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General Part

Technical Assessment Body issuing the European Technical Assessment:	Deutsches Institut für Bautechnik
Trade name of the construction product	Permanent shuttering kit "IZODOM 2000 POLSKA"
Product family to which the construction product belongs	Non-load bearing permanent shuttering kit "IZODOM 2000 POLSKA" based on shuttering elements of EPS
Manufacturer	izodom 2000 polska ul. Ceramiczna 2 98-220 Zdunska Wola POLEN
Manufacturing plant	Plant 1 Plant 2 Plant 3 Plant 4
This European Technical Assessment contains	158 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	Guideline for European technical approval of "Non load-bearing permanent shuttering kits/systems based on hollow BLOCKs or panels of insulating materials and sometimes concrete", ETAG 009, used as European Assessment Document (EAD) according to Article 66 Paragraph 3 of Regulation (EU) No 305/2011.
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Specific Part

1 Definition of the product and intended use

1.1 Definition of the construction product

The shuttering kit "IZODOM 2000 POLSKA" is used to construct non-load bearing permanent formwork for plain and reinforced concrete walls cast in-situ.

The "IZODOM 2000 POLSKA" system comprises five types of walls:

- "STANDARD",
- "'PRINCE BLOCK"
- "KING BLOCK",
- "SUPER KING BLOCK",
- "SUPER KING BLOCK PLUS",
- "UNIVERSAL" and
- "UNIVERSAL PLUS".

These wall types are differentiated by:

- thickness of foam material in one of the shuttering walls,
- design of the elements and
- thickness of the concrete wall core.

All elements are available in two types of foam material:

- Styropor F415E (white expanded polystyrene) and
- Neopor F2400 (graphite-enriched expanded polystyrene)

In every type of wall standard shuttering elements, special shuttering elements and accessory parts are included. Special shuttering elements are height adjuster elements, angel joint elements (45°) for inner and outer corners, hinge elements to realise walls with arbitrary angles, header elements (for lintels), floor support elements and door head elements. Accessory parts are auxiliary elements, height adjuster elements, trimming strips, plugs and closing elements as well as the ties.

1.2 Shuttering elements

1.2.1 Standard shuttering elements

The system contains the following types of shuttering elements:

MC	shuttering elements completely made of EPS (Styropor or Neopor)
MCF	shuttering elements with shuttering leaves of EPS (Styropor or Neopor) and embedded plastic ties (see Annex A112 to A114, A117 and A119) to connect both shuttering leaves
MCFU	shuttering elements with shuttering leaves of EPS (Styropor or Neopor) and dismountable plastic ties (see Annexes A110, A111 and A118) to connect both shuttering leaves
MCFU-St	shuttering elements with shuttering leaves of EPS (Styropor or Neopor) and dismountable ties of plastic parts and steel wires (see Annexes A115 and A116) to connect both shuttering leaves

Shuttering elements MC form walls of the grid type and shuttering elements MCF, MCFU and MCFU-St form walls of the continuous type according to ETAG 009, section 2.2. The main difference between the shuttering elements MCF and MCFU is that shuttering elements MCF are delivered to the site in form of completed shuttering elements meanwhile elements MCFU and MCFU-St are delivered on site in single parts (shuttering leaves and ties) and are completed to shuttering elements before sticking together the formwork. In Table 1 of Annex A1 the main dimensions of the different shuttering element types in dependence on the wall types are given.

The horizontal surfaces at the top of the shuttering leaves are castellated and the horizontal surfaces at the bottom are alternately grooved. The vertical mating surfaces are smooth. The tightness of the vertical joints between the leaves of the shuttering elements is ensured. They may not open during concreting because of the form fit in the horizontal joints. To facilitate works on site, all elements in the system have vertical grooves on external surfaces. One groove is 3 mm wide and 1 mm deep and the distance between the grooves is 5 cm. The grooves are used as cutting line, if the length of an element needs to be adjusted to the length of the wall.

Interior of the shuttering leaves T-shaped guides in the distance of 5 cm are placed. The guides are featured in all types of shuttering elements, regardless the wall thickness, core thickness and the type of used ties. They are necessary to fix OH and OB plugs at the narrow side of the uncut shuttering elements MC and the OC closing elements at the narrow sides of the shuttering elements MCF, MCFU or MCFU-St respectively at the opened narrow sides of the cut shuttering elements MC. The grooves and the T-shaped guides allow the application of the smallest modular dimension of 5 cm in horizontal direction.

A vertical modularity is ensured by using (depending on the needs) three types of height adjuster elements which are featured in the system. The height of the adjusters is 5 cm to enable construction of all wall types in the smallest modular dimension of 5 cm in vertical direction.

1.2.2 Special shuttering elements

For all wall types special shuttering elements are available. Additional to the shuttering type nomination (MC, MCF, MCFU and MCFU-St) for special shuttering elements the following nominations are used:

ML	Header elements (for lintels)
MLI / MLA	Door head elements
MP	Floor support elements
MH	Height adjuster elements
MHF	Height adjuster elements for hinge elements

For the description of the angel joint elements the following additional nominations are used:

L	left
R	right
I	inner corner
A	outer corner

The surfaces of the special shuttering leaves (horizontal and vertical) are equal to the surfaces of the standard shuttering elements (see section 1.2.1).

1.3 Accessory parts

1.3.1 Auxiliary elements MD 1/10 (Annex A104)

Auxiliary elements MD 1/10 are single shuttering leaves which are used for the construction of rectangular corners for walls with a thickness of 35 cm and 45 cm. The assembly of such wall corners is given in the Annexes B16 to B19.

1.3.2 Height adjuster elements MHD 1/10 (Annex A105)

Since shuttering leaves of the height adjuster elements MH and MHF are only 5 cm thick the extension with height adjuster elements MHD 1/10 always is necessary if the outer shuttering leaves of the used shuttering elements are thicker than 5 cm.

1.3.3 Trimming strips (Annex A106)

Two types of trimming strips are included in the kit:

- with a castellated surface
- with a grooved surface

The opposite side of the strips is always smooth. The strips are used for finishing of:

- bottoms of header elements and door head elements
- overhang parts of the walls

When packaging all castellated and grooved surfaces of all types of shuttering elements are covered by trimming strips. They provide the protection of the castellated and grooved surfaces during storage and transport.

1.3.4 Plugs (Annexes A95 and A96)

Upper plugs OH (Annex A95) and lower plugs OB (Annex A96) are half-elliptical elements used to close the ends of the shuttering elements MC of the wall types "STANDARD", "KING BLOCK" and "SUPER KING BLOCK". The plugs are used to build wall corners, window and door openings and blunt-ended inside walls. The form fit between the profiled contact surfaces of the plugs and the ties provide a tight connection of the plugs. The plug can be installed in the tie axis as well as 5 cm before the axis and 5 cm behind the axis.

1.3.5 Closing elements (Annexes A97 to A103)

It allows closing of the open narrow sides at corners, door openings and blunt-ended inside walls. The closing elements are installed vertically inside the shuttering element, by sliding it on the vertical T-guides made of foam material. The closing elements of the kit are listed in Annex A1, section 3.5.

1.3.6 Ties

In Table 3 of Annex A1 an overview is given which ties are used for which shuttering elements:

2 Specification of the Intended use in accordance with the applicable European Assessment Document

The kit is intended to be used for the construction of internal walls as well as external walls above or below ground which are load-bearing (structural) or non load-bearing (non structural), including those which are subjected to fire regulations.

When using this type of construction below ground a waterproofing according to applicable national rules shall be provided depending on whether non pressing water or pressing water is to be dealt with. The waterproofing shall be protected from mechanical damage by an impact resistant protective layer.

According to EOTA TR 034 the following use categories apply:

- Category IA 2: Product with no direct contact to (e. g. covered products) but possible impact on indoor air.
- Category S/W 3: Product with no contact to and no impact on soil water, ground- and surface water.

The performance given in Section 3 are only valid if the shuttering elements are used in compliance with the specifications and conditions given in Annex B1.
The verification and assessment methods on which this European Technical Assessment is based lead to the assumption of a working life of the shuttering kit of at least 50 years. 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 refernces to the methods

3.1 Mechanical resistance and stability (BWR 1)

3.1.1 Resulting structural pattern

In end use conditions walls made with shuttering elements MC form walls of the grid type and with elements MCF, MCFU and MCFU-St walls of the continuous type according to ETAG 009, section 2.2.

3.1.2 Efficiency of filling

Considering the instructions of section 4.2 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 core is possible.

The requirements according to ETAG 009, section 6.1.2 are met satisfactory.

3.1.3 Possibility of steel reinforcement

The instructions in the installation guide of the ETA holder are appropriate to install steel reinforcement for walls according to EN 1992-1-1 or corresponding national rules (see e. g. Annexes B8 to B15 and B21).

The requirements according to ETAG 009, section 6.1.3 are met satisfactory.

3.2 Safety in case of fire (BWR 2)

3.2.1 Reaction to fire

Both expanded polystyrene materials (Styropor and Neopor) fulfill the conditions for Class E according to EN 13501-1.

3.2.2 Resistance to fire

According to ETAG 009 Annex C, Table 2, the grid system (shuttering elements MC) meets the criteria of **R 30**.

According to ETAG 009, Annex C, Table 1, first column, last line the continuous type system (shuttering elements MCF, MCFU and MCFU-St) meets the criteria of **REI 120**.

The preconditions for these classifications are:

- The design of the building has to take the secondary effects of fire into account. Especially constraints, introduced by thermal strain, should be sufficiently low and appropriate building joints should be foreseen. The rules, effective at the place of use, shall apply. Structural requirements under normal conditions, applicable at the place of use, may require larger dimensions. Concrete cover for the reinforcement has to be observed according to the rules, applicable at the place of use.
- A normal weight concrete as defined in EN 206-1 shall be used. If EN 206-1 is not in force, an equivalent concrete according to national rules, applicable at the place of use, is acceptable.
- The strength of concrete shall be between C16/20 and C50/60 according to EN 206-1. Due to the lack of availability of the European standard EN 206-1, alternatively a concrete according to national rules, applicable at the place of use, with a compressive strength which fits in the interval given above, is also considered as appropriate.
- The walls on both sides shall either be plastered/rendered or at least the joints on both sides shall be sealed with plastering/rendering mortar. The mortar for plastering/rendering or sealing shall be based on inorganic aggregates, gypsum, cement or lime or on suitable combinations of these three binders.
- The walls are exposed to fire on only one side.

3.3 Hygiene, health and environment (BWR 3)

3.3.1 Content and/or release of dangerous substances

Essential characteristic	Performance
Contents of dangerous substances	The product does not contain CMR-substances actively used (in accordance with Regulation (EC) No 1272/2008) and no HBCDD.
Release scenario regarding BWR 3: IA2	

3.3.2 Water vapour permeability

The tabulated design value of water vapour diffusion resistance coefficient of expanded polystyrene (EPS), according to EN ISO 10456, is $\mu = 60$.

The values for the water vapour diffusion resistance of concrete in dependence of density and type are tabulated in EN ISO 10456.

3.4 Safety and assesibility in use (BWR 4)

3.4.1 Bond strength between the shuttering leaves and the concrete core

The expanded polystyrene is bonded to the concrete by mechanical interlocking of the T-guides running vertically in the inner surfaces of the shuttering leaves over the whole element height with a horizontal distance of 5 cm. Since the width of the T-guides is 20 mm the effective area for transmission of tensile forces is 0.02 x 1 m²/unit x 20 unit/m² = 0.4 m²/m². This is more than 20 % of the whole area of the shuttering leaves and leads to the effective bond strength of 0.04 N/mm², this is sufficient to meet the requirements in ETAG 004, section 6.1.4.1.3.

The requirements according to ETAG 009, section 6.4.1.3 are met satisfactory.

3.4.2 Resistance to pressure of fresh concrete

To resist the filling pressure the bending tensile strength of the shuttering leaves shall be more than 200 kPa (see also designation code of EPS in Annex A1, section 3.5) and the strength to pull out of the ties more than 700 N.

The requirements according to ETAG 009, section 6.4.2 are met satisfactory.

3.4.3 Safety against personal injury by contact

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 of cutting to people.

The requirements according to ETAG 009, section 6.4.3 are met satisfactory.

3.5 Protection against noise (BWR 5)

3.5.1 Airborne sound insulation

The "No performance assessed" option in ETAG 009, Table 3 is used.

3.5.2 Sound absorption

The "No performance assessed" option in ETAG 009, Table 3 is used.

3.6 Energy economy and heat retention (BWR 6)

3.6.1 Thermal resistance

In the following Tables 1 to 3 are listed the thermal resistances for all wall sections which are included in the system "IZODOM 2000 POLSKA" (see Annex A1, Table 1 and 2). These values have been determined by numerical calculations (finite differences) taking the influence of the polystyrene, plastic and plastic combined with steel ties into account. In these calculations the following thermal conductivities according to EN 13163 of the expanded polystyrene were used:

- for Styropor 0.035 W/(m K) and
- for Neopor 0.032 W/(m K)

For the concrete the value of 2.1 W/(m K) was used, which is higher than given in EN ISO10456.

Table 1: Thermal resistance values (calculated without plaster) and equivalent thermal conductivities in dependence of the type of shuttering element, type of expanded polystyrene and the thickness of the outer layer of expanded polystyrene (in every case is the thickness of inner layer of expanded polystyrene 50 mm and the thickness of concrete core 150 mm)

Type of shuttering element	Material	Thickness of the concrete core 150 mm					
		Exterior thermal insulation thickness 50 mm		Exterior thermal insulation thickness 150 mm		Exterior thermal insulation thickness 250 mm	
		R [m²K/W]	λ_{eq} [W/m²K]	R [m²K/W]	λ_{eq} [W/m²K]	R [m²K/W]	λ_{eq} [W/m²K]
MC	Styropor	2.77	0.0901	5.84	0.0600	8.56	0.0526
	Neopor	3.02	0.0827	6.37	0.0549	9.34	0.0482
MCFU	Styropor	2.70	0.0926	--	--	--	--
	Neopor	2.94	0.0851	--	--	--	--
MCF	Styropor	2.68	0.0933	5.45	0.0642	--	--
	Neopor	2.91	0.0859	5.92	0.0592	--	--
MCFU-St	Styropor	2.68	0.0933	5.44	0.0643	--	--
	Neopor	2.91	0.0859	5.91	0.0592	--	--

Table 2: Thermal resistance values (calculated without plaster) and equivalent thermal conductivities in dependence of the type of shuttering element, type of expanded polystyrene and the thickness of the outer layer of expanded polystyrene (in every case is the thickness of inner layer of expanded polystyrene 50 mm and the thickness of concrete core 200 mm)

Type of shuttering element	Material	Thickness of the concrete core 200 mm					
		Exterior thermal insulation thickness 50 mm		Exterior thermal insulation thickness 150 mm		Exterior thermal insulation thickness 250 mm	
		R [m²K/W]	λ_{eq} [W/m²K]	R [m²K/W]	λ_{eq} [W/m²K]	R [m²K/W]	λ_{eq} [W/m²K]
MCFU	Styropor	2.75	0.109	--	--	7.93	0.0630
	Neopor	2.99	0.100	--	--	8.62	0.0580

Table 3: Thermal resistance values (calculated without plaster) and equivalent thermal conductivities in dependence of the type of shuttering element, type of expanded polystyrene and the thickness of the outer layer of expanded polystyrene (in every case is the thickness of inner layer of expanded polystyrene 50 mm and the thickness of concrete core 400 mm)

Type of shuttering element	Material	Thickness of the concrete core 400 mm					
		Exterior thermal insulation thickness 50 mm		Exterior thermal insulation thickness 150 mm		Exterior thermal insulation thickness 250 mm	
		R [m²K/W]	λ_{eq} [W/m²K]	R [m²K/W]	λ_{eq} [W/m²K]	R [m²K/W]	λ_{eq} [W/m²K]
MCF	Styropor	2.85	0.175	--	--	--	--
	Neopor	3.08	0.162	--	--	--	--
MCFU-St	Styropor	2.85	0.176	--	--	--	--
	Neopor	3.08	0.162	--	--	--	--

3.6.2 Heat capacity

The values for heat capacity of concrete and expanded polystyrene are tabulated in EN ISO 10456.

3.7 General aspects

3.7.1 Resistance to deterioration

Physical agent

As given in the designation code of the EPS material used (see Annex A1, section 4.1) the dimensions of the shuttering leaves do not differ more than 3 % after exposing them for 48 h at 70 °C (DS(70,-)3.

The requirements according to ETAG 009, section 6.7.1.1 are met satisfactory.

Chemical agent

Corrosion may only occur with the ties MCFU-St, which have parts of steel which in end use conditions are embedded in the concrete. After hardening of the concrete the bond between concrete and shuttering leaves is given by the T-guides running vertically on the inner surfaces of shuttering leaves (see section 3.4.1).

Therefore the requirement "corrosion protection" according to ETAG 009, section 6.7.1.2 is met satisfactory.

Biological agent

The application of EPS as thermal insulating material for decades has shown that it sufficiently protects against fungi, bacteria, algae and insects.

EPS does not provide a food value and in general it does not contain voids suitable for habitation by vermin.

The requirements according to ETAG 009, section 6.7.1.3 are met satisfactory.

3.7.2 Resistance to normal use damage

Incorporation of ducts

The instructions in the installation guide of the ETA holder are appropriate to produce horizontal perforations through the walls, which are necessary for the passing through ducts.

Fixings for hanging objects

The anchorage of fixings for hanging objects in the shuttering leaves is not possible. Such fixings only shall be anchored in the concrete core.

