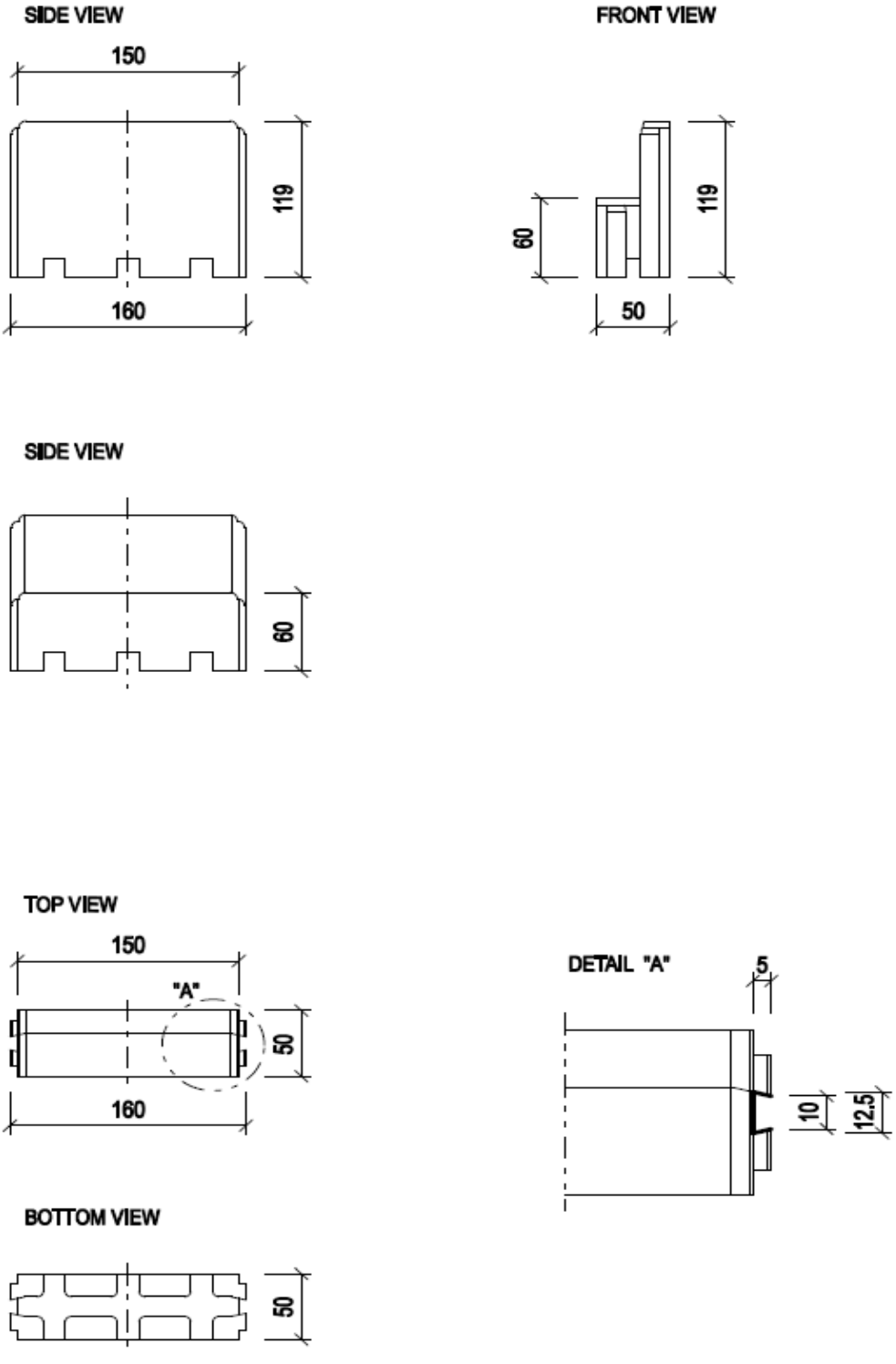
All dimensions are given in mm

VARIANT-HAUS®	**Annex 1.17** **of European Technical Assessment ETA 16/0325**
ICF block E 09	



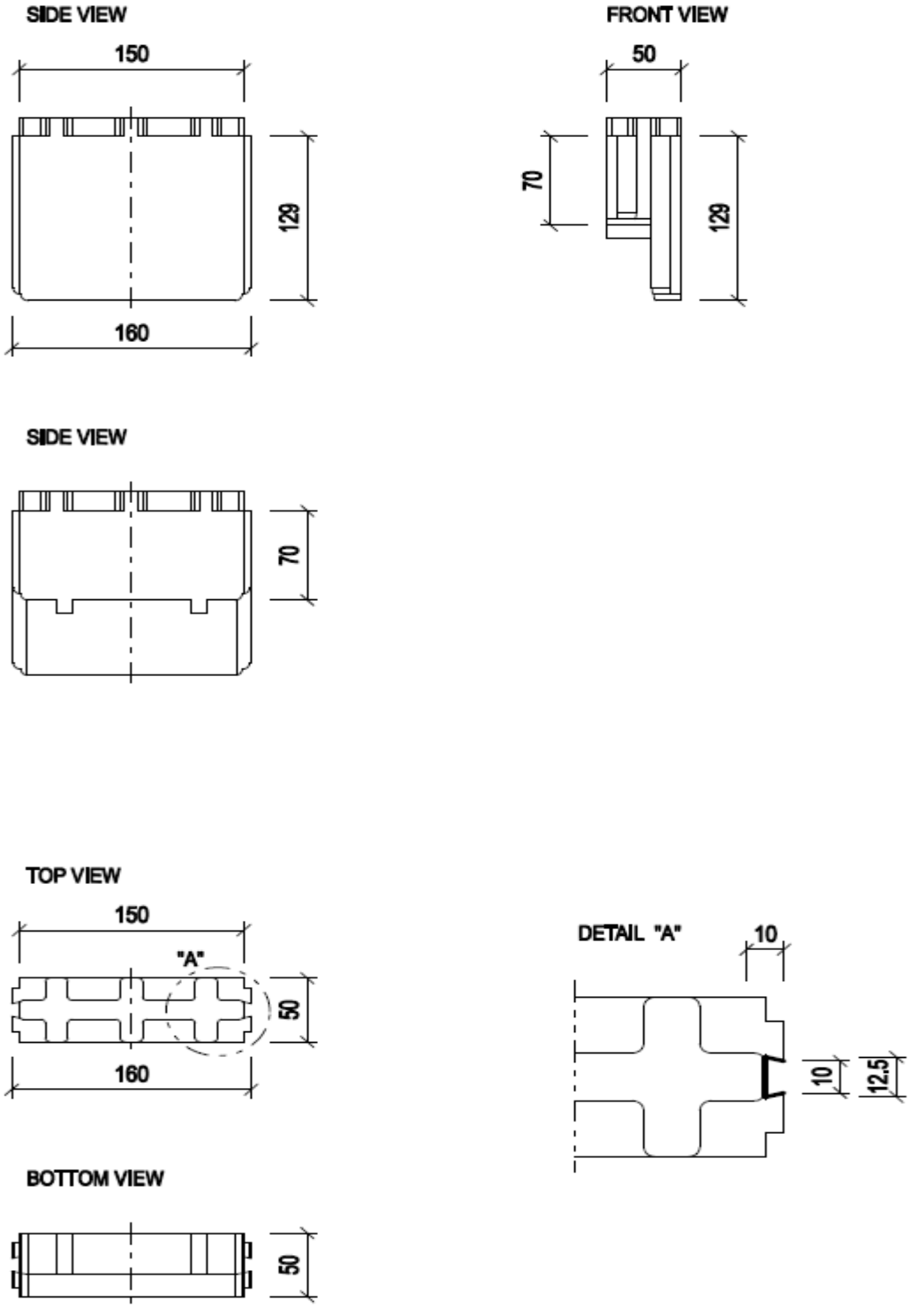
All dimensions are given in mm

VARIANT-HAUS®	**Annex 1.18** **of European Technical Assessment ETA 16/0325**
Standard ICF height compensation element E 05	