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

In accordance with guideline for European technical approval ETAG 009, June 2002, used as European Assessment Document (EAD) according to Article 66 Paragraph 3 of Regulation (EU) No 305/2011, the applicable European legal act is: [98/279/EC] as amended by European legal act [2001/596/EC].

The system to be applied is: 2+

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

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

Issued in Berlin on 17 July 2017 by Deutsches Institut für Bautechnik

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Deutsches Institut für Bautechnik DIBt

Characteristics of shuttering kit

The "IZODOM 2000 POLSKA" system comprises five types of walls:

- "STANDARD",
- "PRINCE BLOCK"
- "KING BLOCK",
- "SUPER KING BLOCK",
- "SUPER KING BLOCK PLUS" and
- "UNIVERSAL",
- "UNIVERSAL PLUS".

These wall types are differentiated by:

- thickness of foam material in one of the shuttering walls,
- design of the elements and
- thickness of the concrete wall core.

All elements are available in two types of foam material:

- Styropor F415E (white expanded polystyrene) and
- Neopor F2400 (graphite-enriched expanded polystyrene)

In every type of wall standard shuttering elements, special shuttering elements and accessory parts are included. Special shuttering elements are height adjuster elements, angel joint elements (45°) for inner and outer corners, hinge elements to realise walls with arbitrary angles, header elements (for lintels), floor support elements and door head elements. Accessory parts are auxiliary elements, height adjuster elements, trimming strips, plugs and closing elements as well as the ties.

1 Standard shuttering elements

The system contains the following types of shuttering elements:

MC	shuttering elements completely made of EPS (Styropor or Neopor)
MCF	shuttering elements with shuttering leaves of EPS (Styropor or Neopor) and embedded plastic ties (see Annex A 112- A114, A117, A119) to connect both shuttering leaves
MCFU	shuttering elements with shuttering leaves of EPS (Styropor or Neopor) and dismountable plastic ties (see Annexes A110, A111, A118) to connect both shuttering leaves
MCFU-St	shuttering elements with shuttering leaves of EPS (Styropor or Neopor) and dismountable ties of plastic parts and steel wires (see Annexes A115 and A116) to connect both shuttering leaves

Shuttering elements MC form walls of the grid type and shuttering elements MCF, MCFU and MCFU-St form walls of the continuous type according to ETAG 009, section 2.2. The main difference between the shuttering elements MCF and MCFU is that shuttering elements MCF are delivered to the site in form of completed shuttering elements meanwhile elements MCFU and MCFU-St are delivered on site in single parts (shuttering leaves and ties) and are completed to shuttering elements before sticking together the formwork. In Table 1 the main dimensions of the different shuttering element types in dependence on the wall types are given. The two numbers after the above explained shuttering element type nomination (MC, MCF, MCFU or MCFU-St) prescribes the length of the element in [m] and the thickness of the element in [cm].

Table 1: Main dimensions of the standard shuttering elements for different wall types

Wall type	Thickness [mm] of			Type of shuttering element	Annex
	inner shuttering leaf	concrete core	outer shuttering leaf		
STANDARD	50	150	50	MC 1/25 MC 2/25 MCF 1/25	A2 A3 A4
	40	70	40	MCF 1/15	A6
PRINCE BLOCK	50	150	100	MC 2/30	A18
KING BLOCK	50	150	150	MC 1/35 MC 2/35	A27 A28
SUPER KING BLOCK	50	150	250	MC 1/45 MC 2/45	A41 A42
SUPER KING BLOCK PLUS	50	200	50	MCF 1/30	A51
	50	200	250	MCF 1/50	A52
UNIVERSAL	50	150	50	MCFU 1/25 MCFU 2/25 MCFU-St 1/25 MCFU-St 2/25	A53 A54 A63 A64
	50	150	100	MCFU 1/30 MCFU 2/30 MCFU-St 1/30 MCFU-St 2/30	A55 A56 A65 A66
	50	150	150	MCFU 1/35 MCFU 2/35 MCFU-St 1/35 MCFU-St 2/35	A57 A58 A67 A68
	50	150	250	MCFU 1/45 MCFU 2/45 MCFU-St 1/45 MCFU-St 2/45	A59 A60 A69 A70
	50	400	50	MCFU 1/50 MCFU 2/50 MCFU-St 1/50 MCFU-St 2/50	A59 A60 A69 A70
UNIVERSAL PLUS	50	200	50	MCFU 2/30+	A73
	50	200	100	MCFU 2/35+	A74
	50	200	150	MCFU 2/40+	A75
	50	200	250	MCFU 2/45+	A76

2 Special shuttering elements

For all wall types special shuttering elements are available. Additional to the shuttering type nomination (MC, MCF, MCFU and MCFU-St) for special shuttering elements the following nominations are used:

ML Header elements (for lintels)
MLI / MLA Door head elements
MP Floor support elements
MH Height adjuster elements
MHF Height adjuster elements for hinge elements

For the description of the angel joint elements the following additional nominations are used:

L left
R right
I inner corner
A outer corner

Table 2: Main dimensions of the special shuttering elements for different wall types

Wall type	Thickness [mm] of			Type of special shuttering element	Annex
	inner shuttering leaf	concrete core	outer shuttering leaf		
STANDARD	50	150	50	MCF 0.7/25 ML 1/25 MP 1/25 MH 1/25 MHF 0.7/25 MLA 1.2/25 MC25 E45 LA/RI MC25 E45 RA/LI MCB 1/25 MH 1/15	A5 A7 A8 A9 A10 A11 A12 A13 A14 A15
PRINCE BLOCK	50	150	100	ML 1/30 MH 1/30 MP 1/30 MLA 1,2/30 MCFU30 E90 LA MCFU30 E90 RA MCFU30 E90 RI MCFU30 E90 LI	A19 A20 A21 A22 A23 A24 A25 A26
KING BLOCK	50	150	150	ML 1/35 MP 1/35 MLA 1,2/35 MCFU35 E45 RA MCFU35 E45 LA MCF 35EI/L MCFU35 E45 RI MCFU35 E90 LA MCFU35 E90 RA MCFU35 E90 LI MCFU35 E90 RI	A29 A30 A31 A32 A33 A34 A35 A37 A38 A39 A40
SUPER KING BLOCK	50	150	250	ML 1/45 MP 1/45 MH 1/45 MLA 1,2/45 MCFU45 E90 LA MCFU45 E90 RA MCFU45 E90 RI MCFU45 E90 LI	A43 A44 A45 A46 A47 A48 A49 A50

3 Accessory parts

3.1 Auxiliary elements MD 1/10 (Annex A104)

3.2 Height adjuster elements MHD 1/10 (Annex A105)

3.3 Trimming strips (Annex A106)

3.4 Plugs (Annexes A95 and A96)

3.5 Closing elements (Annexes A97 to A103)

OC (Annex A97)	to close the narrow sides of the shuttering elements of the systems with 150 mm concrete core thickness ("STANDARD", "KING BLOCK", "SUPER KING BLOCK" and "UNIVERSAL" (MCFU x/25, MCFU x/35, MCFU-St x/25 and MCFU-St x/35))
OC BIS (Annex A98)	the same as OC but resisting the concrete pressure without additional support,
OC 0.2/1 (Annex A99)	to close the narrow sides of the shuttering elements of the "SUPER KING BLOCK PLUS" system
OC 0.2/2 (Annex A100)	the same as OC 0.2/1 but resisting the concrete pressure without additional support
OC 0.25/1 (Annex A101)	to close the narrow sides of the shuttering elements of the "SUPER KING BLOCK PLUS" system
OC 0.25/2 (Annex A102)	the same as OC 0.25/1 but resisting the concrete pressure without additional support
OC 0.4/2 (Annex A103)	to close the narrow sides of the shuttering elements of the "UNIVERSAL" system with 40 cm thickness of concrete core (MCFU x/50 and MCFU-St x/50).

3.6 Ties

In Table 3 an overview is given which ties are used for which shuttering elements:

Table 3: Correlation between ties and shuttering elements

Tie in Annex	STANDARD	PRINCE BLOCK	KING BLOCK	SUPER KING BLOCK	BLOCK PLUS	UNIVER-SAL	UNIVERSAL PLUS
A110 MCFU	25 E90 LA/RI 25 E90 RA/LI	30 E90 LA 30 E90 LA 30 E90 LI 30 E90 RI	35 E45 LA 35 E45 RA 35 E45 LI 35 E45 RI 35 E90 LA 35 E90 RA 35 E90 LI 35 E90 RI	45 E90 LA 45 E90 LA 45 E90 LI 45 E90 RI		1/25 2/25 1/30 2/30 1/35 2/35 1/45 2/45	
A111 MCFU						1/50 2/50	
A112 MCF	1/15						
A113 MCF	1/25 2/25 25 E45 LA/RI 25 E45 RA/LI						
A114 MCF					1/30+ 1/50+		

Tie in Annex	STANDARD	PRINCE BLOCK	KING BLOCK	SUPER KING BLOCK	BLOCK PLUS	UNIVER-SAL	UNIVERSAL PLUS
A115 MCFU-St						1/25 2/25 1/30 2/30 1/35 2/35 1/45 2/45	
A116 MCFU-St						1/50 2/50	
A 117 MCF							2/30+ 2/35+ 2/40+ 2/50+
A 118 MCFU							30+ E90 RA/LI 30+ E45 LA/RI 35+ E90 LA 35+ E90 RA 35+ E90 RI 35+ E90 LI 40+ E90 LA 40+ E90 RA 40+ E90 RI 40+ E90 LI 50+ E90 LA 50+ E90 RA 50+ E90 RI 50+ E90 LI
A119 MCF							2/35++ 2/40++ 2/45++ 2/55++

4 Material

4.1 Standard shuttering elements and special shuttering elements

The standard shuttering elements and special shuttering elements correspond to the information and drawings given in the Annexes (see Table 1).

For the shuttering leaves, expanded polystyrene made of polystyrene particle foam EPS-EN 13163-T(2)-L(3)-W(2)-S(2)-P(5)-DS(70,-)3-BS200-DS(N)5-TR100 according to EN 13163 is used.

More information to the material characteristics, dimensions and tolerances of the shuttering elements are given in the technical documentation[1] of the ETA.

[1] The technical documentation of the ETA is deposited at DIBt and, as far as relevant for the tasks of the approved bodies involved in the attestation of conformity procedure, is handed over to the approved bodies.

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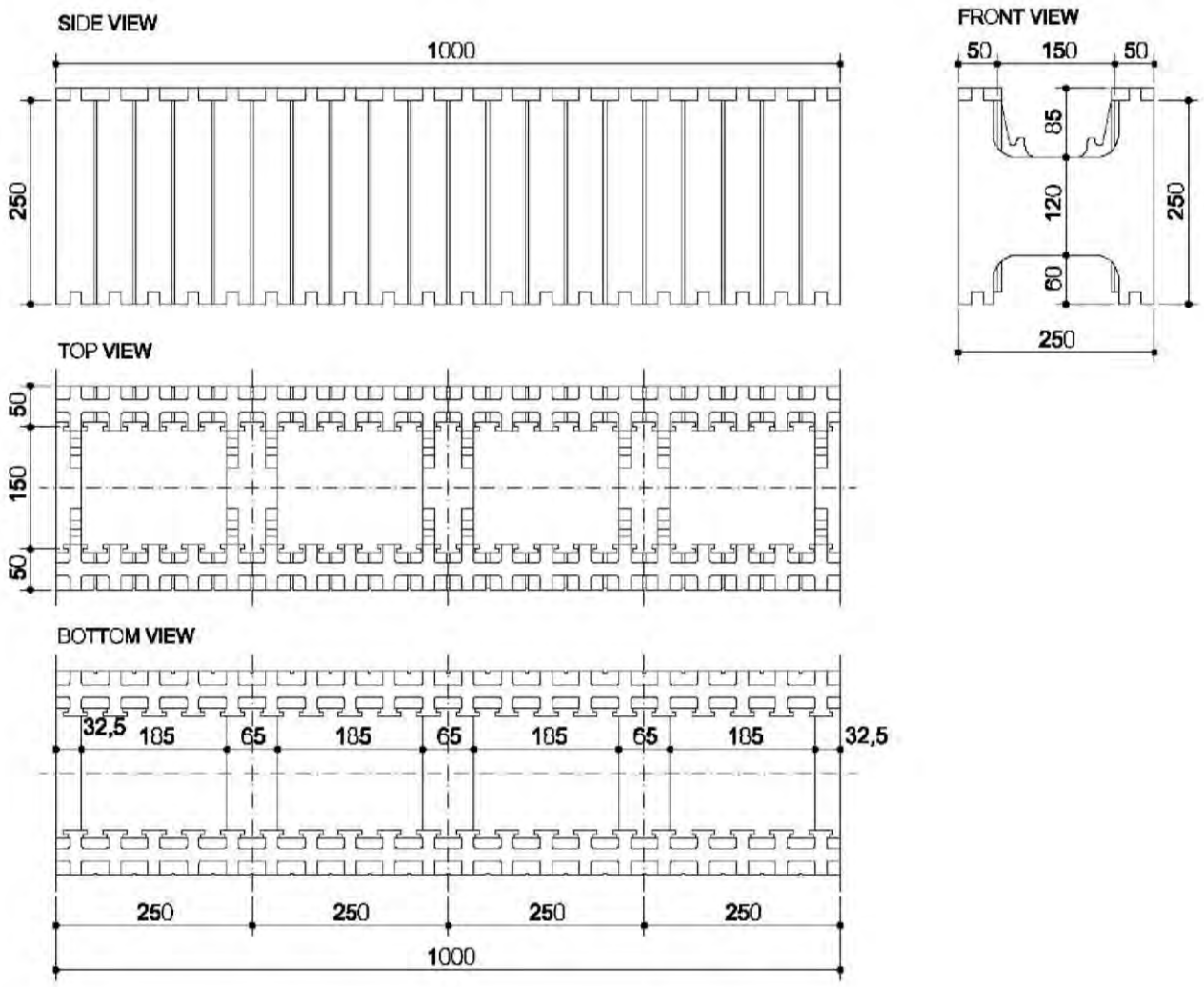
4.2 Accessory parts

Auxiliary elements, height adjuster elements, trimming strips, plugs and closing elements correspond to the drawings given in the Annexes (see sections 3.1 to 3.6). They are made of the same material as the shuttering leaves of the shuttering elements.

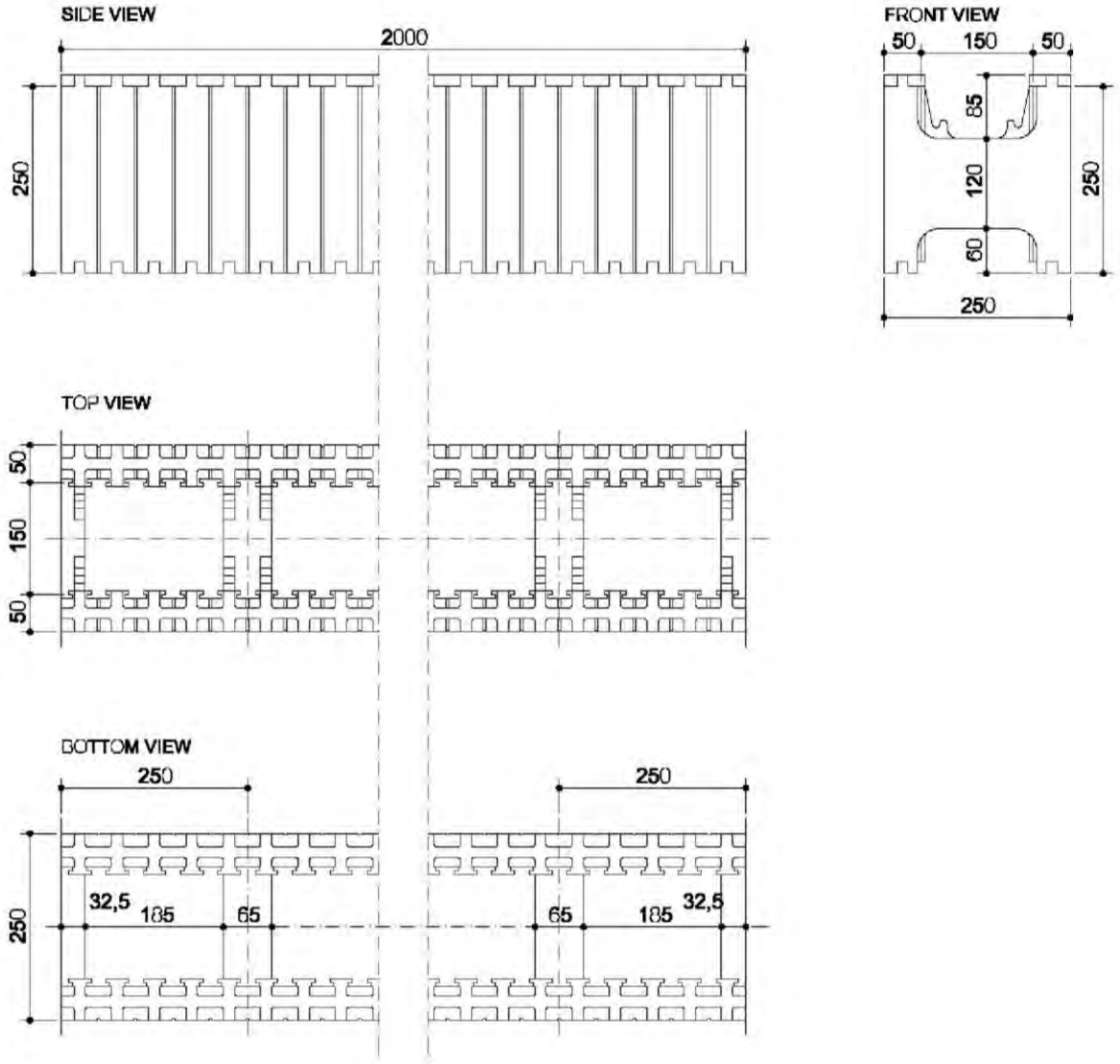
The ties correspond to the drawings given in the Annexes (see Table 3).

More information to the material characteristics, dimensions and tolerances of the accessory parts are given in the technical documentation of the ETA.



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A2
SYSTEM: "STANDARD" Primary BLOCK MC 1/25 100cm x 25cm x 25cm	



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A3
SYSTEM: "STANDARD" Primary BLOCK MC 2/25 200cm x 25cm x 25cm	

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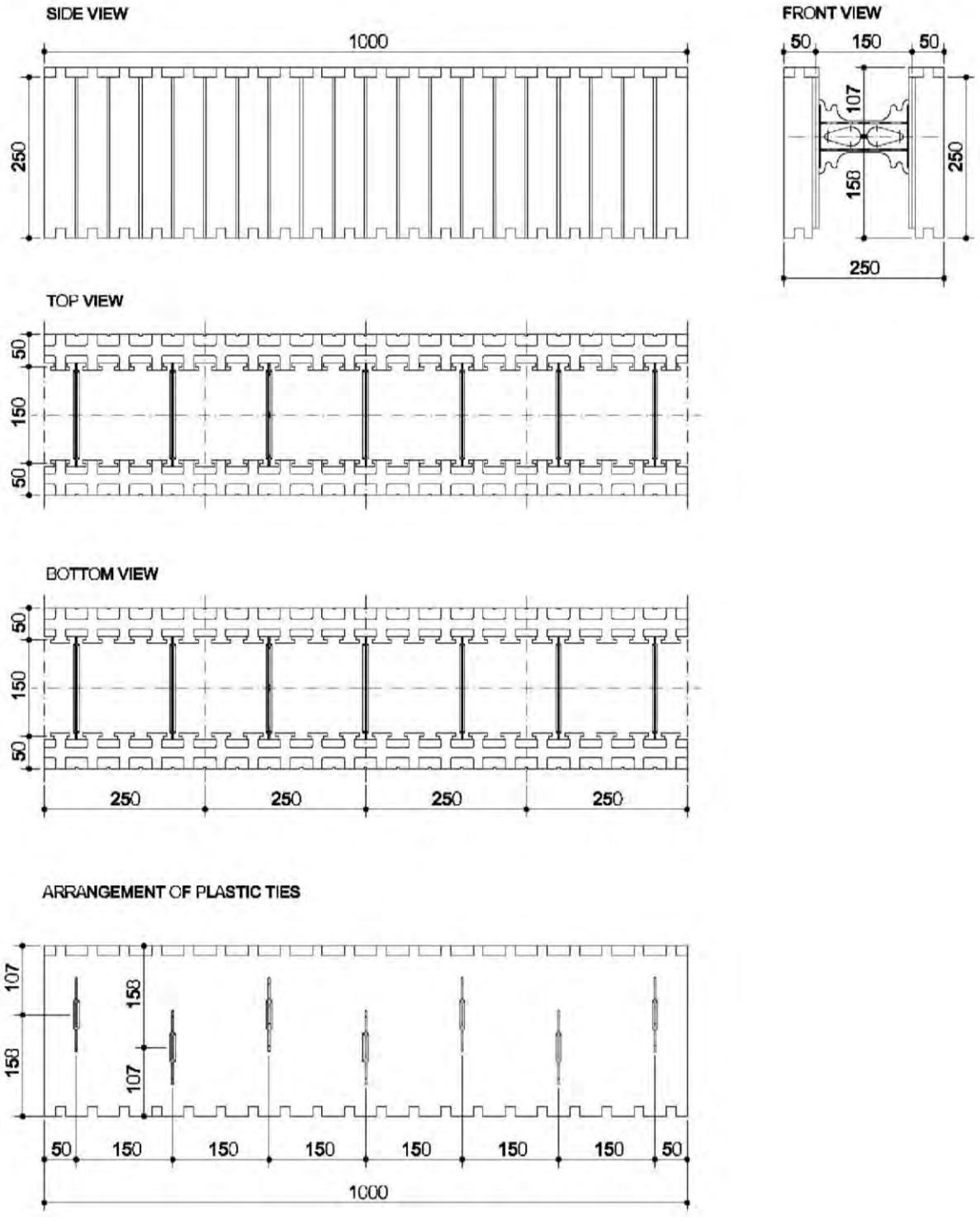

All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A4
SYSTEM: "STANDARD" BLOCK with plastic tie MCF 1 /25 100cm x 25cm x 25cm	

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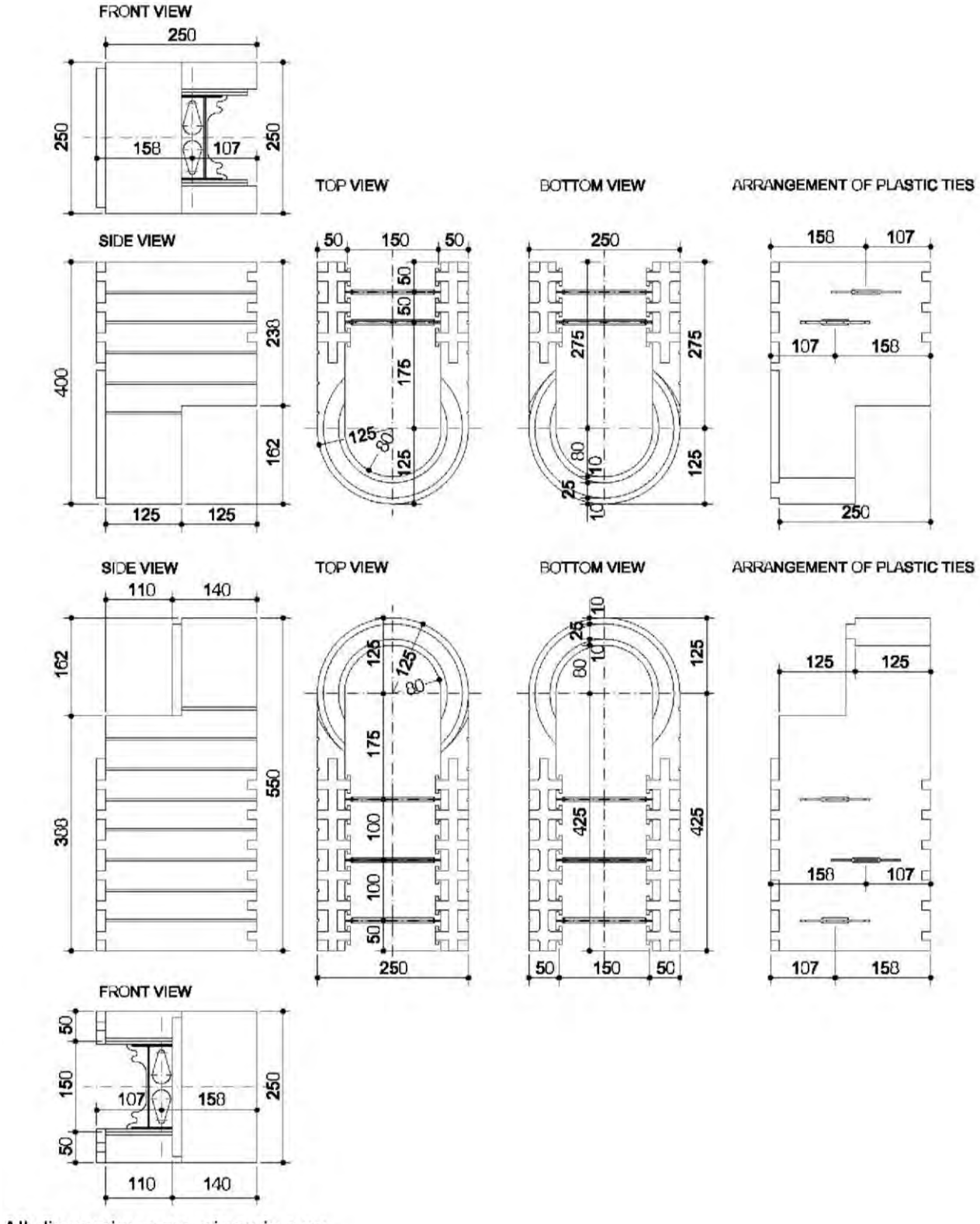

All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A5
SYSTEM: "STANDARD" Hinge element MCF 0,7/25 70cm x 25cm x 25cm	

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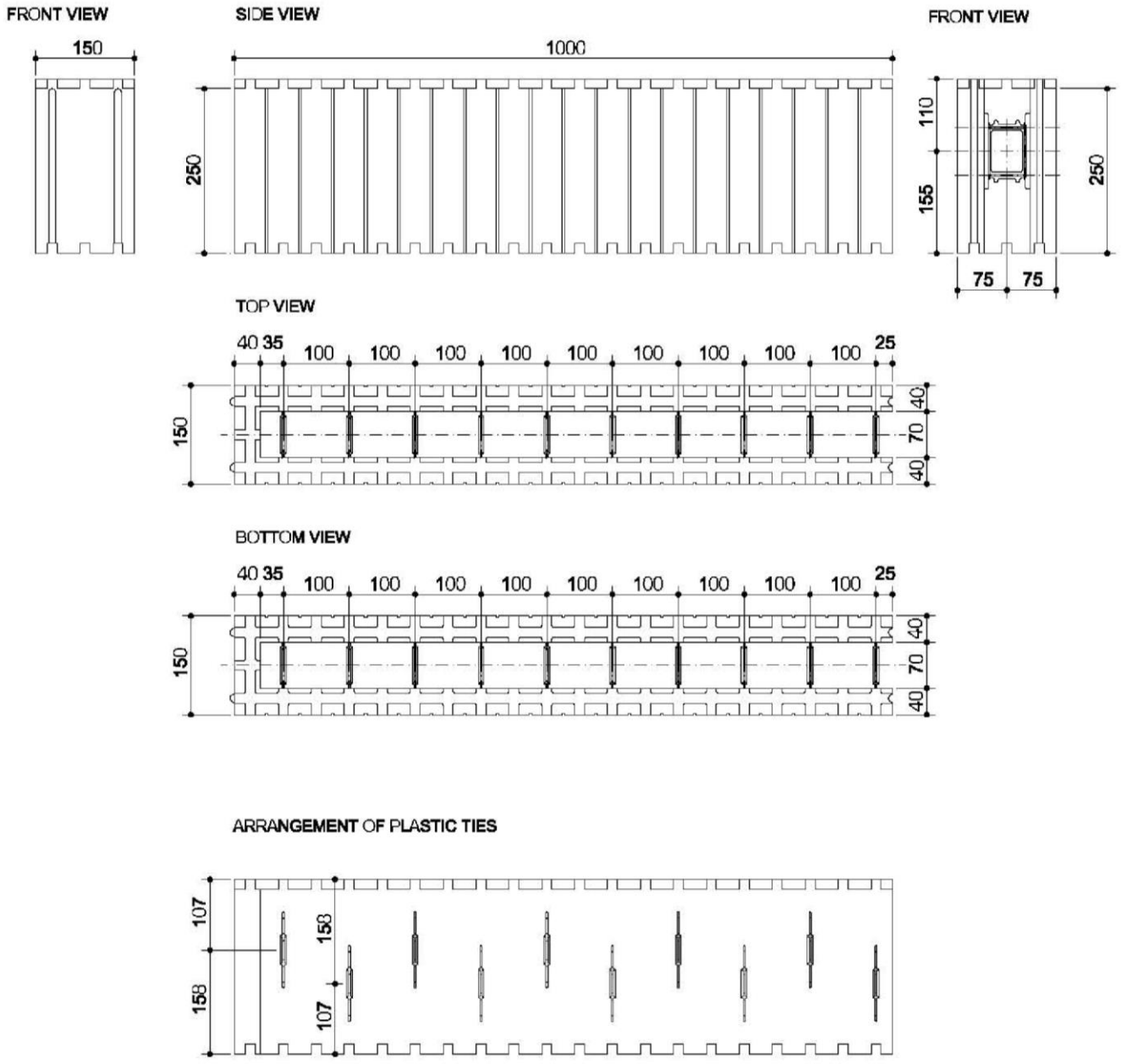

All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A6
SYSTEM: "STANDARD" Partition wall element MCF 1/15 100cm x 15cm x 25cm	

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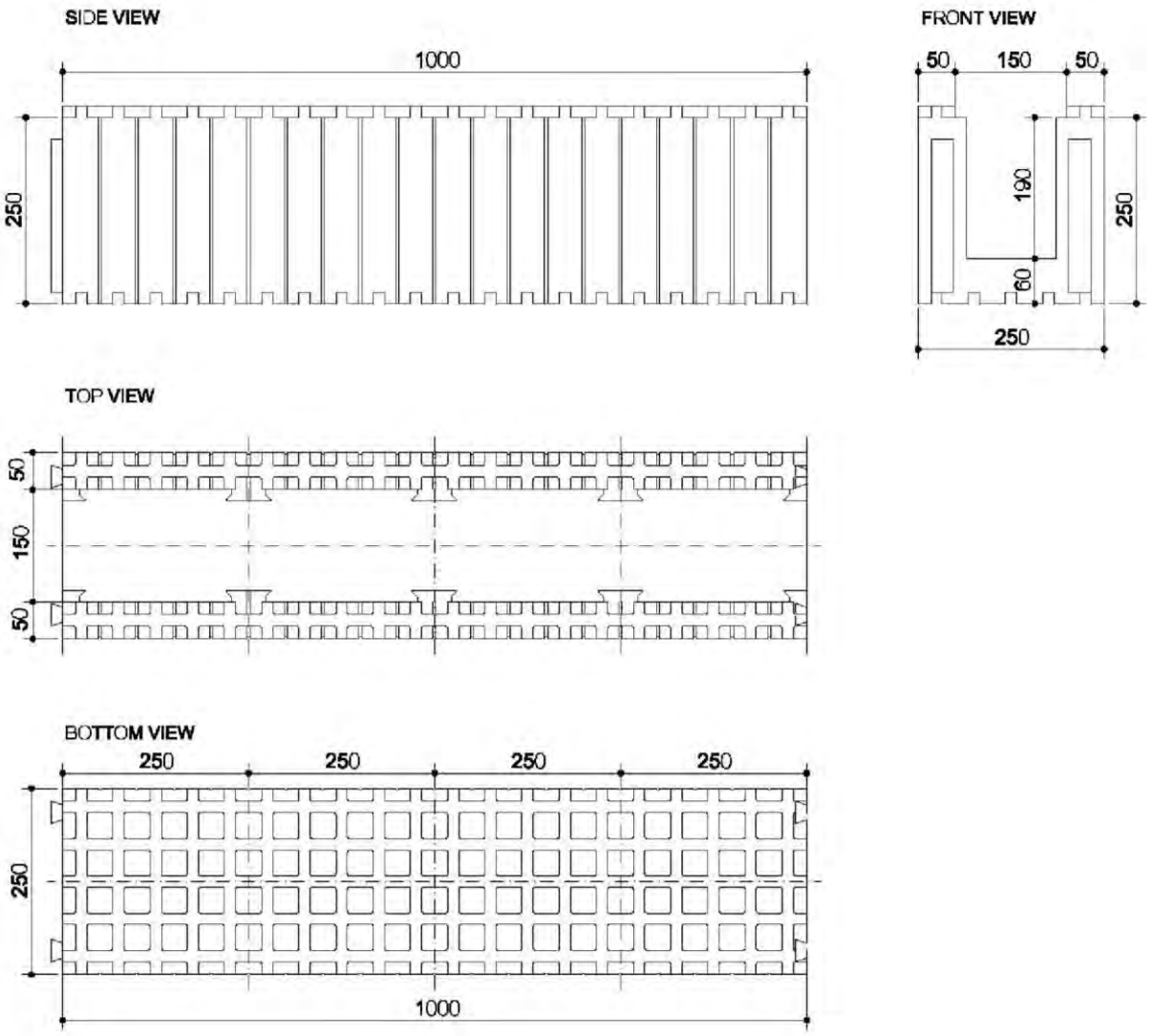

All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A7
SYSTEM: "STANDARD" Header BLOCK ML 1/25 100cm x 25cm x 25cm	

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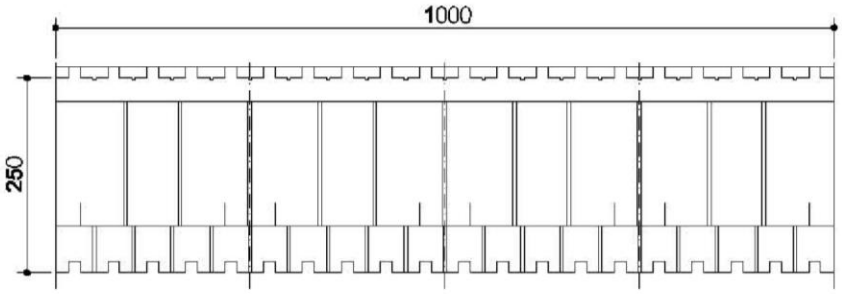
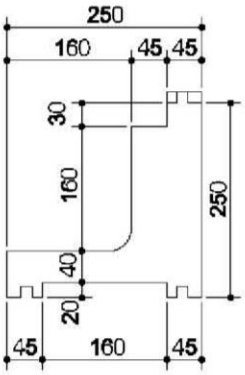
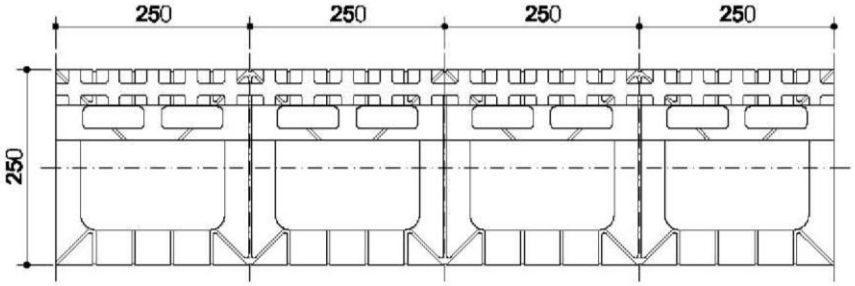
SIDE VIEW