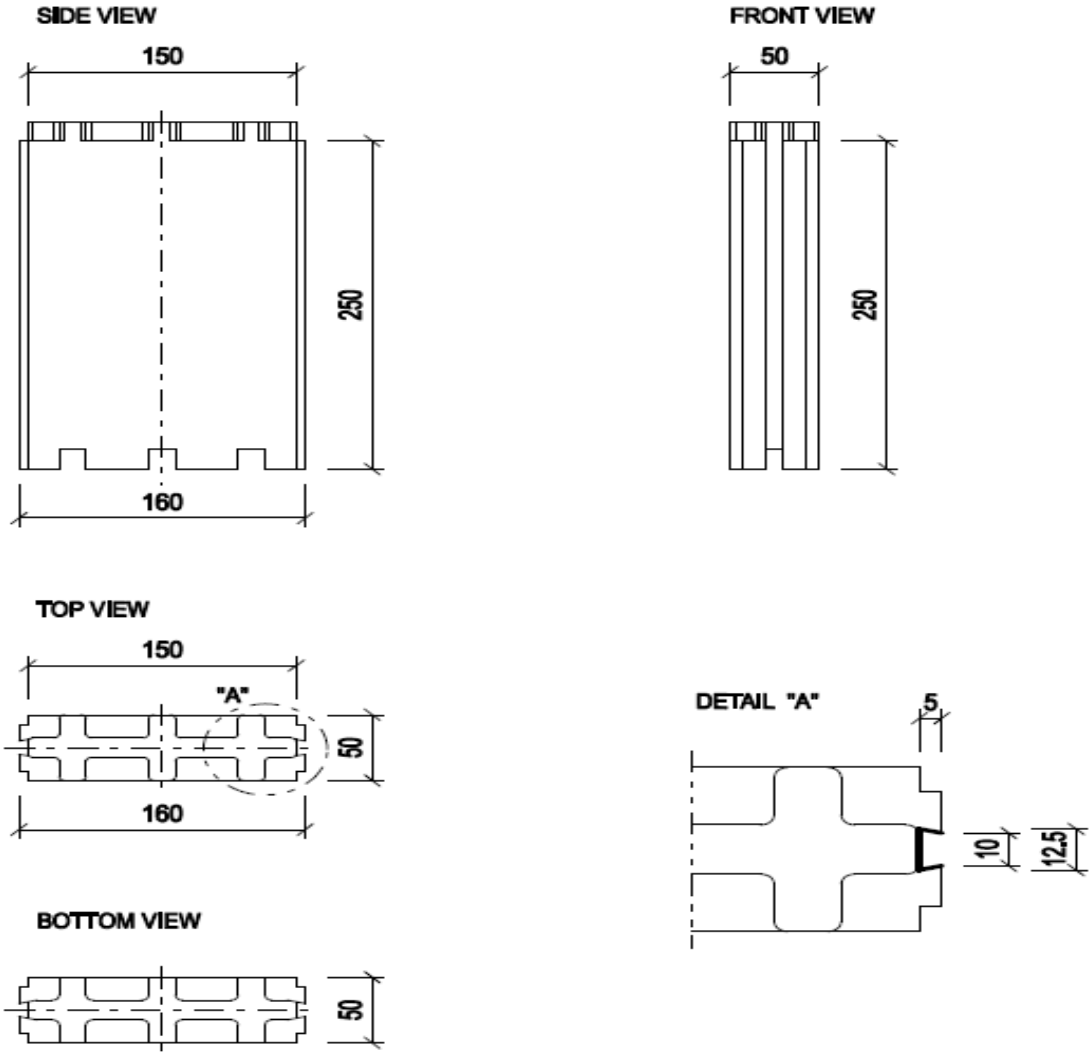
All dimensions are given in mm

VARIANT-HAUS®	**Annex 1.19** **of European Technical Assessment ETA 16/0325**
Standard ICF locking piece N 11A	



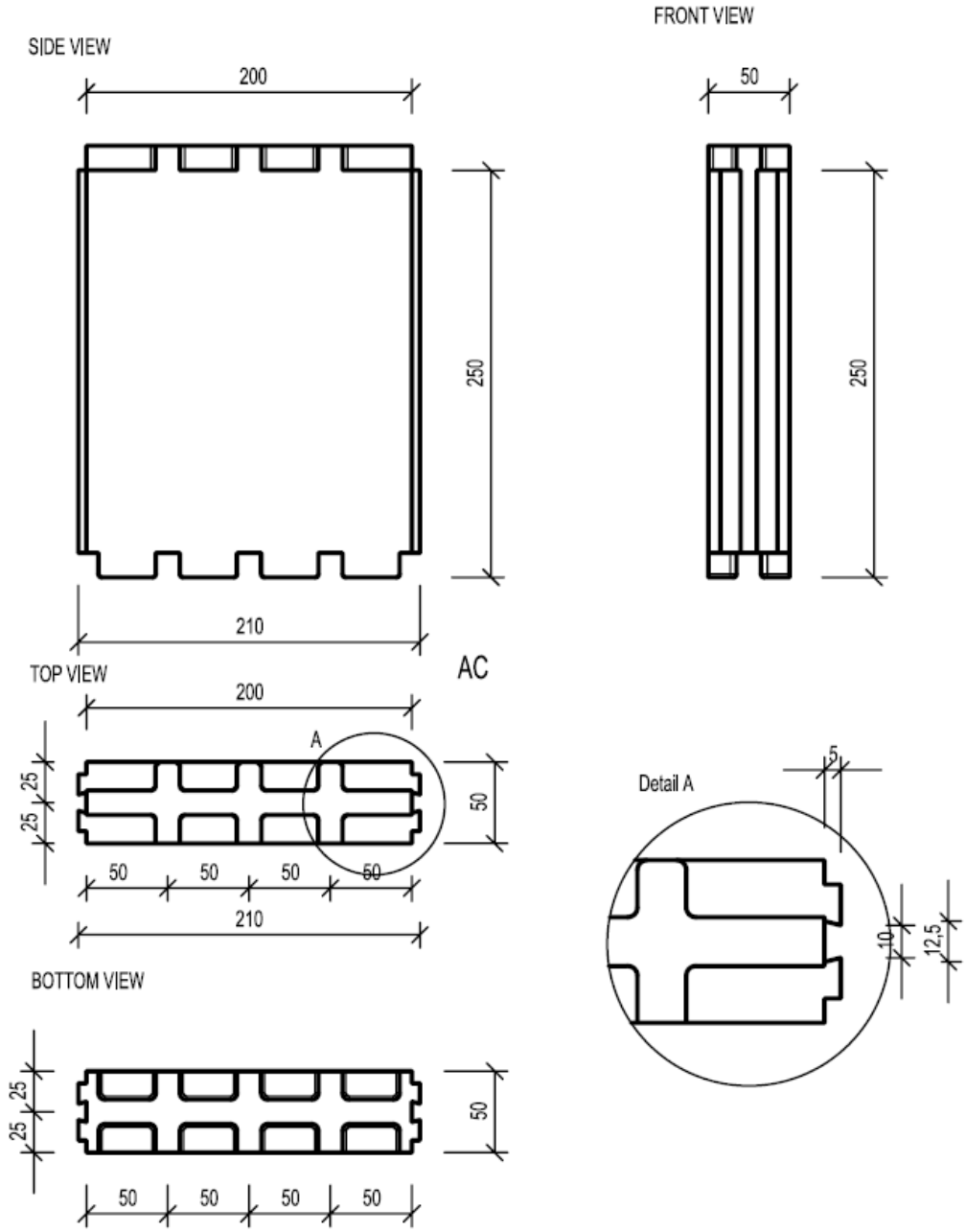
All dimensions are given in mm

VARIANT-HAUS®	**Annex 1.20** **of European Technical Assessment ETA 16/0325**
Standard ICF locking piece N 11B	



All dimensions are given in mm

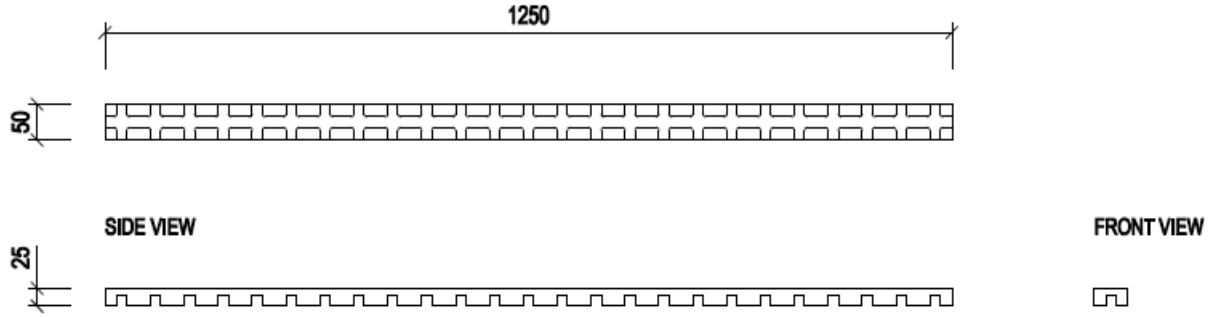
VARIANT-HAUS®	**Annex 1.21** **of European Technical Assessment** **ETA 16/0325**
Standard ICF locking piece N 12	



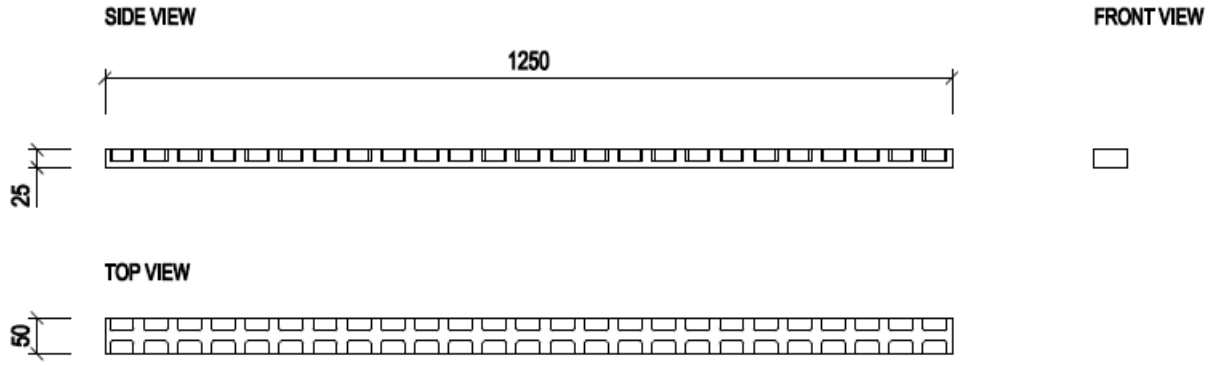
All dimensions are given in mm

VARIANT-HAUS®	**Annex 1.22** **of European Technical Assessment ETA 16/0325**
ISO block plus ICF locking piece N 13	