FRONT VIEW



TOP VIEW



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A8
SYSTEM: "STANDARD" Floor support element MP 1/25 100cm x 25cm x 25cm	

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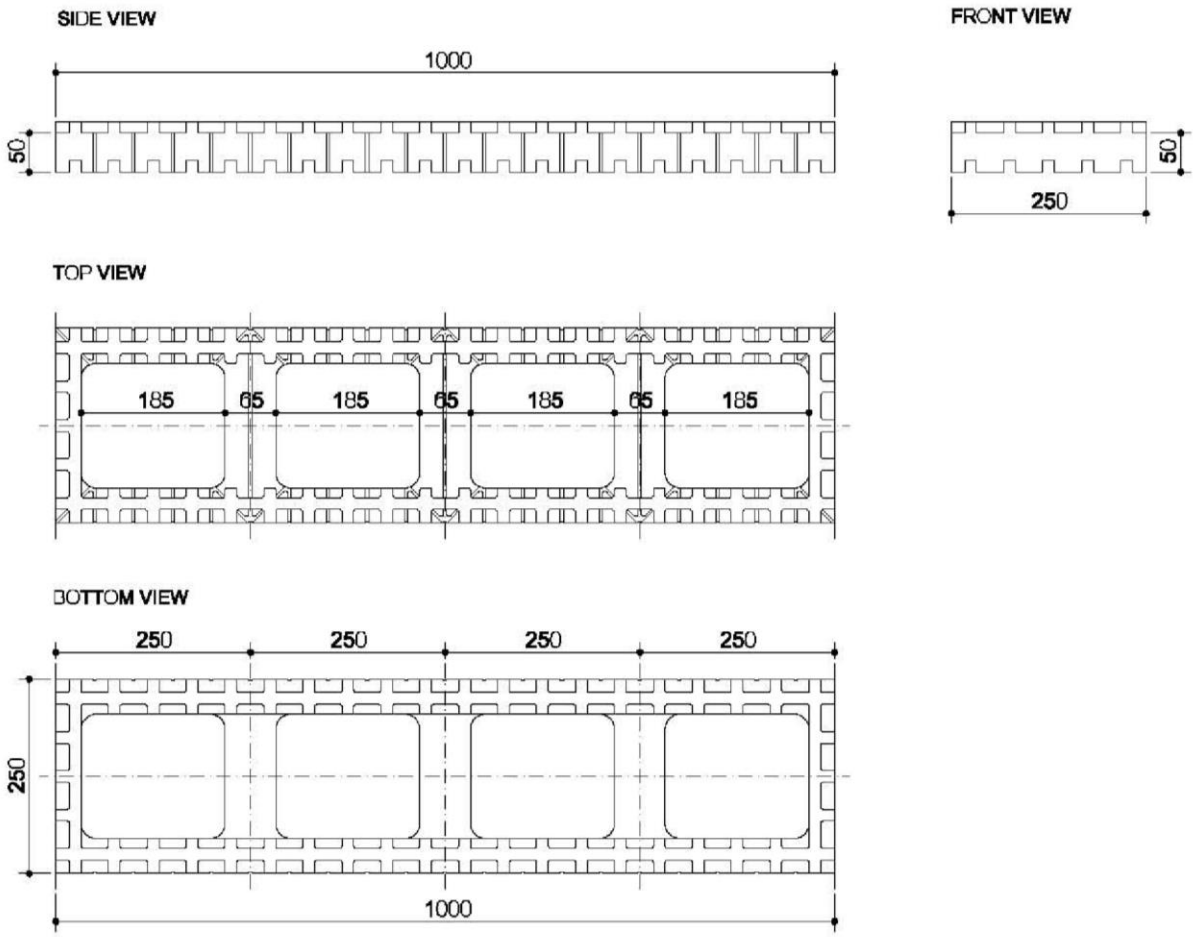

All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A9
SYSTEM: "STANDARD" Height adjuster MH 1/25 100cm x 25cm x 5cm	

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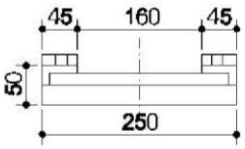
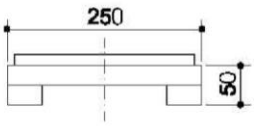
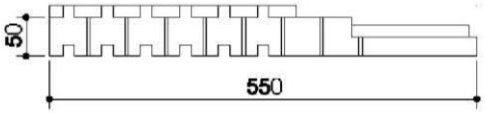
FRONT VIEW



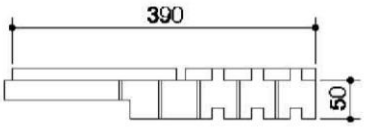
FRONT VIEW



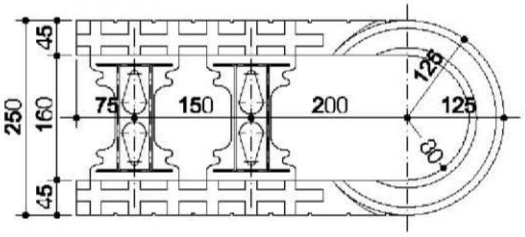
SIDE VIEW



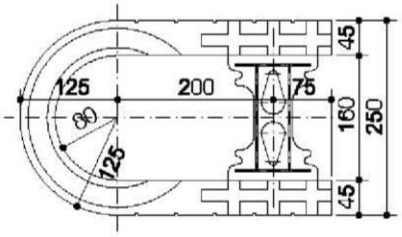
SIDE VIEW



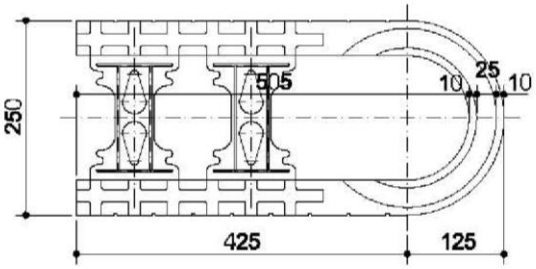
TOP VIEW



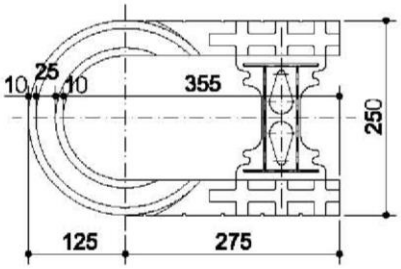
TOP VIEW



BOTTOM VIEW



BOTTOM VIEW



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A10
SYSTEM: "STANDARD" Height adjuster of a hinge BLOCK MHF 0,7/25 70cm x 25cm x 5cm	

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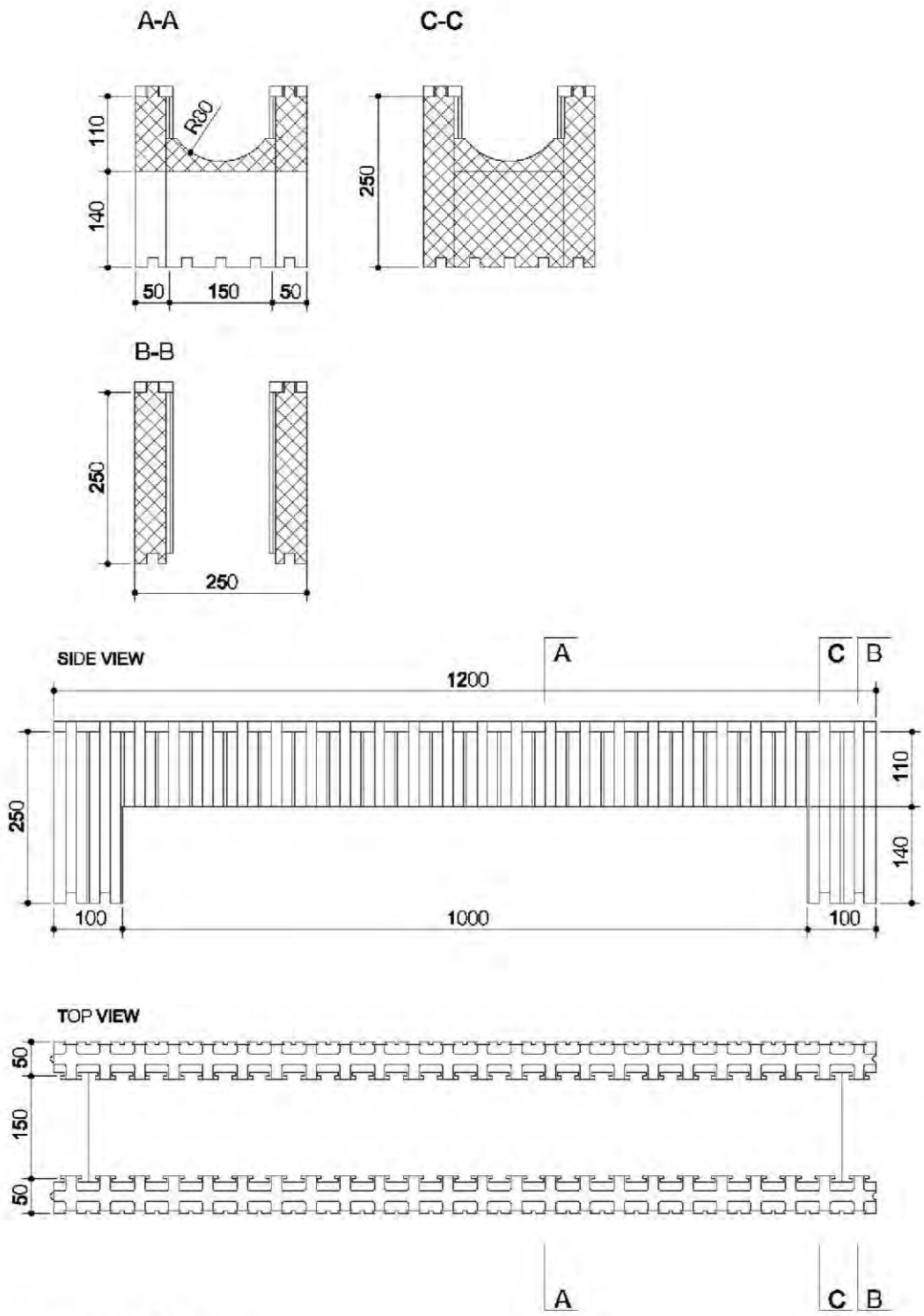

All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A11
SYSTEM: "STANDARD" Doorhead element MLA 1,2/25 120cm x 25cm x 25cm	

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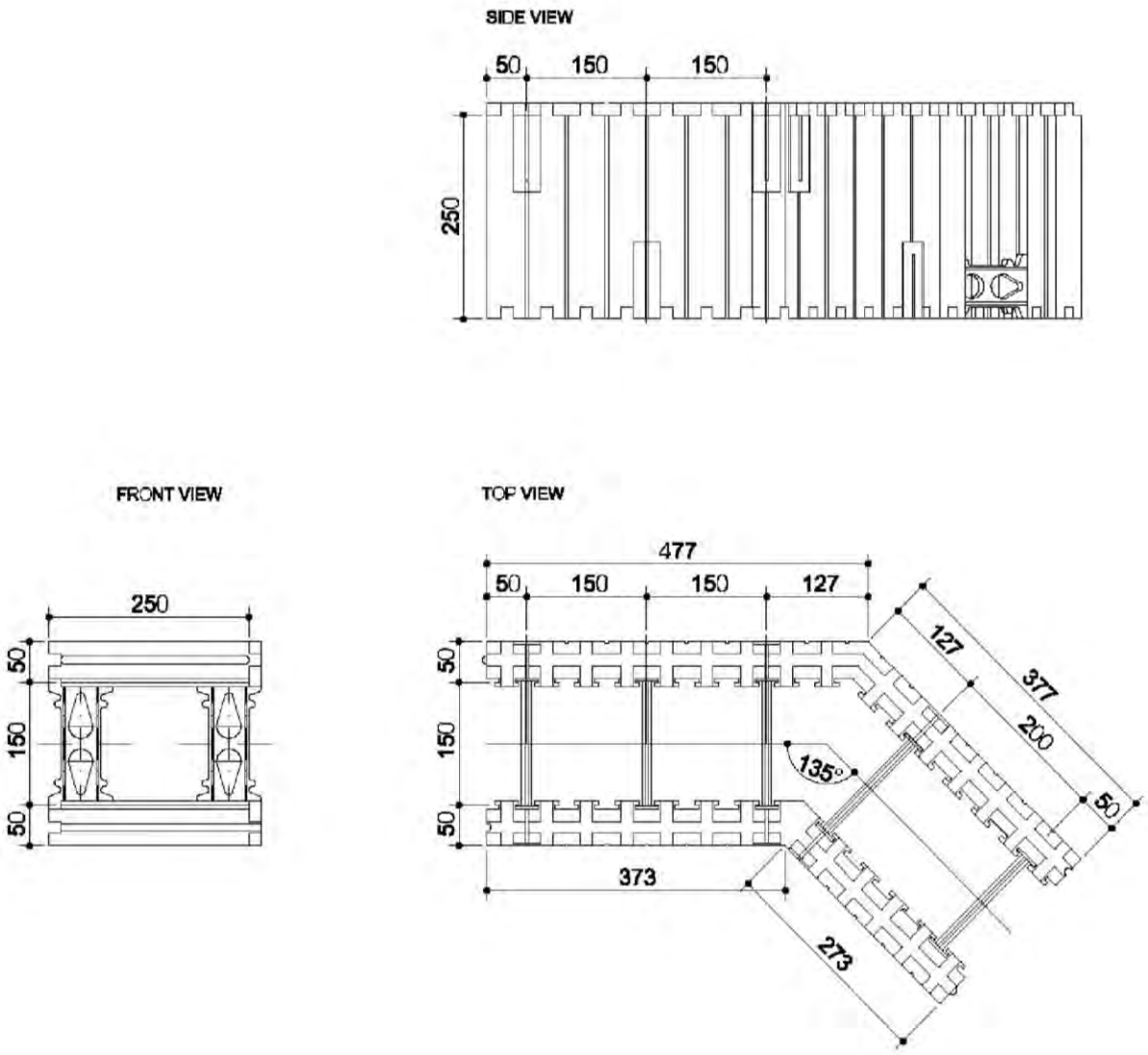
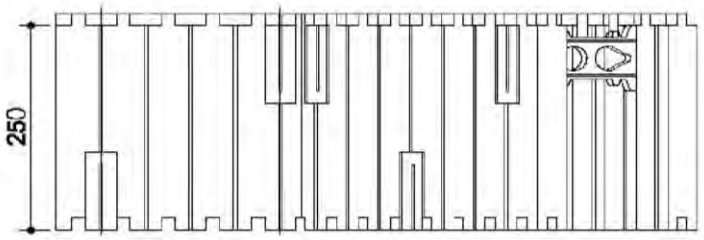


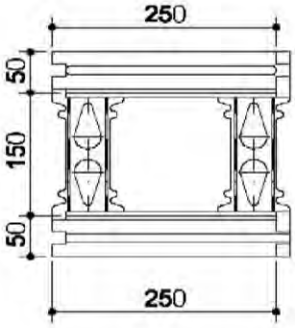
All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A12
SYSTEM: "STANDARD" 45° corner with plastic tie MCF25 E45 LA / RI 85,4(64,6)cm x 25cm x 25cm (external left / internal right)	

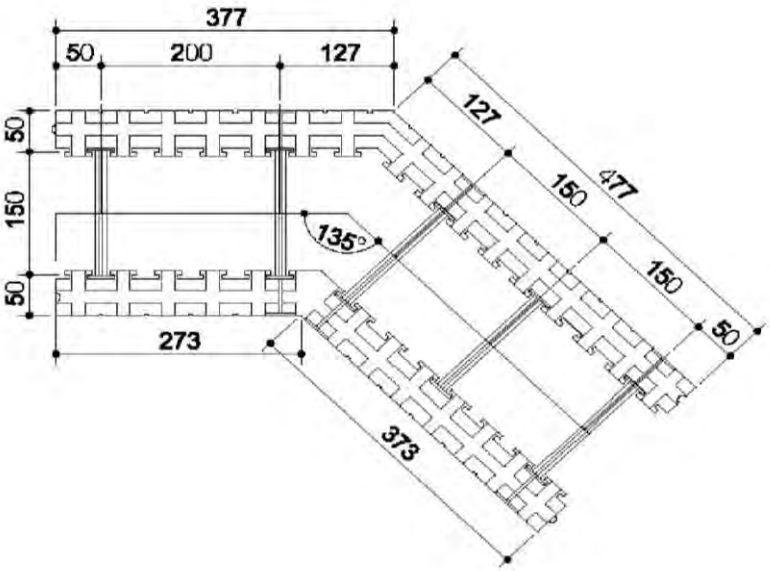
SIDE VIEW



FRONT VIEW



TOP VIEW



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A13
SYSTEM: "STANDARD" 45° corner with plastic tie MCF25 E45 RA/ LI 85,4(64,6)cm x 25cm x 25cm (external right / internal left)	