TOP ELEMENT

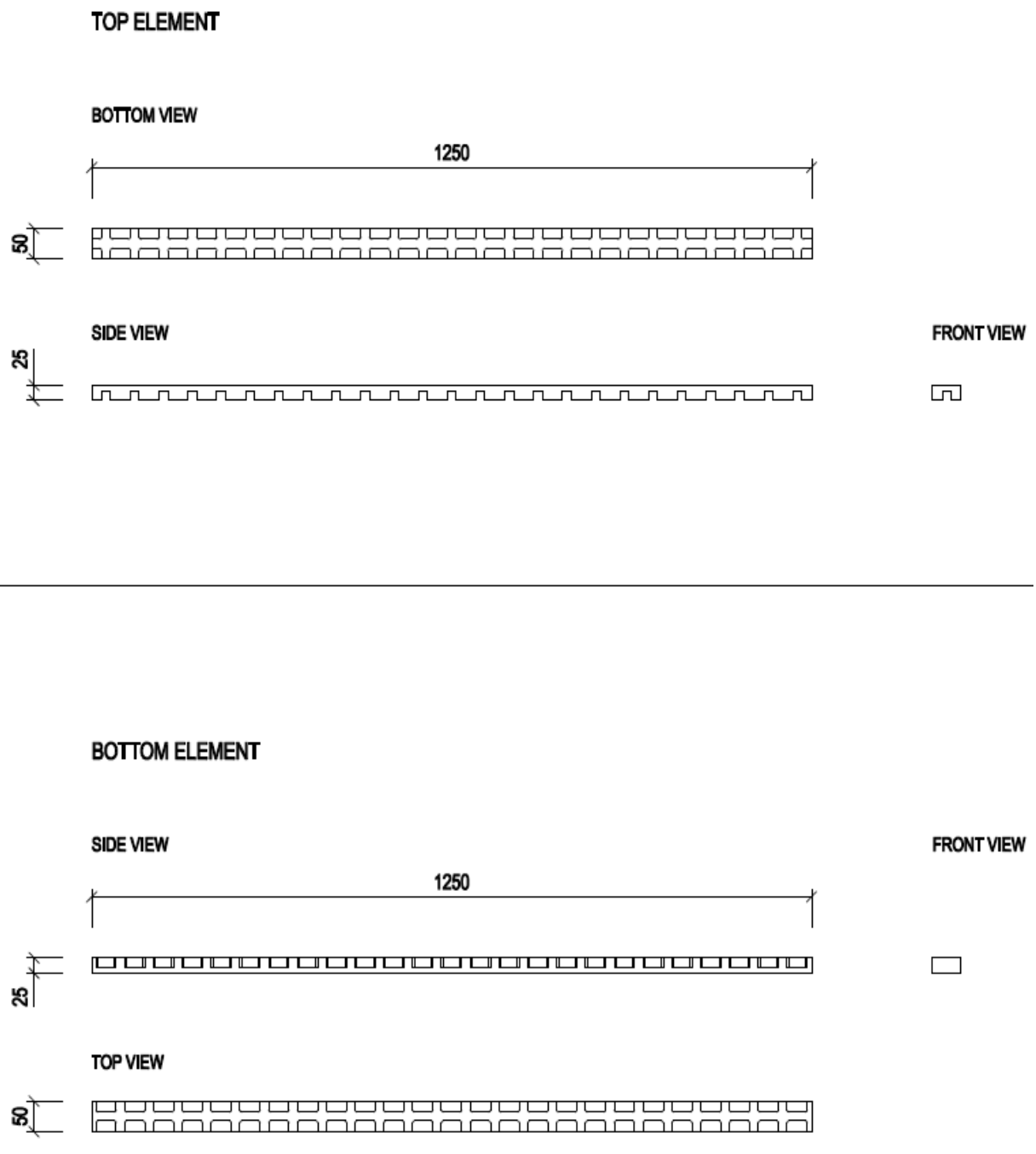


BOTTOM ELEMENT



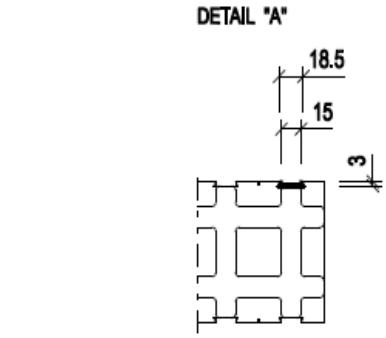
All dimensions are given in mm

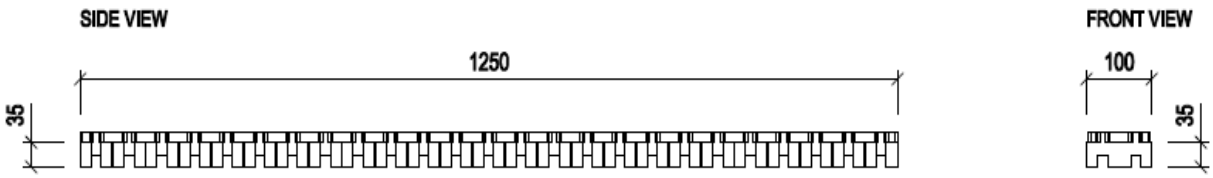
VARIANT-HAUS®	**Annex 1.23** **of European Technical Assessment ETA 16/0325**
ICF edge protection upper (lower)	

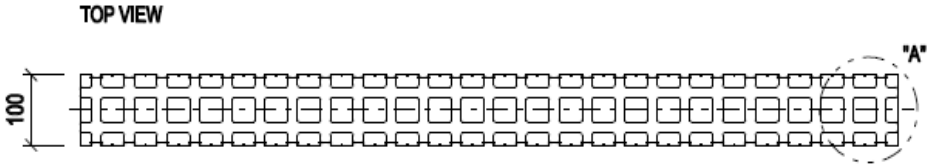


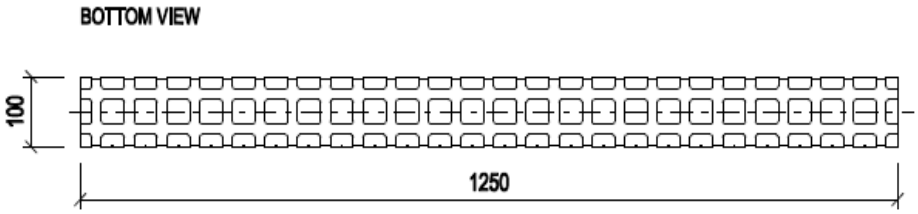
All dimensions are given in mm

VARIANT-HAUS®	Annex 1.24 of European Technical Assessment ETA 16/0325
ICF edge protection upper (lower)	



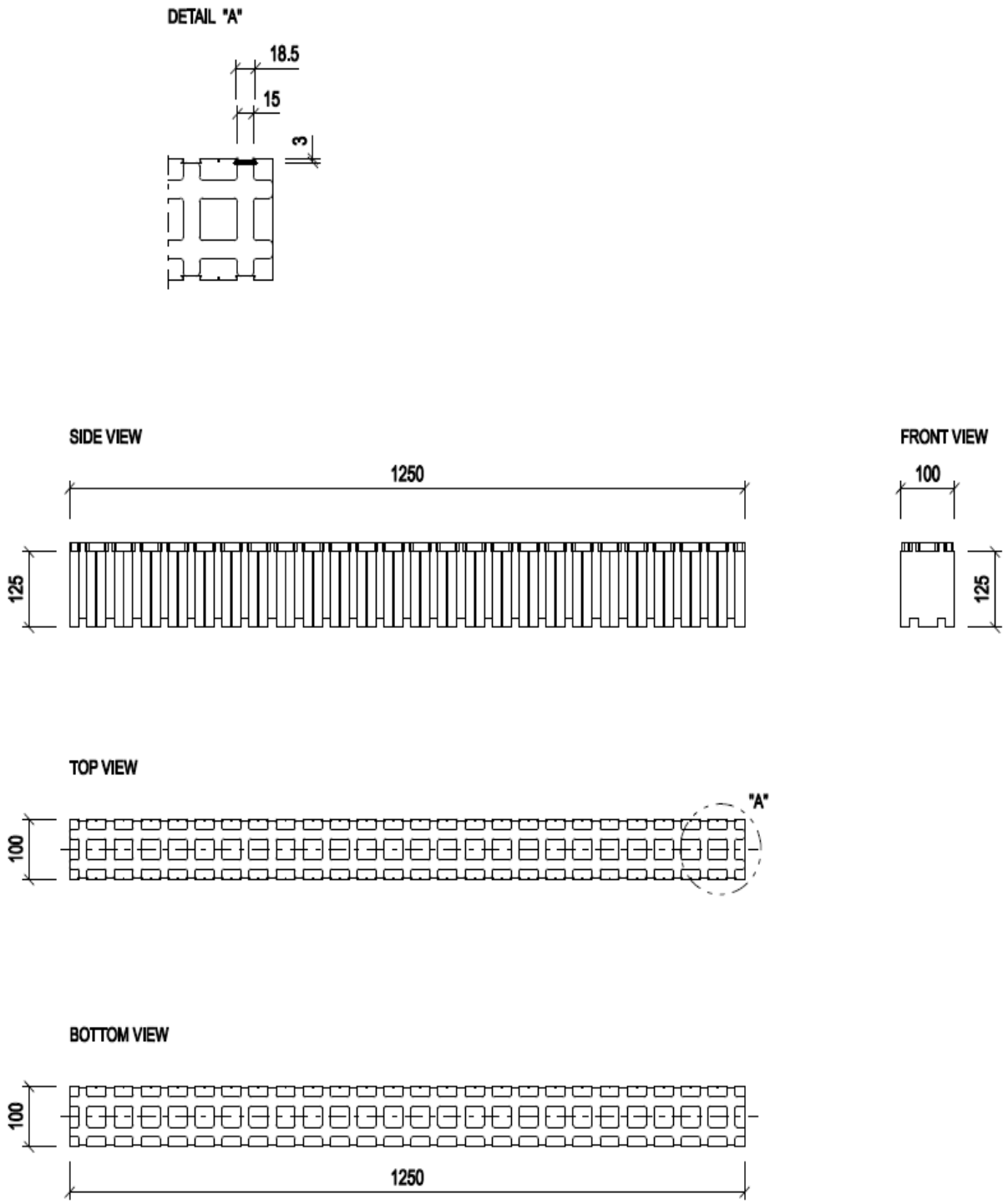






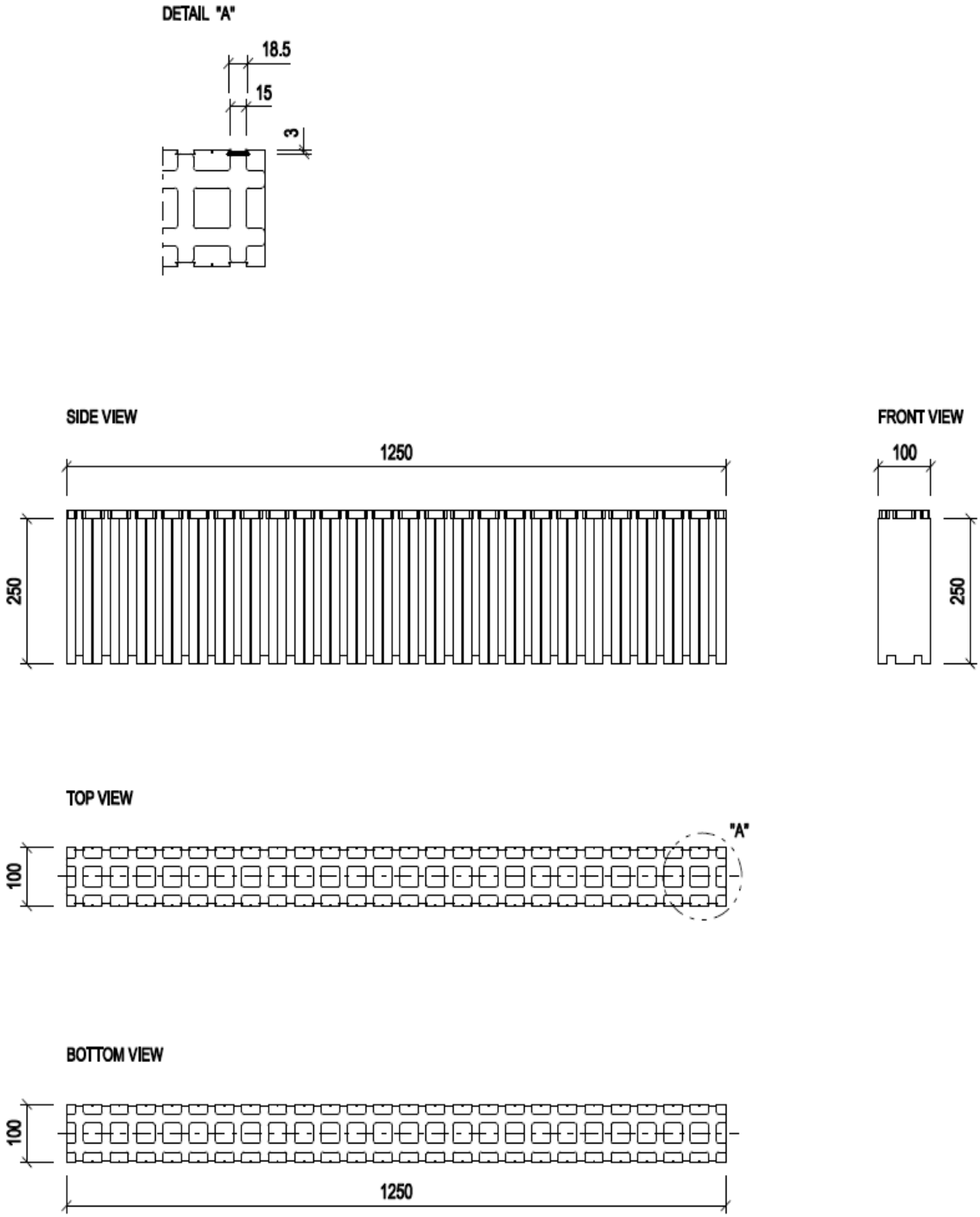
All dimensions are given in mm

VARIANT-HAUS®	**Annex 1.25** **of European Technical Assessment ETA 16/0325**
ISO block plus ICF height compensation element CHCE 1	



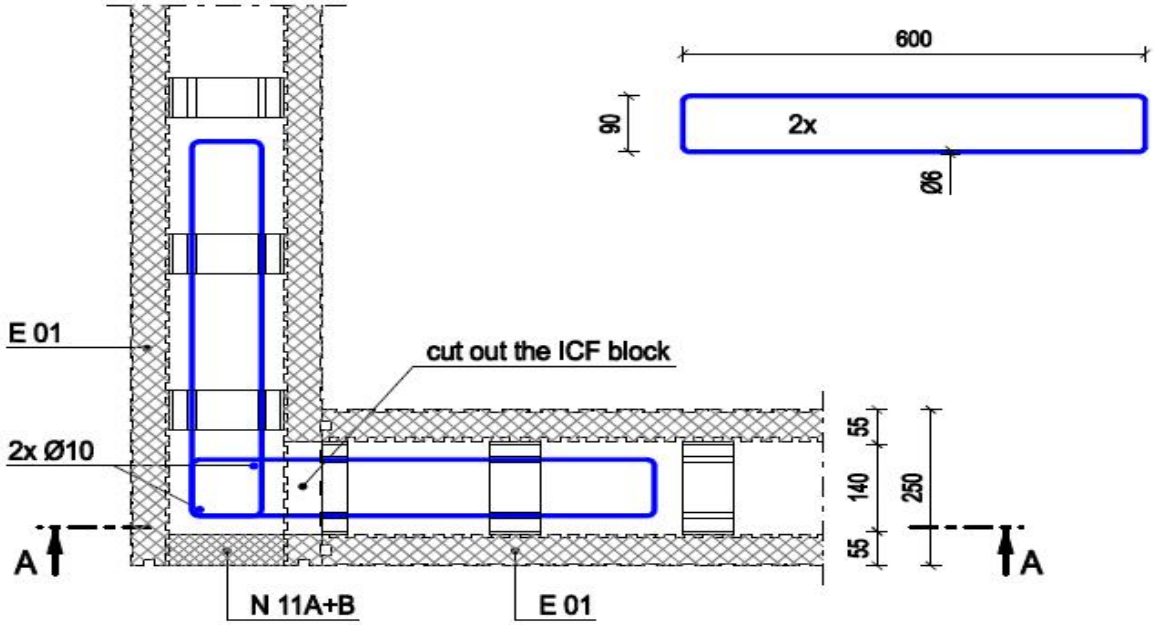
All dimensions are given in mm

VARIANT-HAUS®	**Annex 1.26** **of European Technical Assessment ETA 16/0325**
ISO block plus ICF height compensation element CHCE 2	