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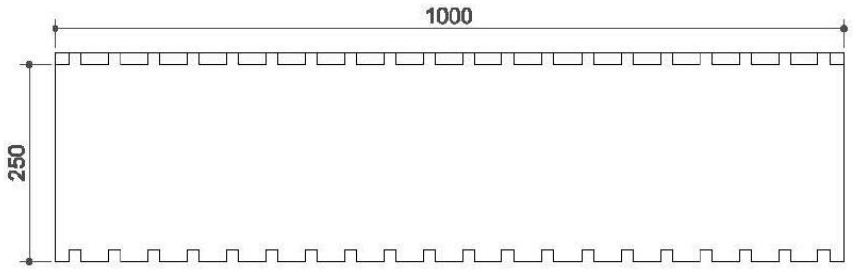
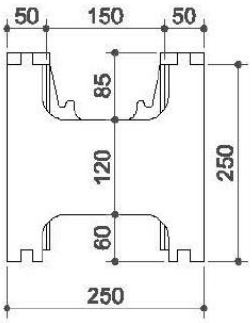
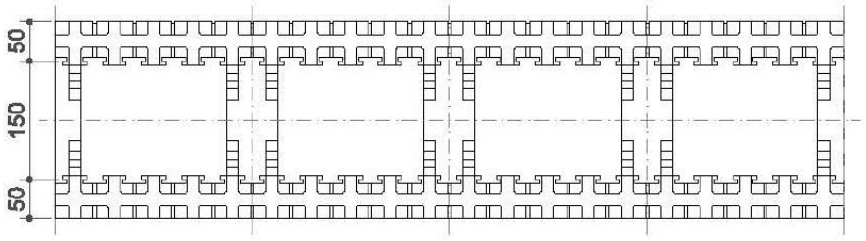
SIDE VIEW



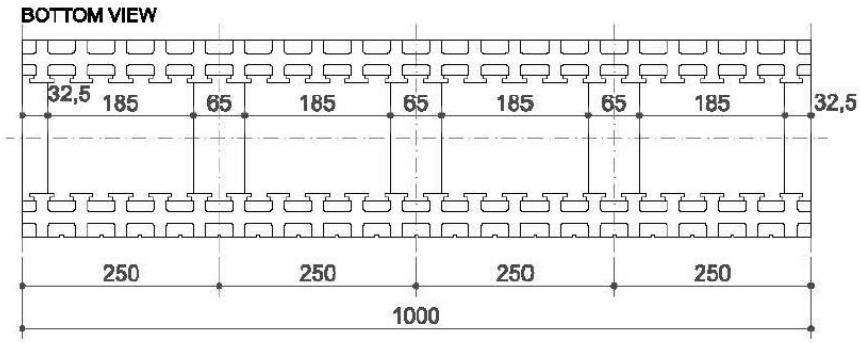
FRONT VIEW



TOP VIEW



BOTTOM VIEW



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A14
SYSTEM STANDARD BLOCK for swimming pools MCB 1/25 100cm x 25cm x 25cm	

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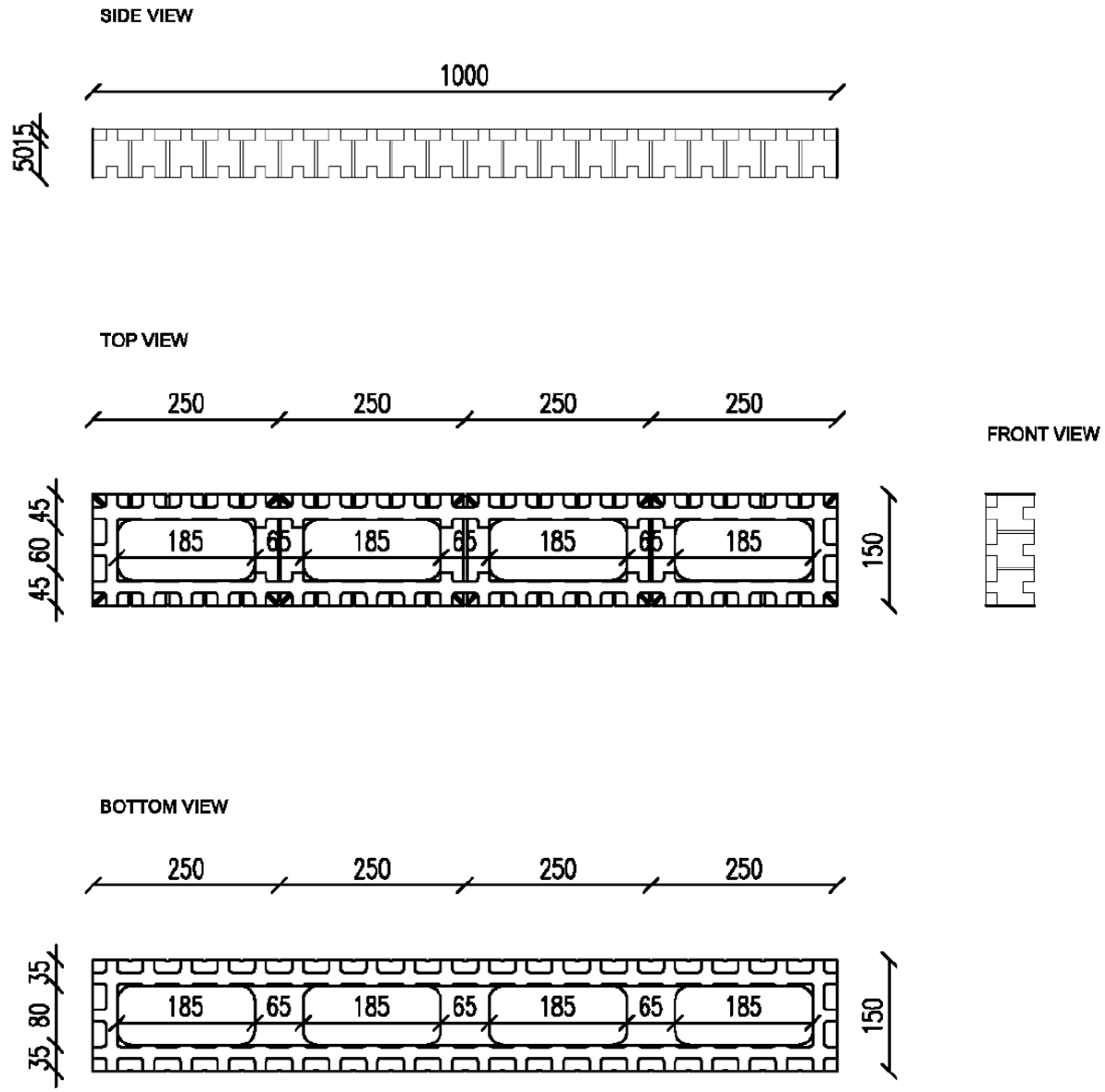

All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A15
SYSTEM: "STANDARD" Height adapter for partition wall MH 1/15 100cm x 5cm x 15cm	

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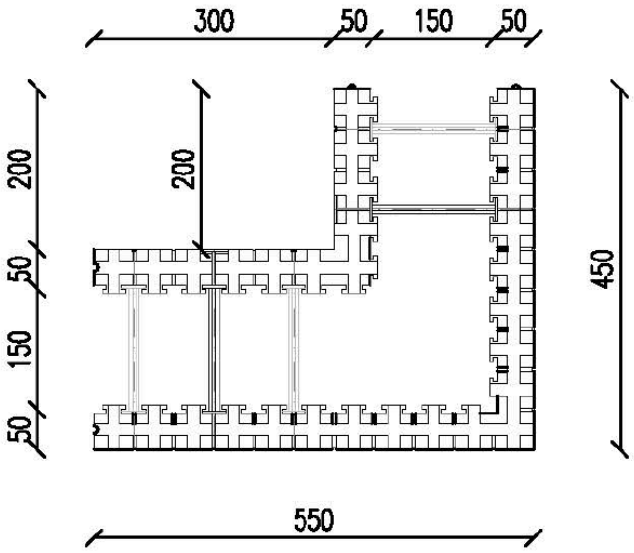
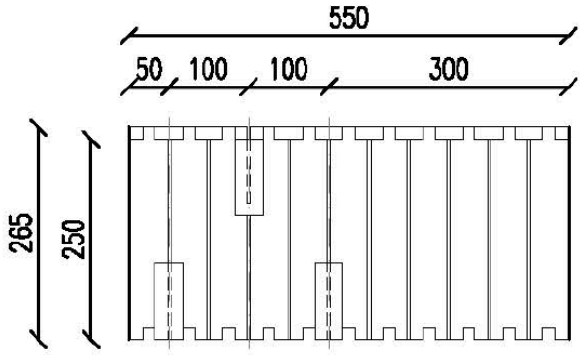
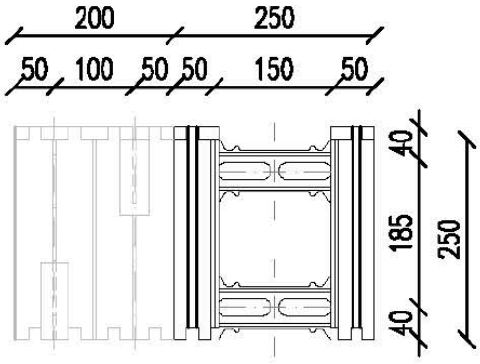
TOP VIEW



SIDE VIEW



FRONT VIEW



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A16
SYSTEM: "STANDARD" 90° corner MCFU25 E90 RA / LI 100(60)cm x 25cm x 25cm (external right / internal left)	

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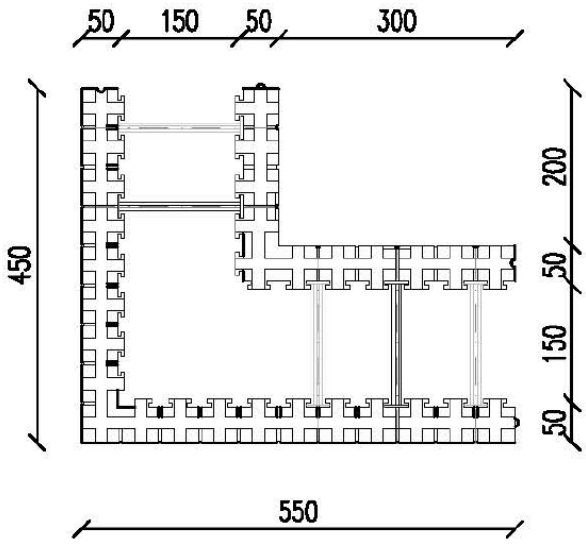
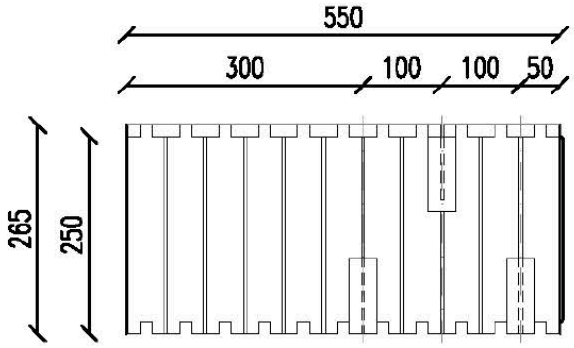
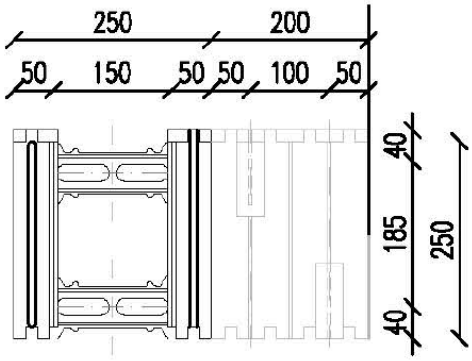
TOP VIEW



SIDE VIEW

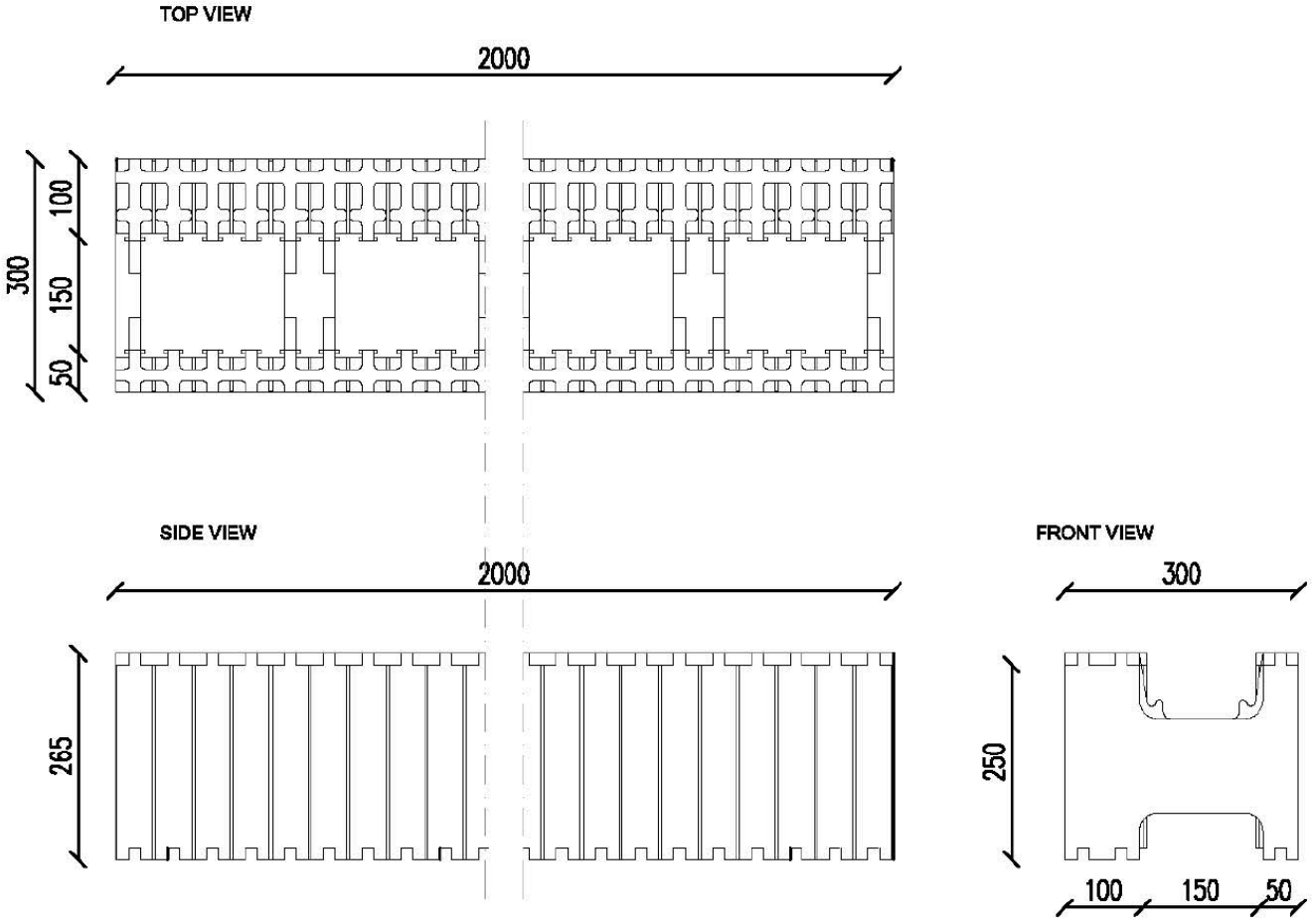


FRONT VIEW



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A17
SYSTEM: "STANDARD" 90° corner MCFU25 E90 LA / RI 100(60)cm x 25cm x 25cm (external left / internal right)	



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A18
SYSTEM: "PRINCE BLOCK" Basic element MC 2/30 200cm x 30cm x 25cm	

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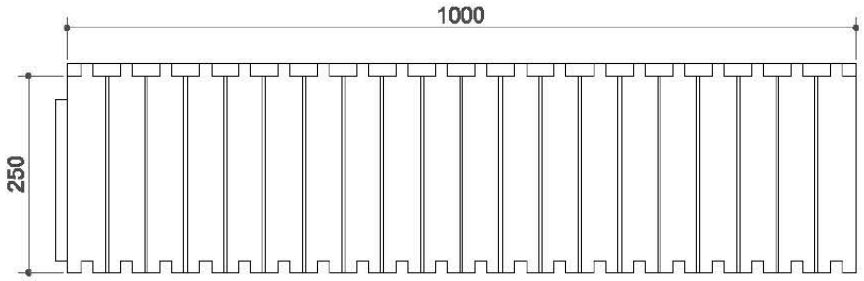
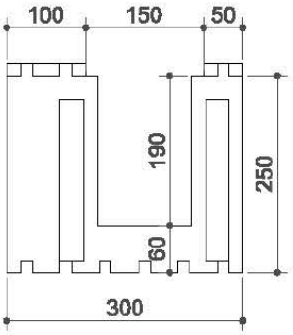
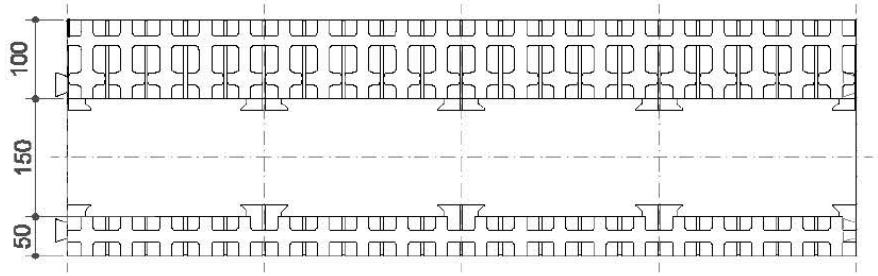
SIDE VIEW