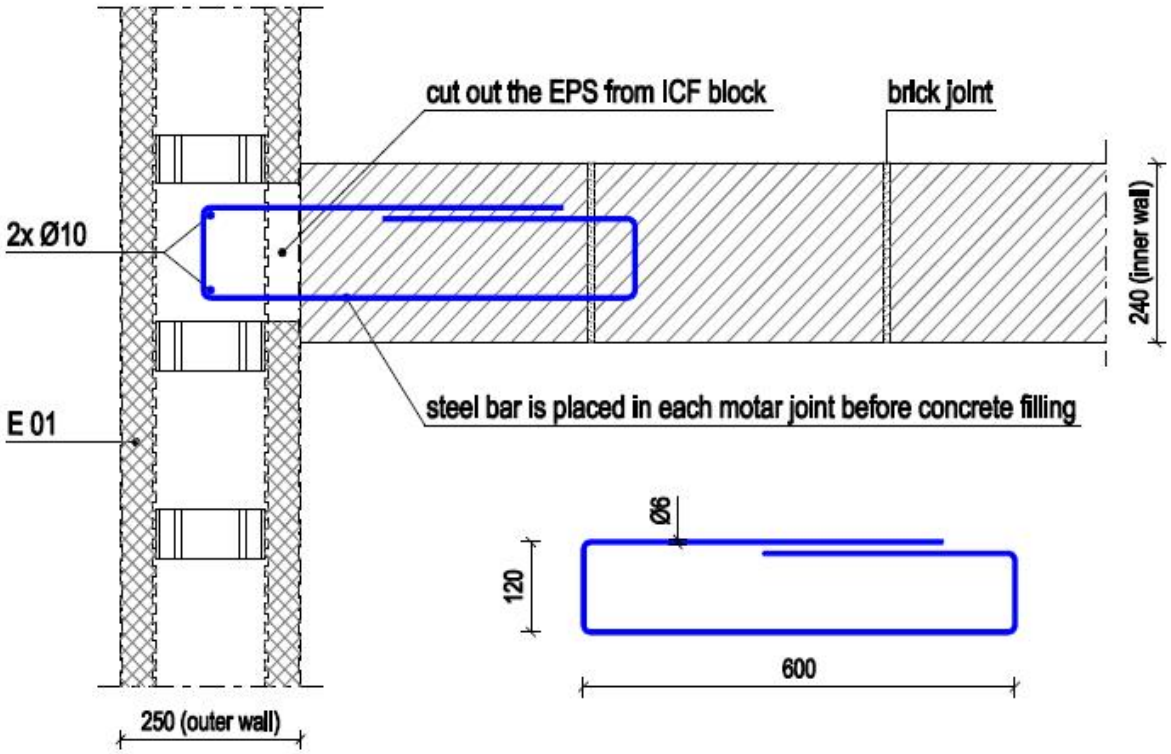


All dimensions are given in mm

VARIANT-HAUS®	**Annex 1.27** **of European Technical Assessment ETA 16/0325**
ISO block plus ICF height compensation element CHCE 3	



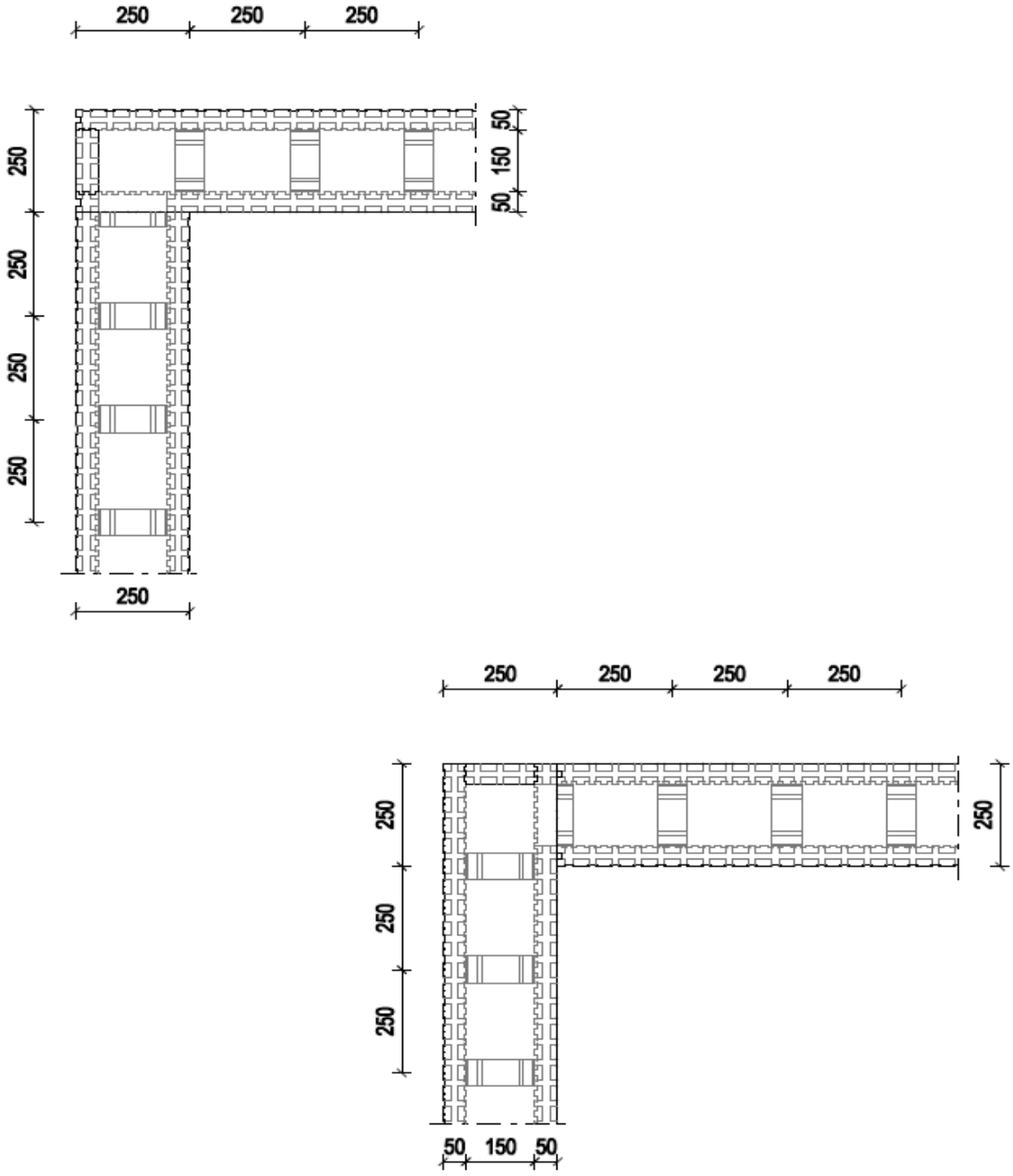
Corner joint of outer walls



Joint of outer wall with normal bricks (inner wall)

All dimensions are given in mm

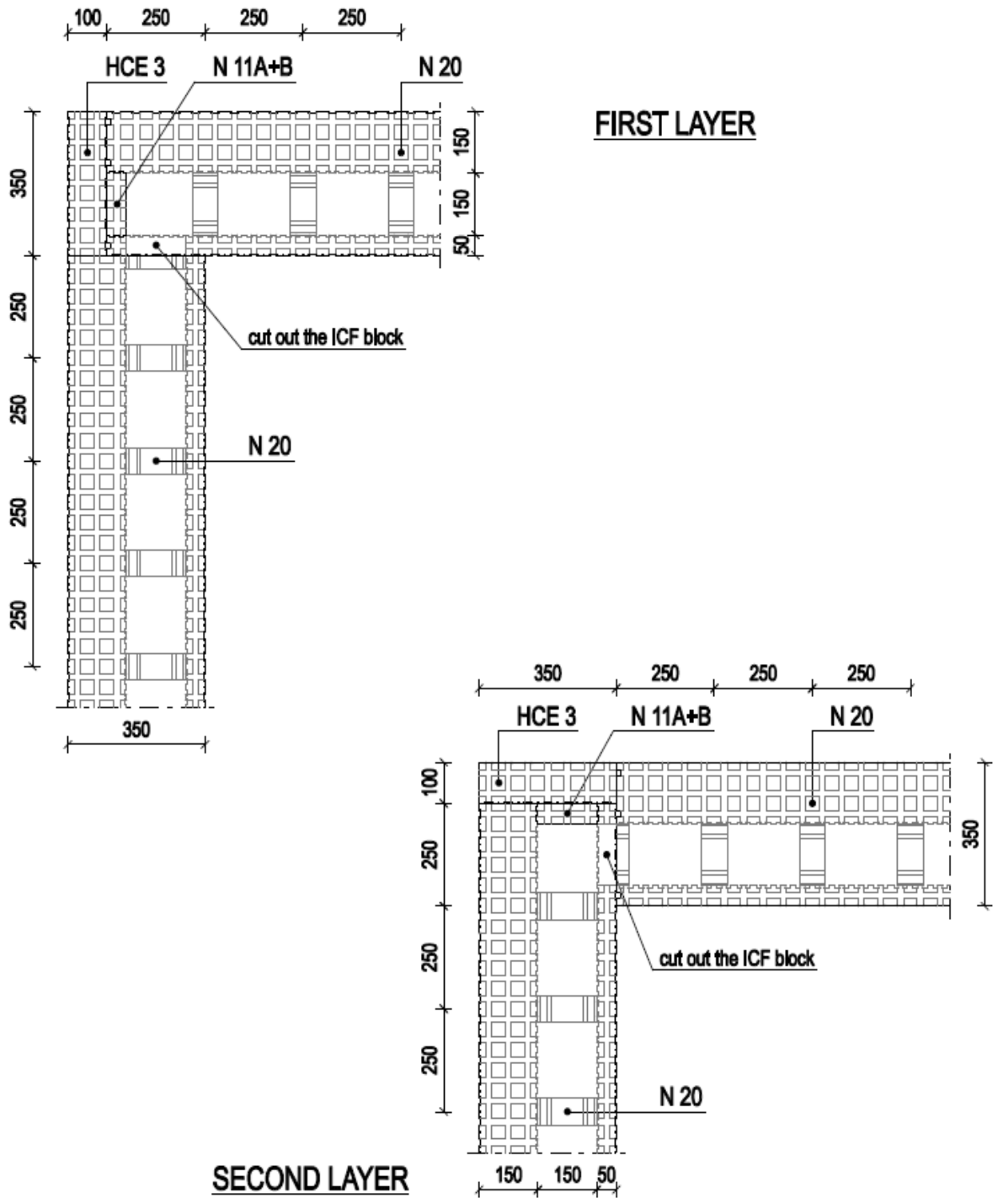
VARIANT-HAUS®	**Annex 2.1** **of European Technical Assessment ETA 16/0325**
Joint of outer wall (informative application details)	