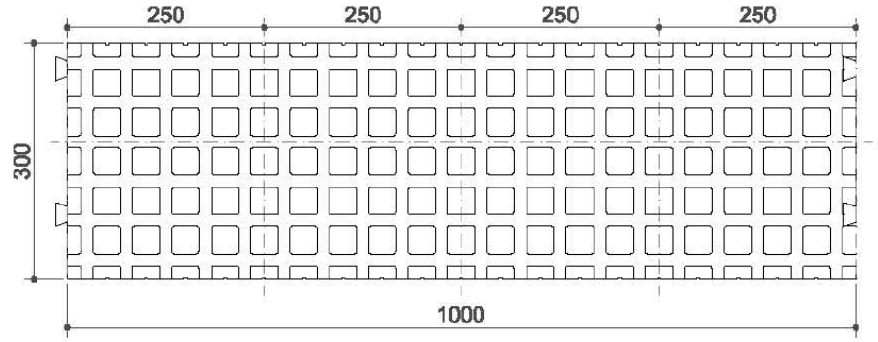
FRONT VIEW



TOP VIEW

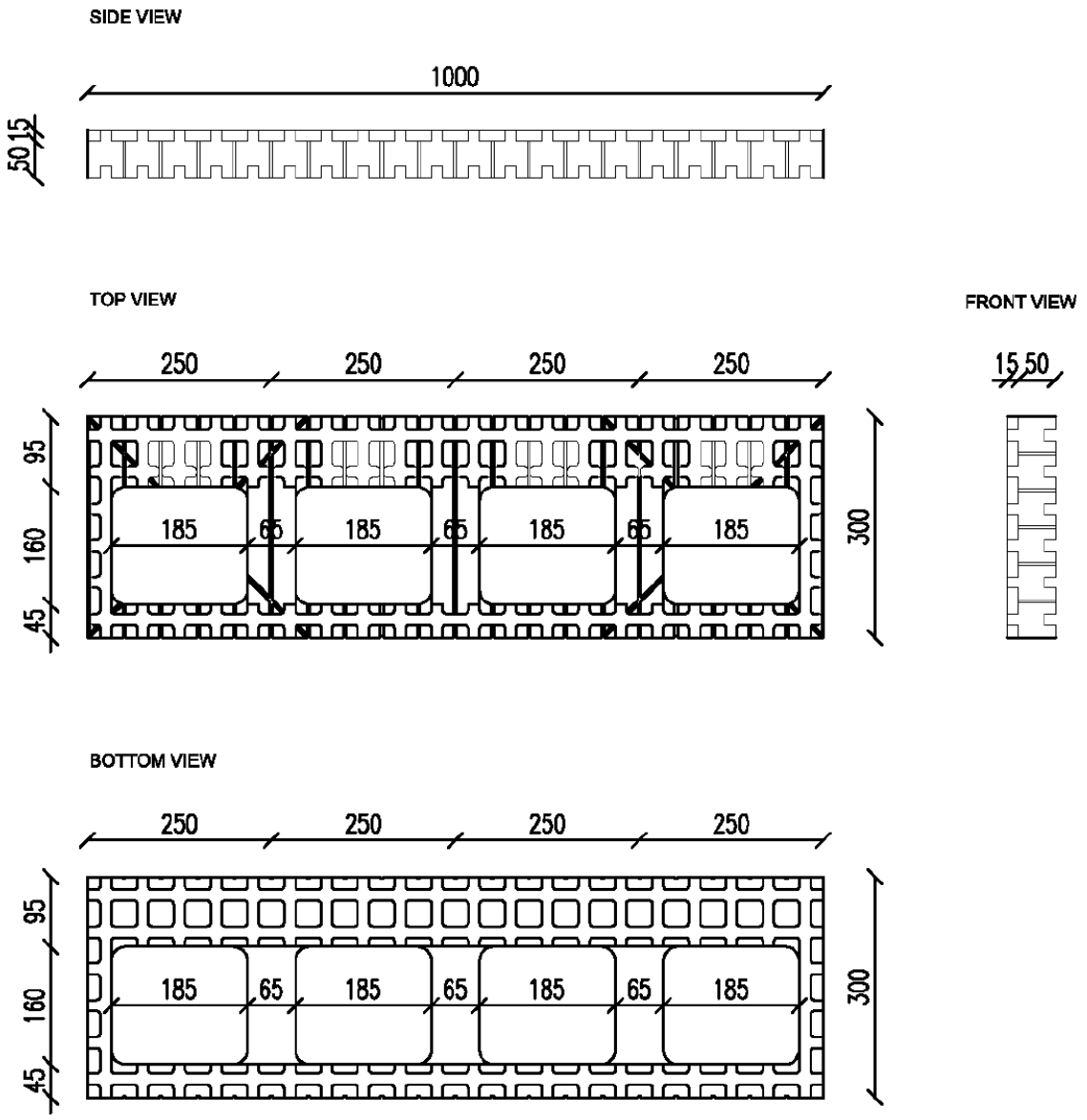


BOTTOM VIEW



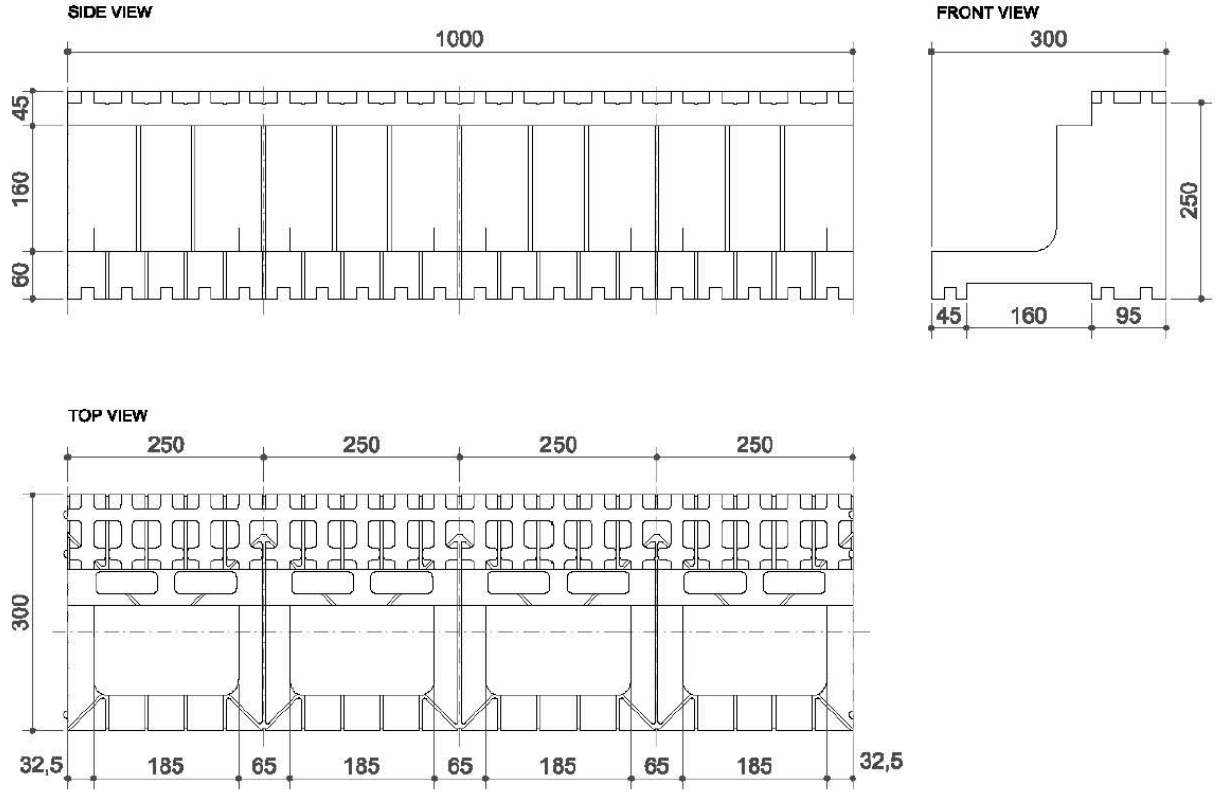
All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A19
SYSTEM: "STANDARD" Header BLOCK ML 1/30 10cm x 30cm x 25cm	



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A20
SYSTEM: "PRINCE BLOCK" Height adapter MH 1/30 100cm x 5cm x 30cm	



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A21
SYSTEM: "PRINCE BLOCK" Ceiling support element MP 1/30 100cm x 30cm x 25cm	

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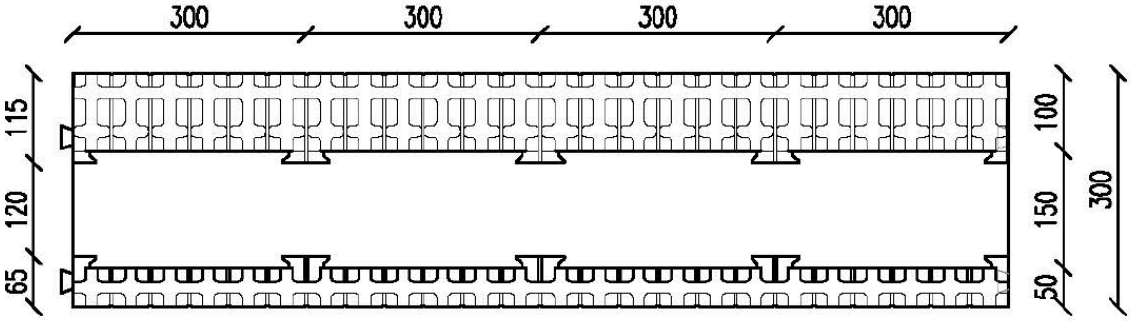
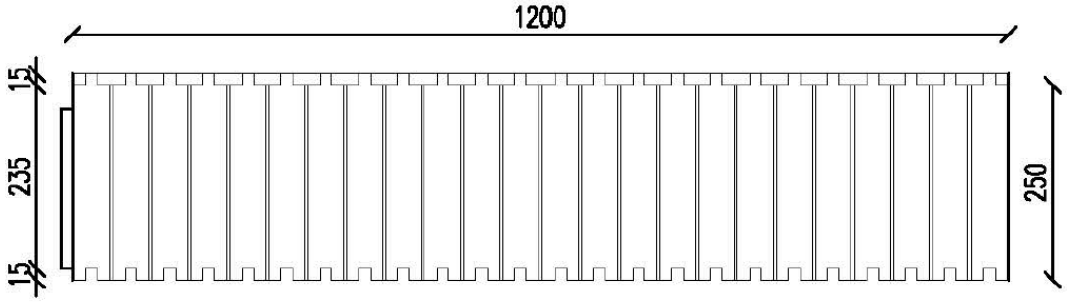
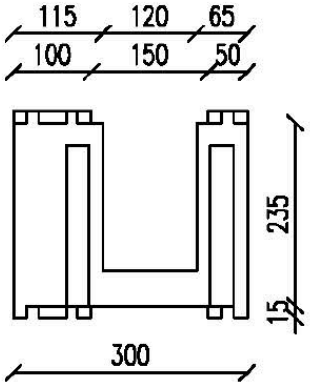
TOP VIEW



SIDE VIEW



FRONT VIEW



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A22
SYSTEM: "PRINCE BLOCK" Door header element MLA 1,2/30 120cm x 30cm x 25cm	

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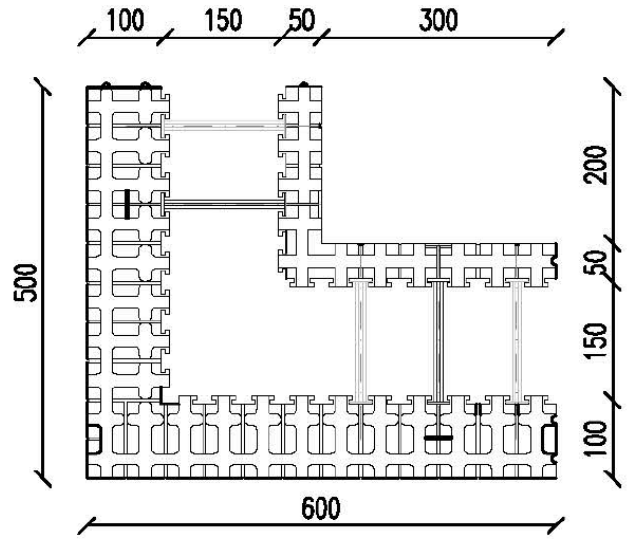
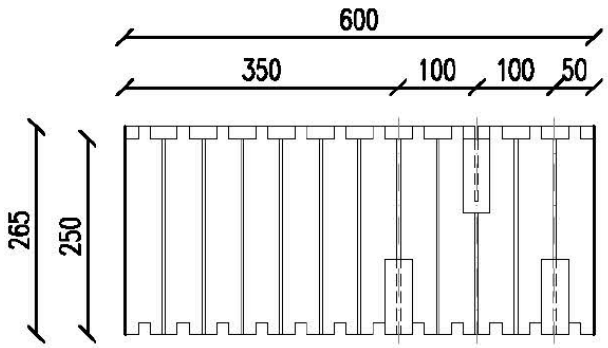
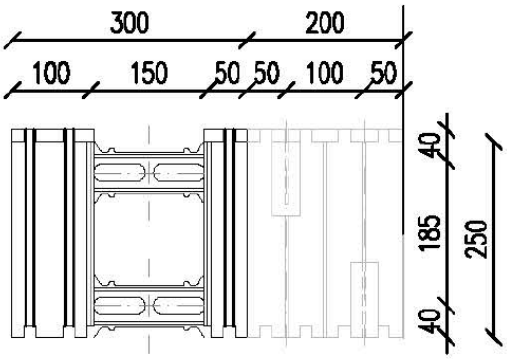
TOP VIEW



SIDE VIEW



FRONT VIEW



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A23
SYSTEM: "PRINCE BLOCK" 90° corner (external / left) MCFU30 E90 LA 110cm x 30cm x 25cm	

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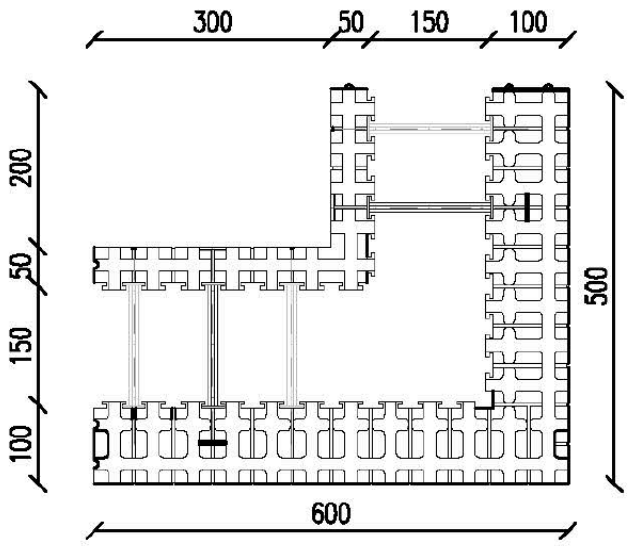
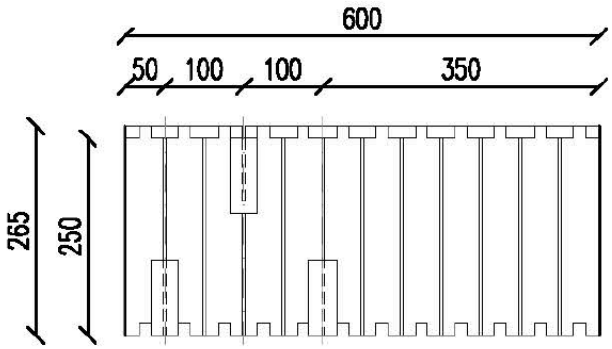
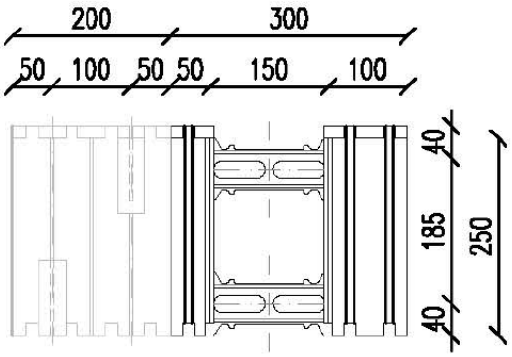
TOP VIEW



SIDE VIEW



FRONT VIEW



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A24
SYSTEM: "PRINCE BLOCK" 90° corner (external / right) MCFU30 E90 RA 110cm x 30cm x 25cm	

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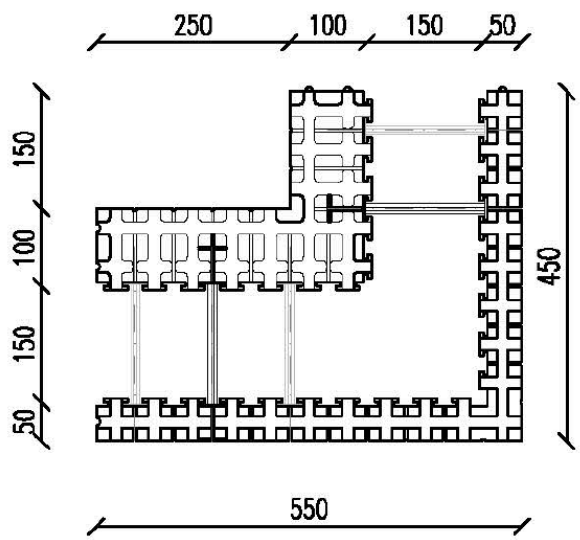
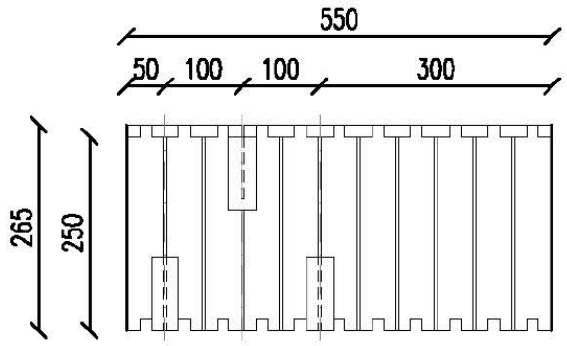
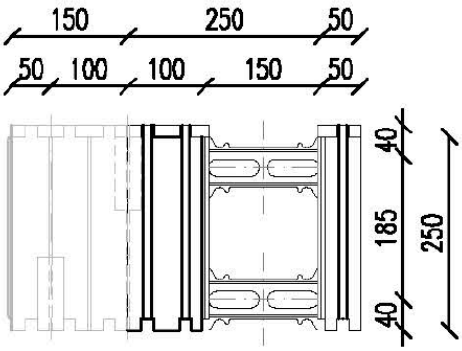
TOP VIEW



SIDE VIEW



FRONT VIEW



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A25
SYSTEM: "PRINCE BLOCK" 90° comer (internal / right) MCFU30 E90 RI 40cm x 30cm x 25cm	

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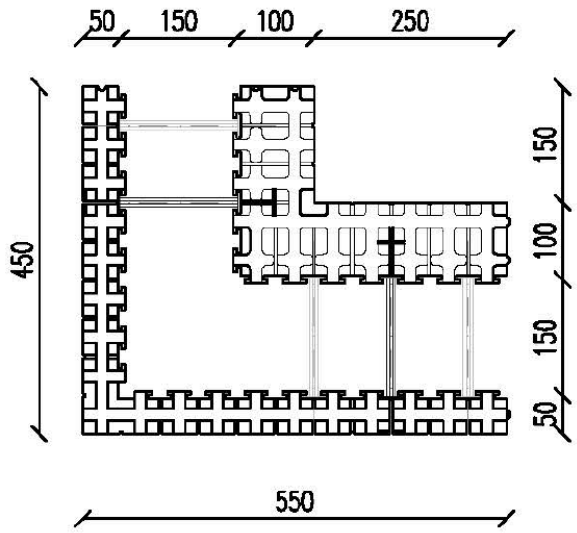
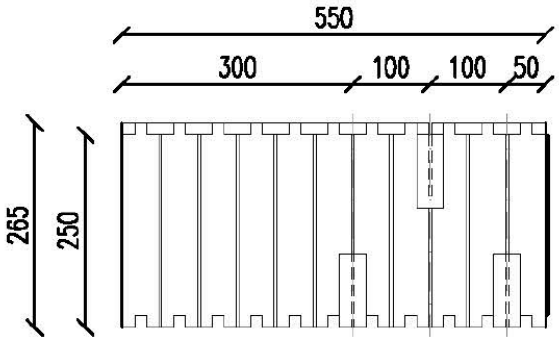
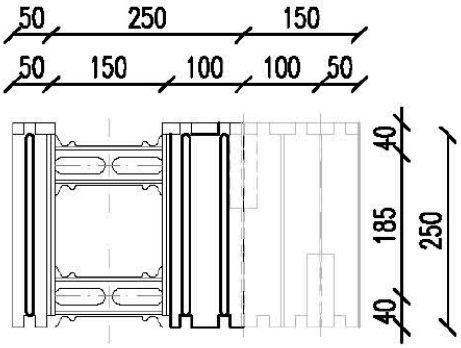
TOP VIEW



SIDE VIEW



FRONT VIEW



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A26
SYSTEM: "PRINCE BLOCK" 90° corner (internal / left) MCFU30 E90 LI 40cm x 30cm x 25cm	

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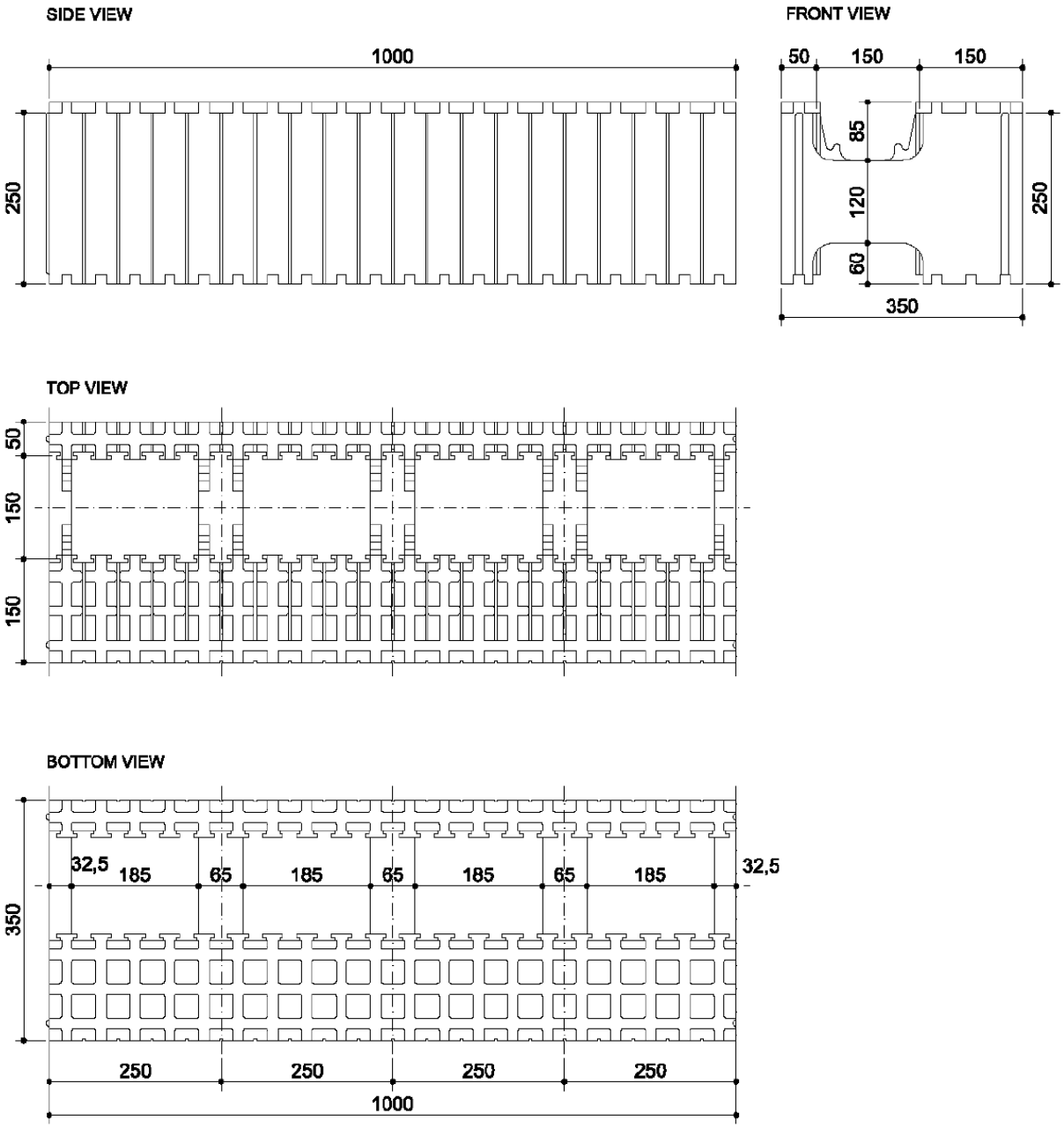
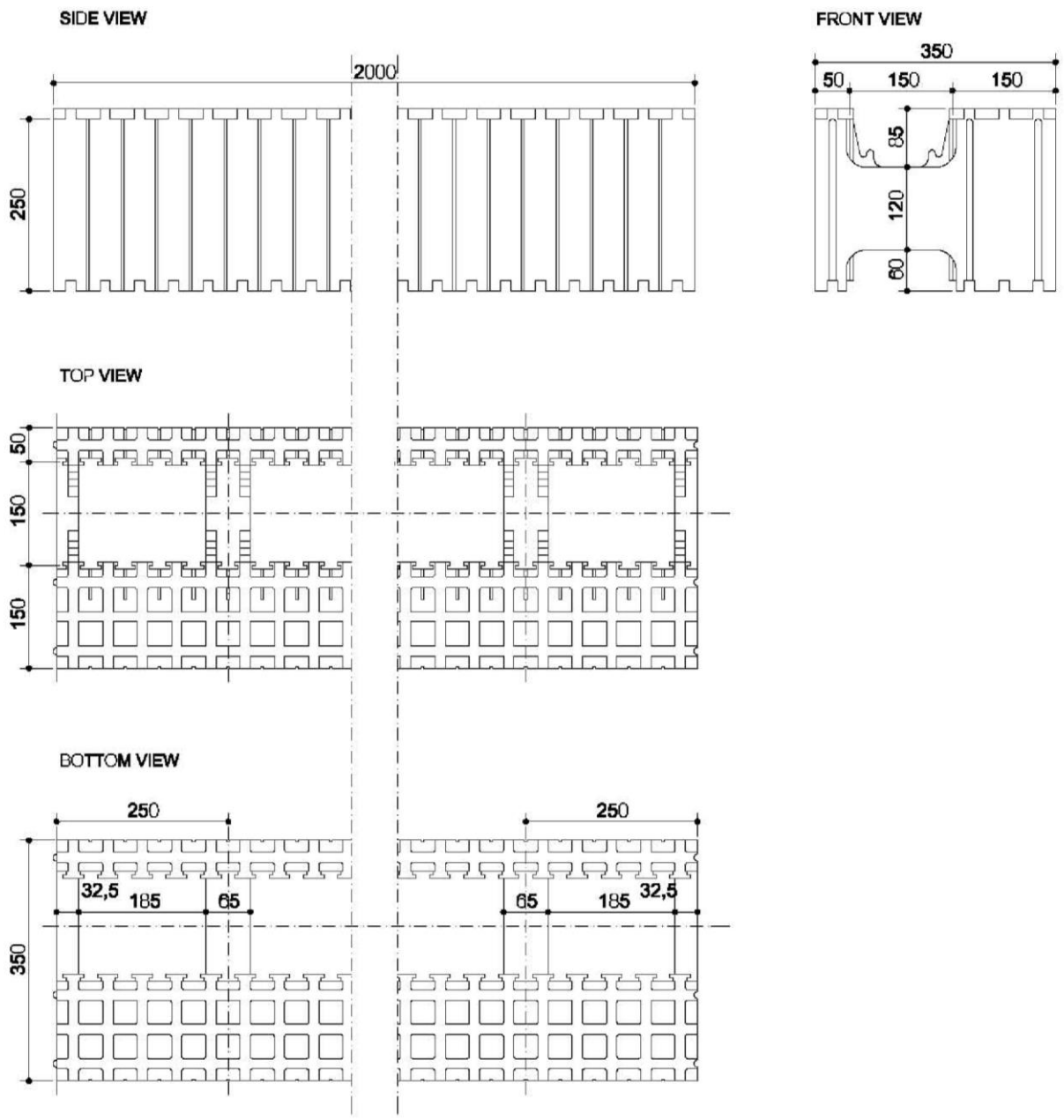


All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A27
SYSTEM: "KING BLOCK" Primary BLOCK MC 1/35 100cm x 35cm x 25cm	



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A28
SYSTEM: "KING BLOCK" Primary BLOCK MC 2/35 200cm x 35cm x 25cm	

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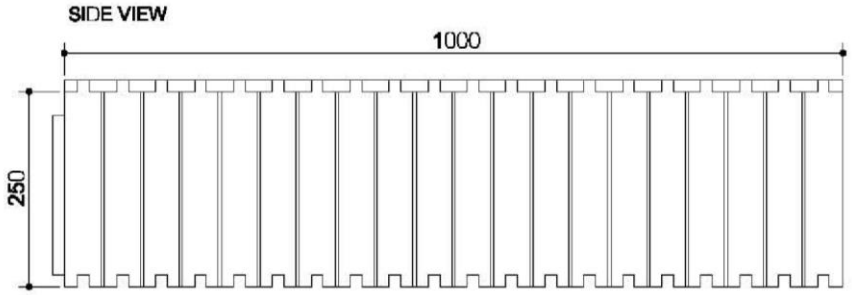
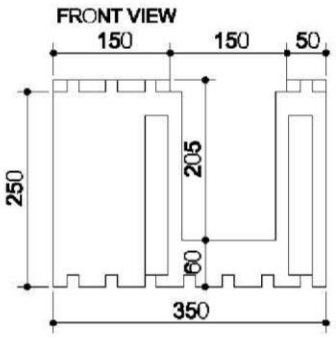
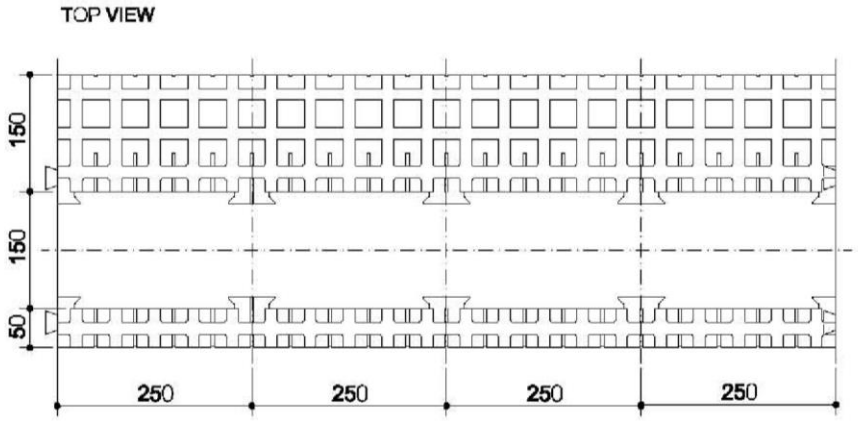
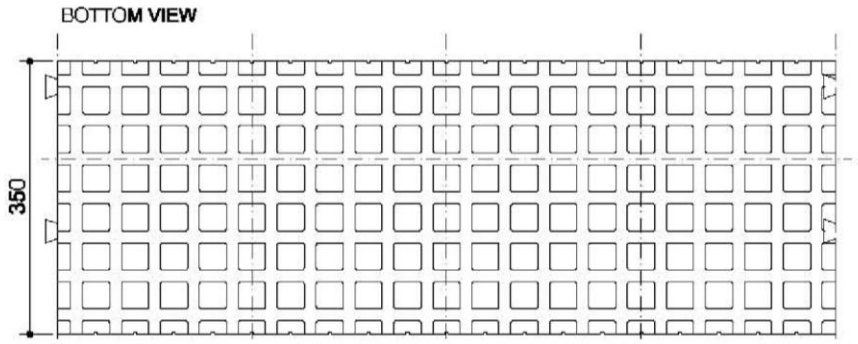