Detail 25 cm block E 01

All dimensions are given in mm

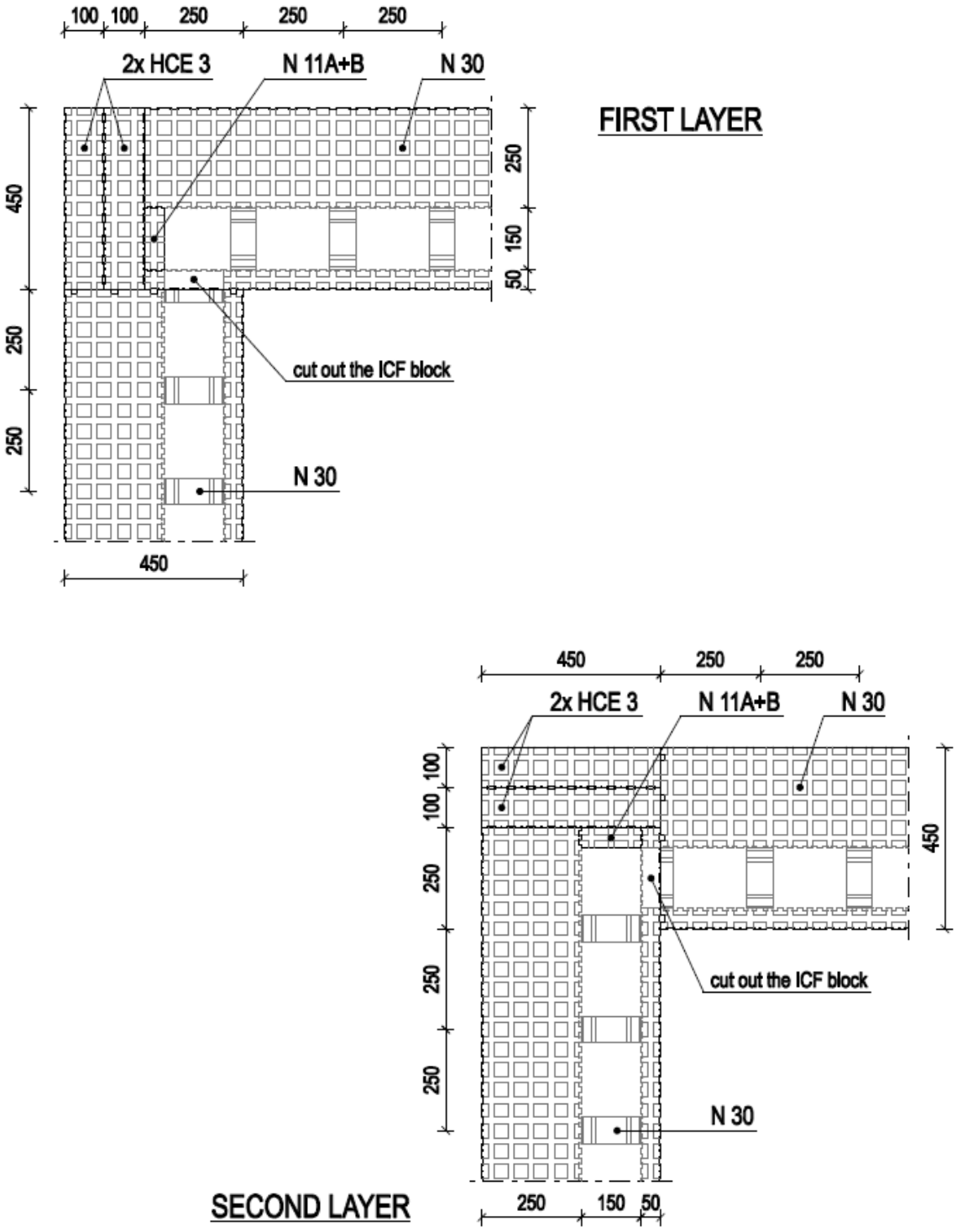
VARIANT-HAUS®	**Annex 2.2** **of European Technical Assessment ETA 16/0325**
Corner (informative application details)	



Detail 35 cm block N 20

All dimensions are given in mm

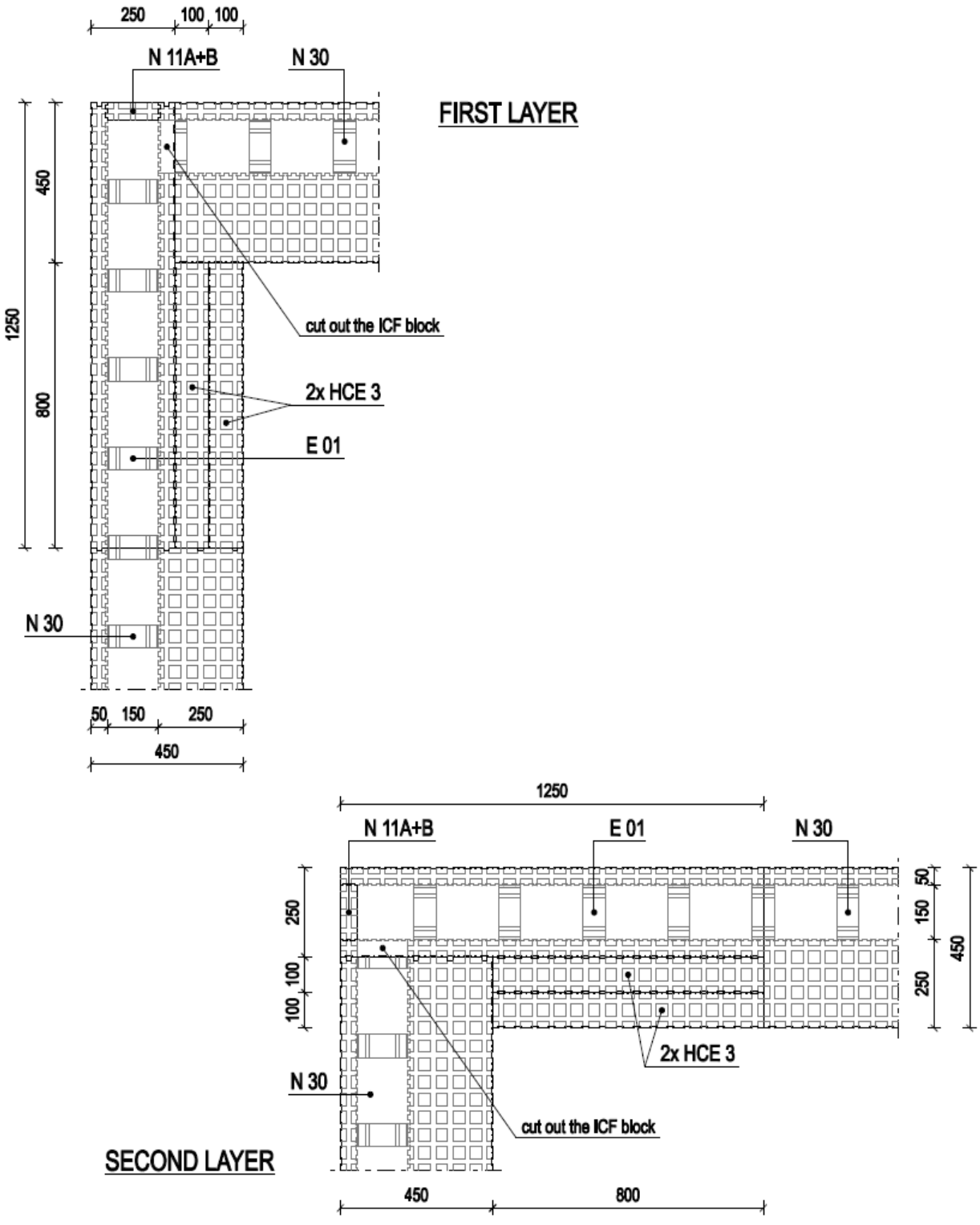
VARIANT-HAUS®	**Annex 2.3** **of European Technical Assessment ETA 16/0325**
Corner (informative application details)	



Detail 45 cm block N 30

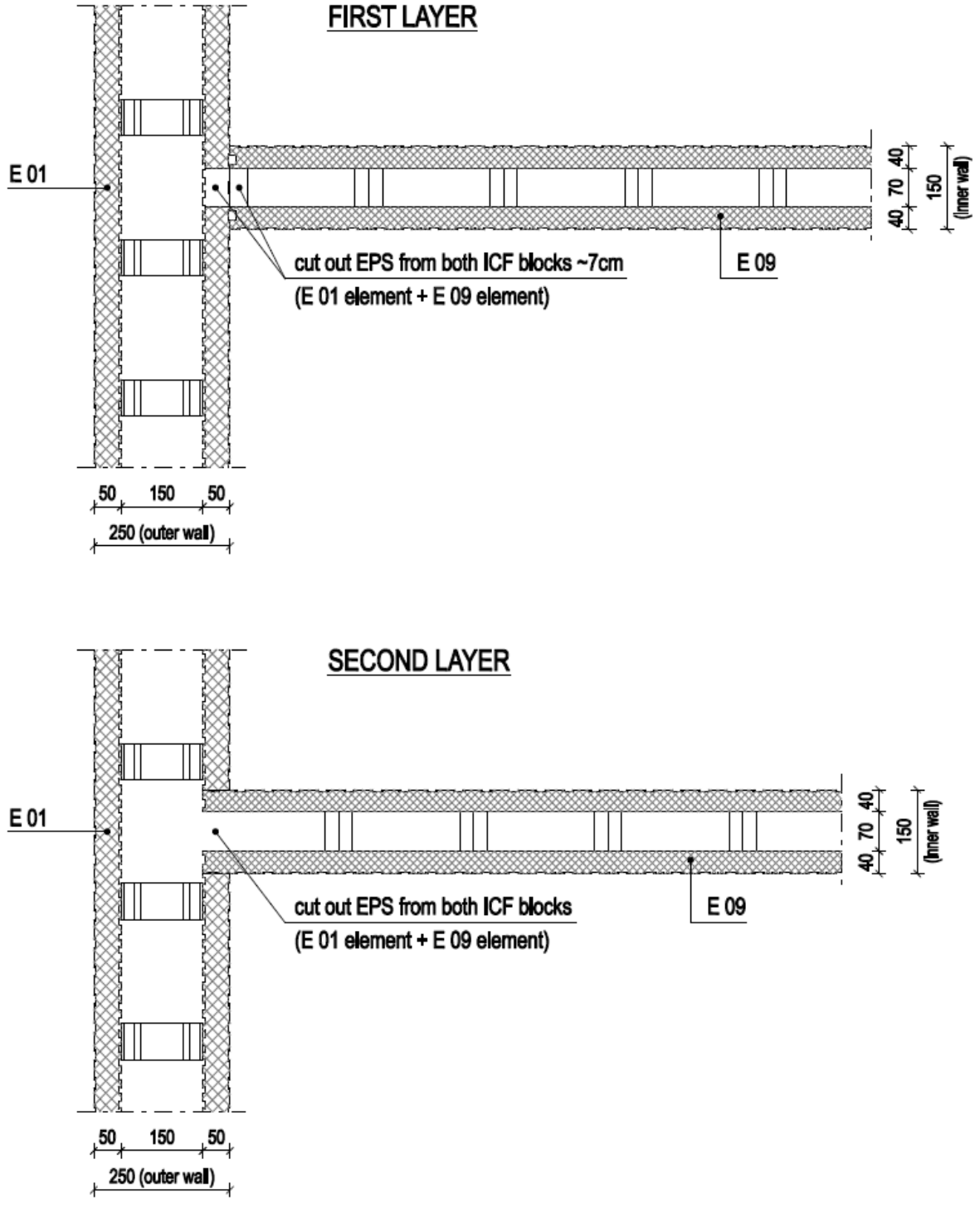
All dimensions are given in mm

VARIANT-HAUS®	**Annex 2.4** **of European Technical Assessment ETA 16/0325**
Corner (informative application details)	



All dimensions are given in mm

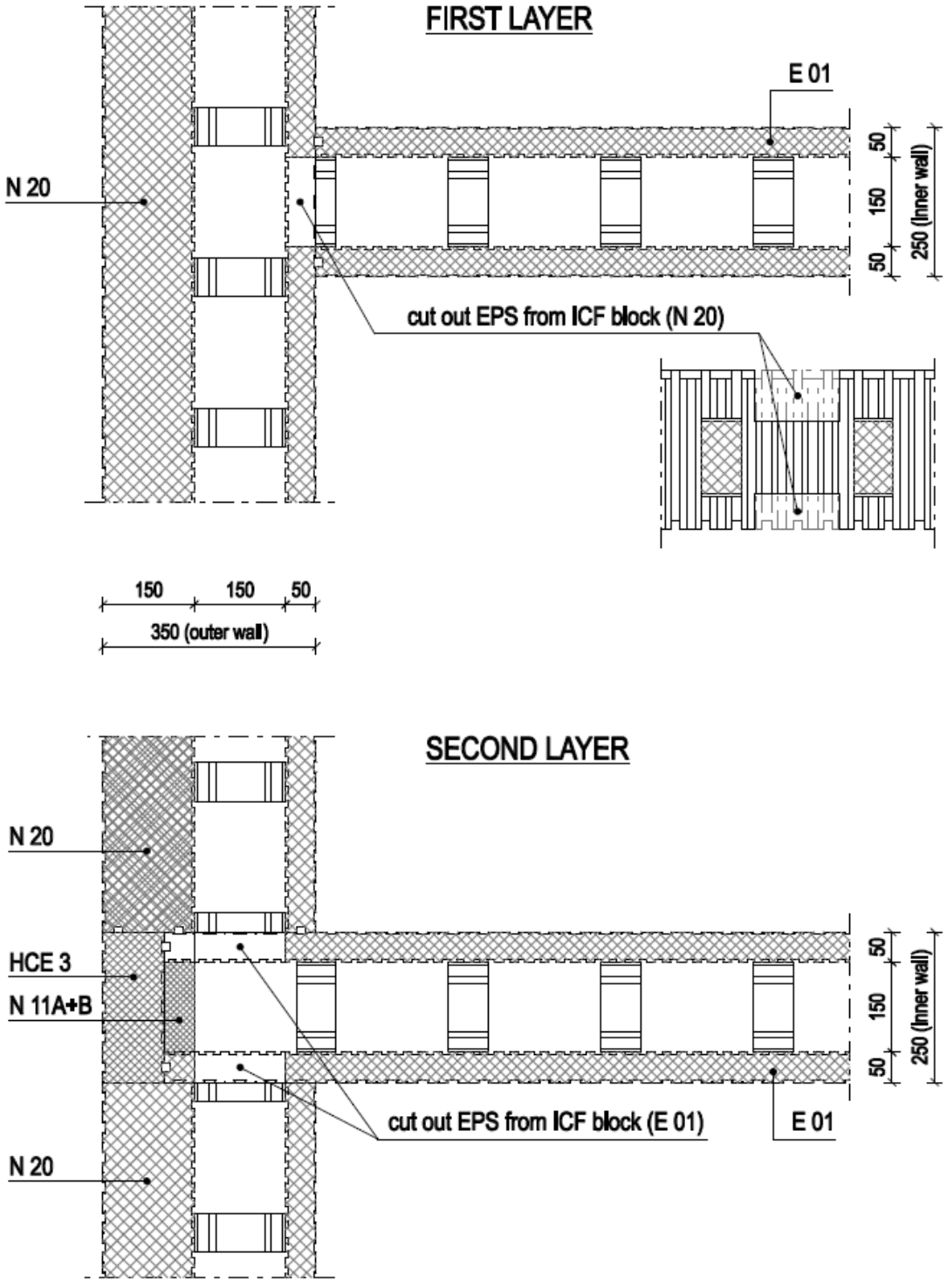
VARIANT-HAUS®	**Annex 2.5** **of European Technical Assessment ETA 16/0325**
Corner (informative application details)	



25 cm bearing wall (E 01) with 15 cm non-load bearing wall (E 09)

All dimensions are given in mm

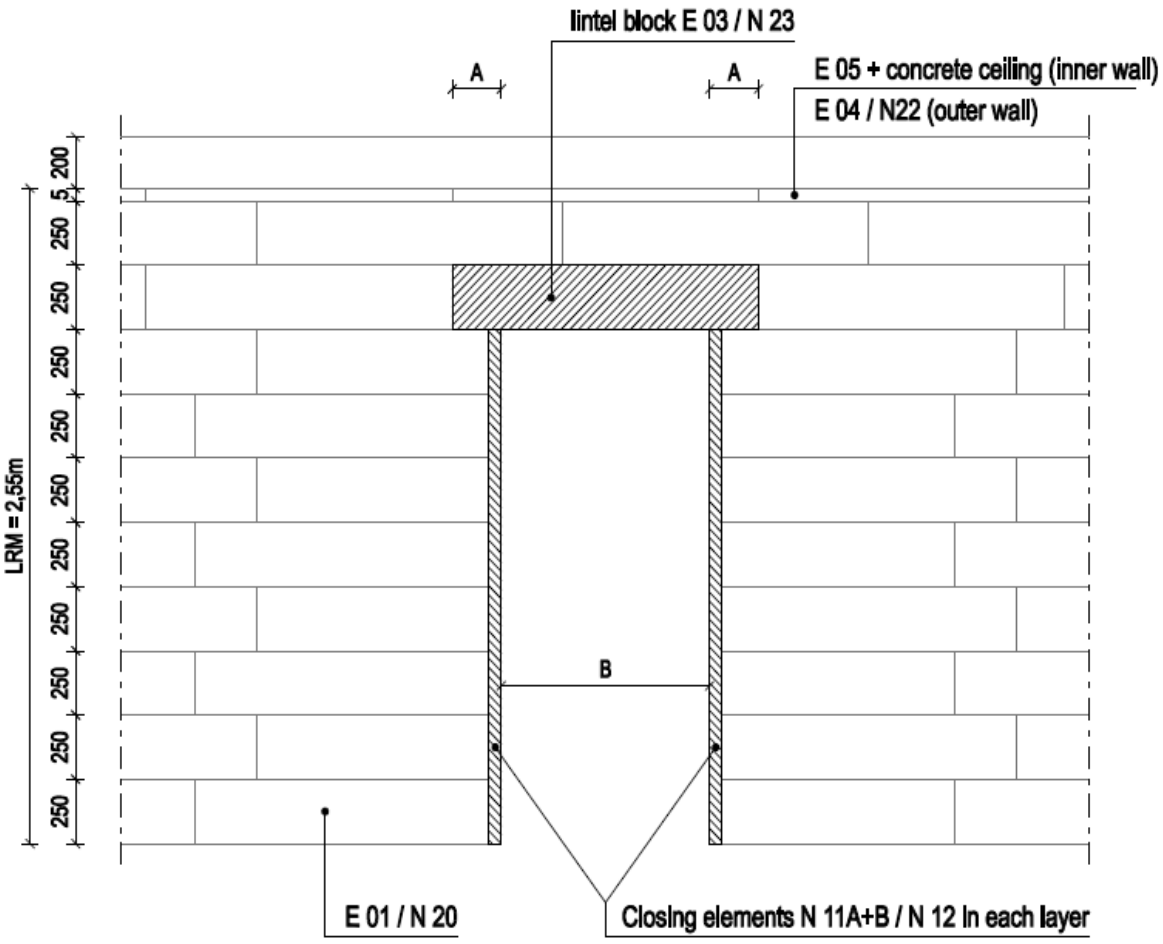
VARIANT-HAUS®	**Annex 2.6** **of European Technical Assessment ETA 16/0325**
Joint of inner wall (informative application details)	

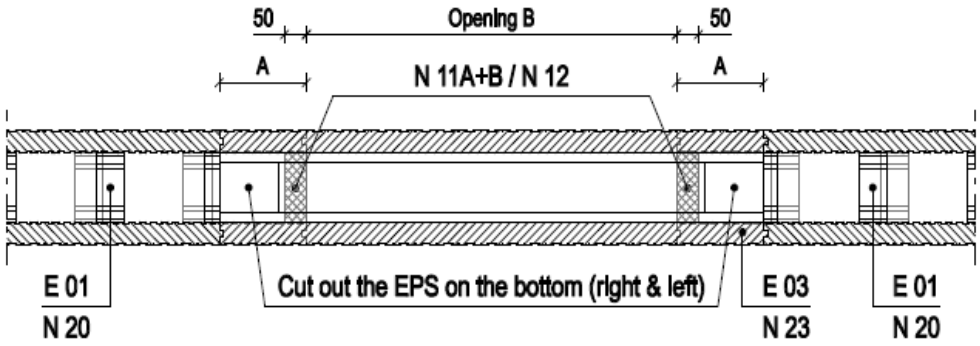


35 cm bearing wall (N 20) with 25 cm bearing wall (E 01)

All dimensions are given in mm

VARIANT-HAUS®	**Annext 2.7** **of European Technical Assessment ETA 16/0325**
Joint of inner wall (informative application details)	

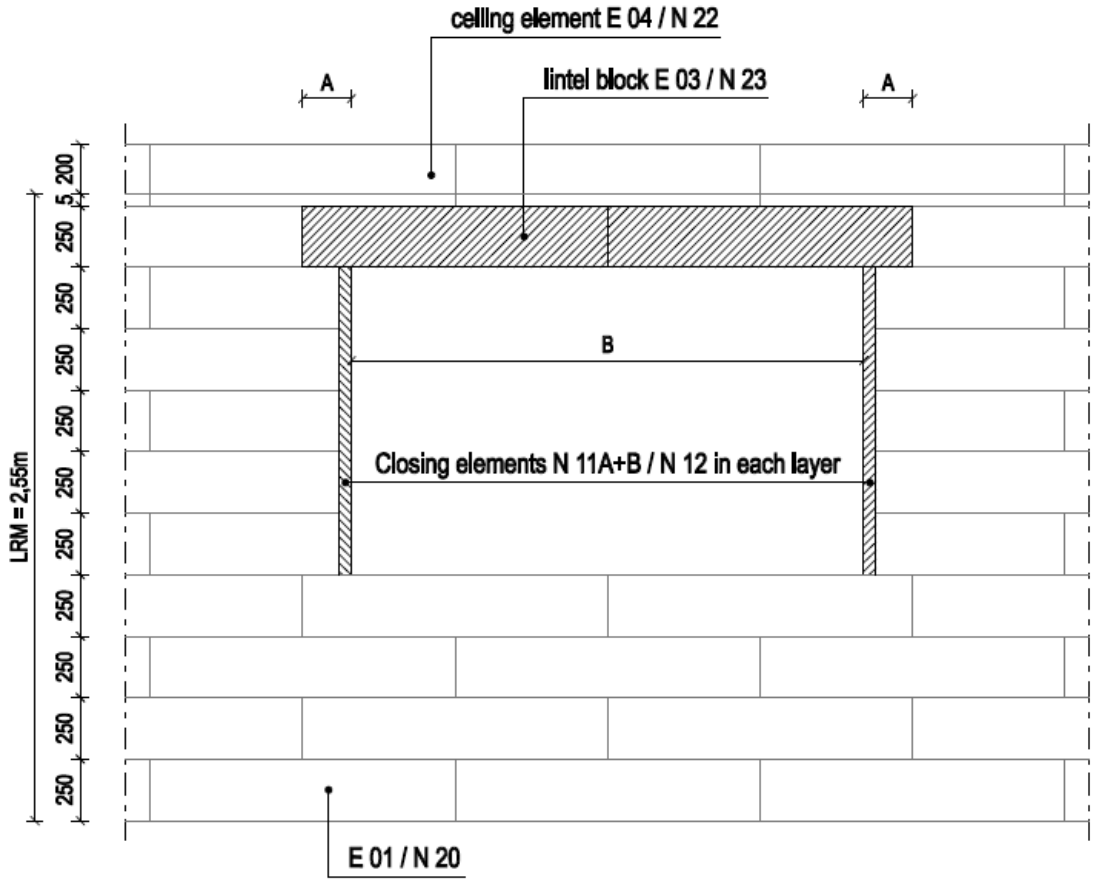


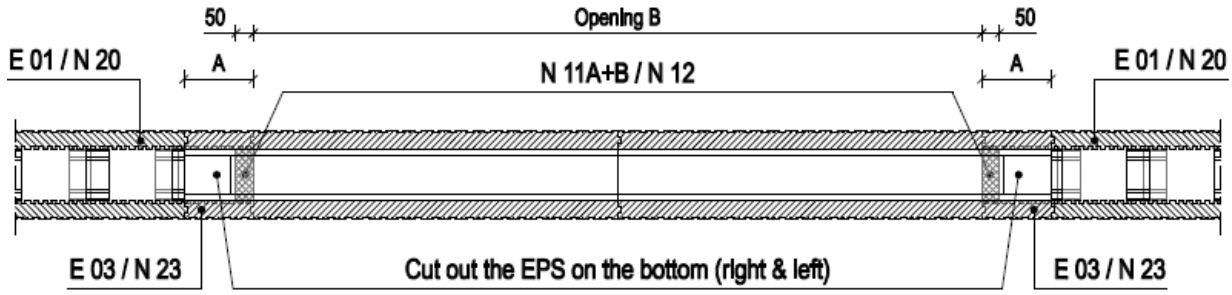


Door openings with element E 03

All dimensions are given in mm

VARIANT-HAUS®	**Annex 2.8** **of European Technical Assessment ETA 16/0325**
Door opening (informative application details)	





- before concrete filling you must bearing all lintel elements
- reinforcement (steelbars or steel beams) must be in accordance with static engineer

All dimensions are given in mm

VARIANT-HAUS®	**Annex 2.9** **of European Technical Assessment ETA 16/0325**
Window opening (informative application details)	