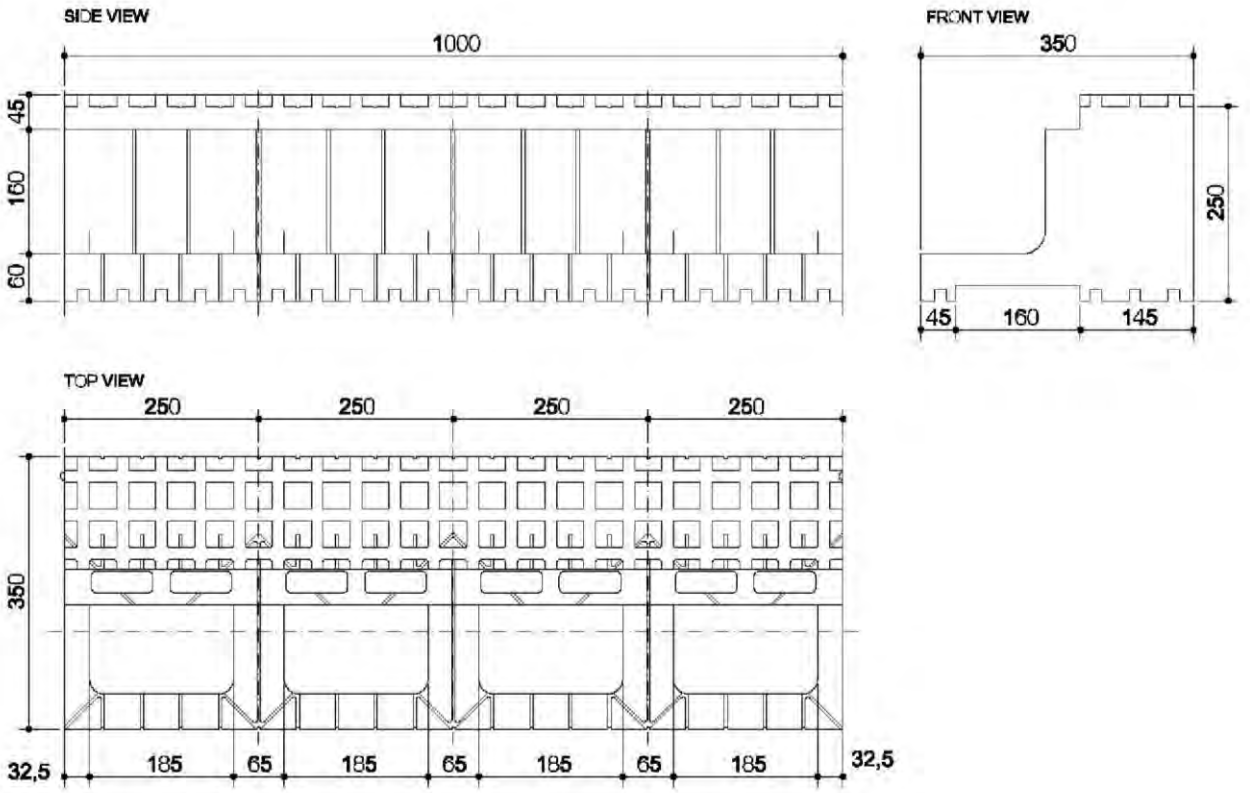






All dimensions are given in mm

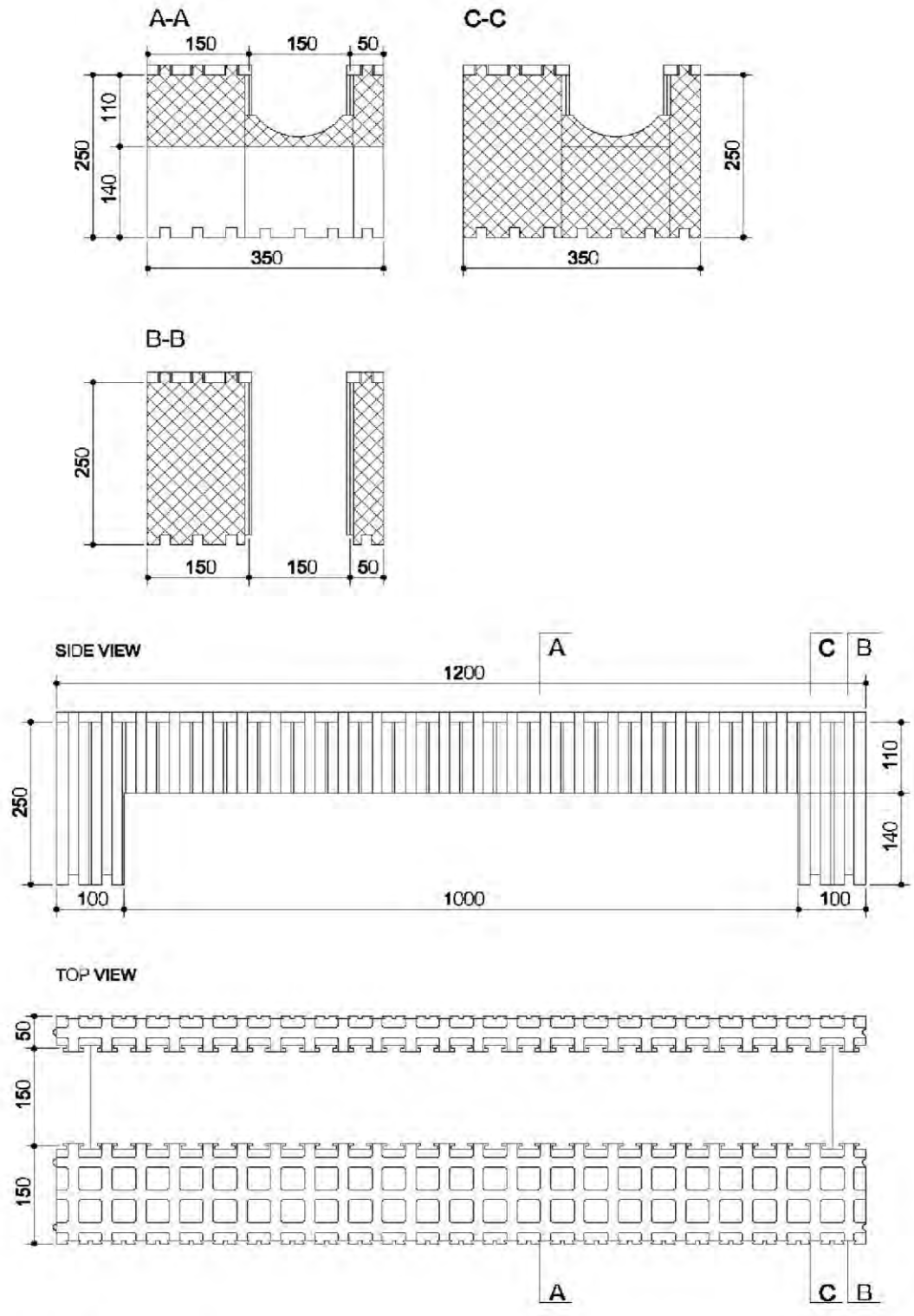
Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A29
SYSTEM: "KING BLOCK" Header BLOCK ML 1/35 100cm x 35cm x 25cm	



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A30
SYSTEM: "KING BLOCK" Floor support element MP 1/35 100cm x 35cm x 25cm	

Deutsches Institut für Bautechnik DIBt



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A31
SYSTEM: "KING BLOCK" Doorhead element MLA 1,2/35 120cm x 35cm x 25cm	

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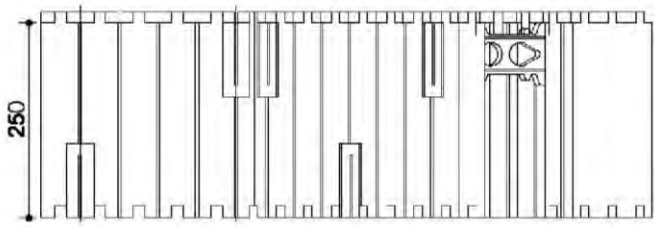
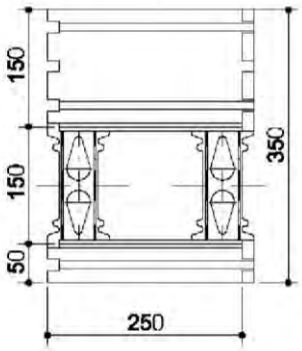
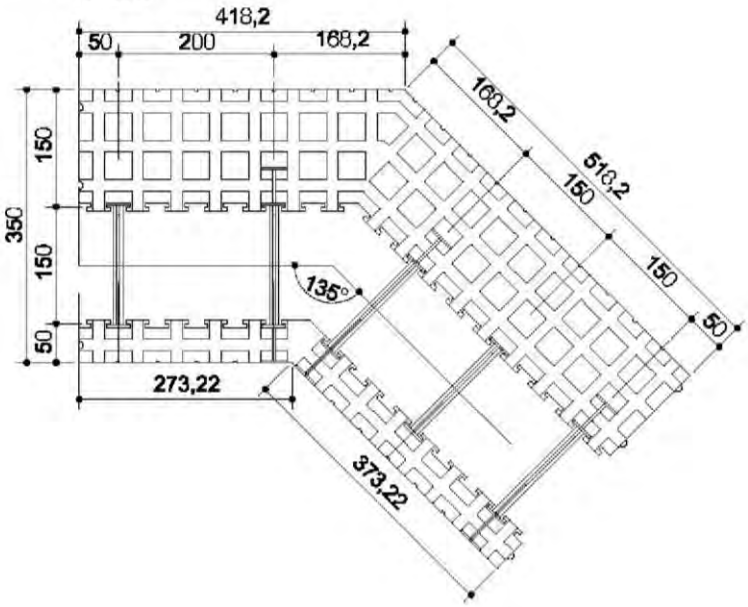
SIDE VIEW



FRONT VIEW

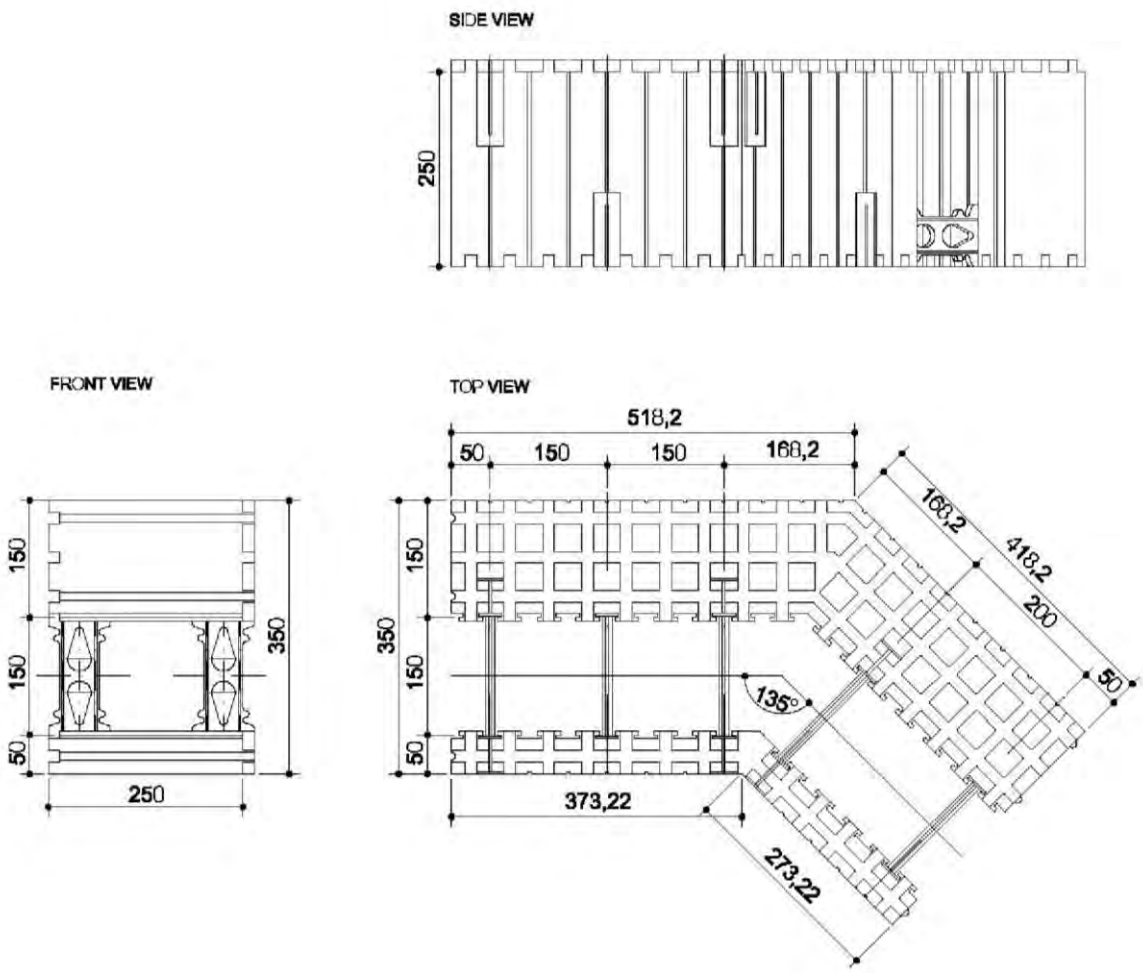


TOP VIEW



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A32
SYSTEM: "KING BLOCK" Outer angle joint element - right MCFU35 E45 RA (41,8cm + 51,8cm) x 35cm x 25cm	



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A33
SYSTEM: "KING BLOCK" Outer angle joint element - left MCFU35 E45 LA (51,8cm + 41,8cm) x 35cm x 25cm	

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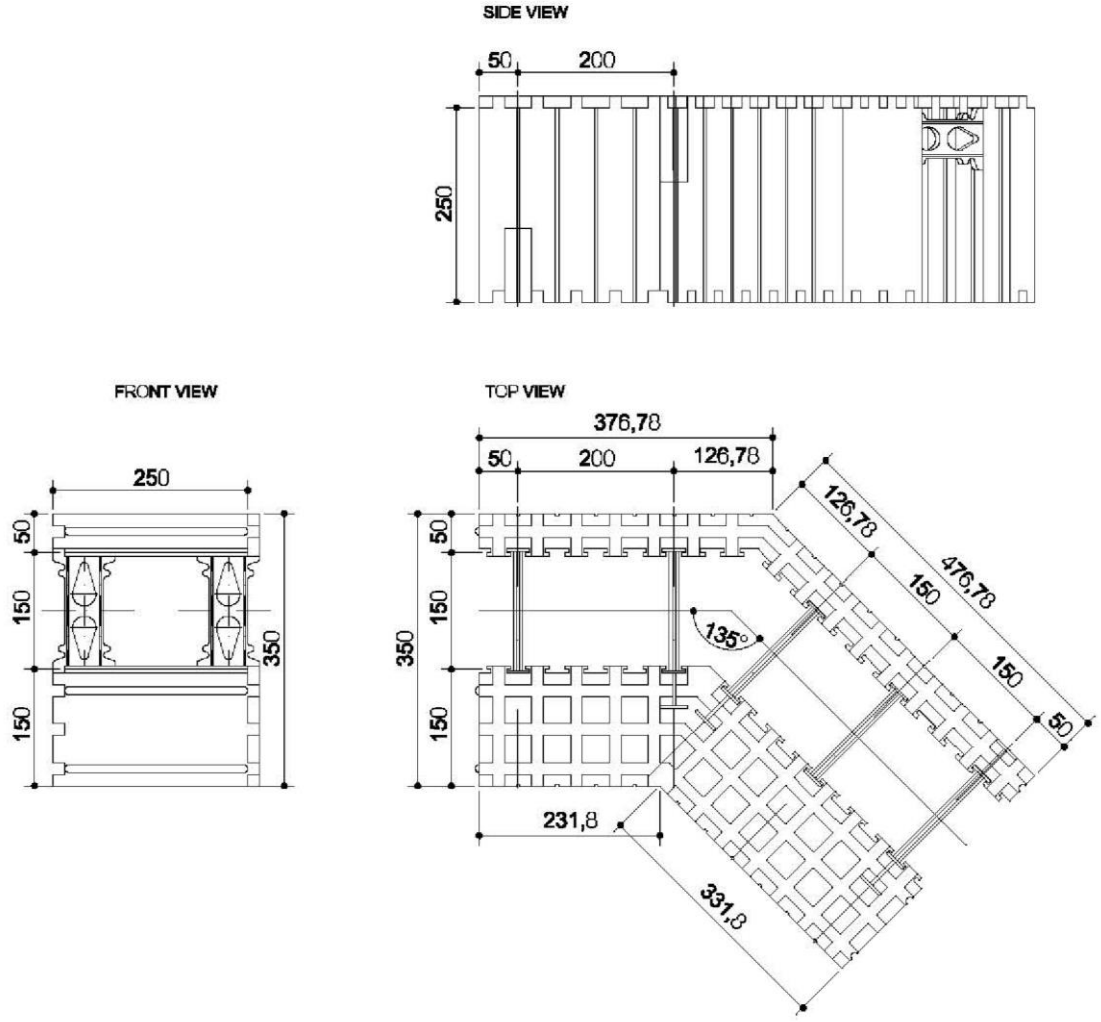

All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A34
SYSTEM: "KING BLOCK" Inner angle joint element - left MCF35EI/L (23,2cm + 33,2cm) x 35cm x 25cm	

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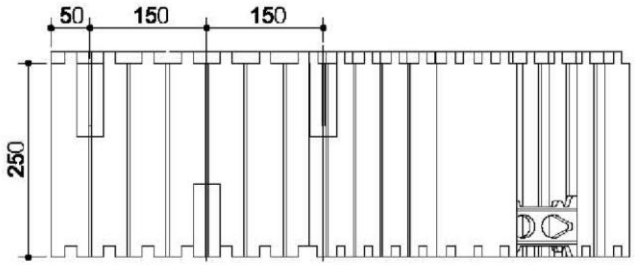
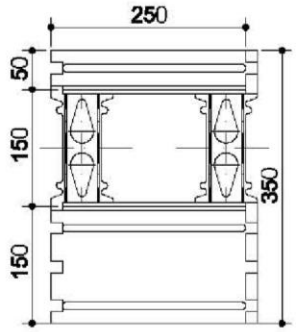
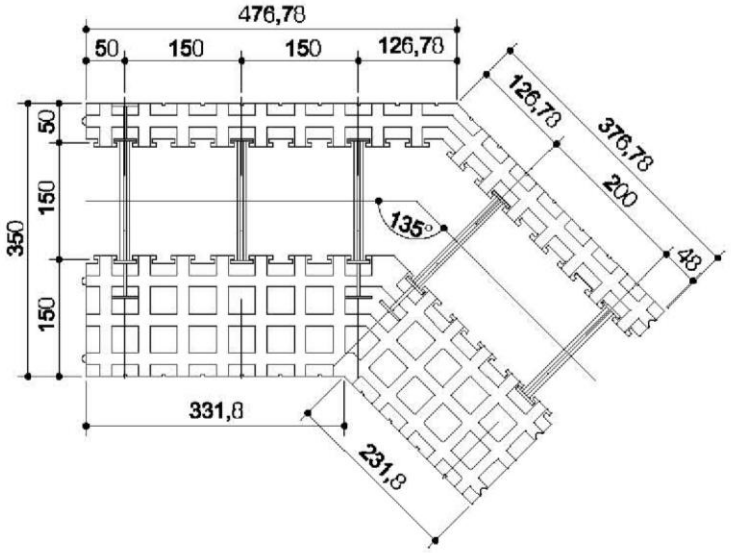
SIDE VIEW



FRONT VIEW

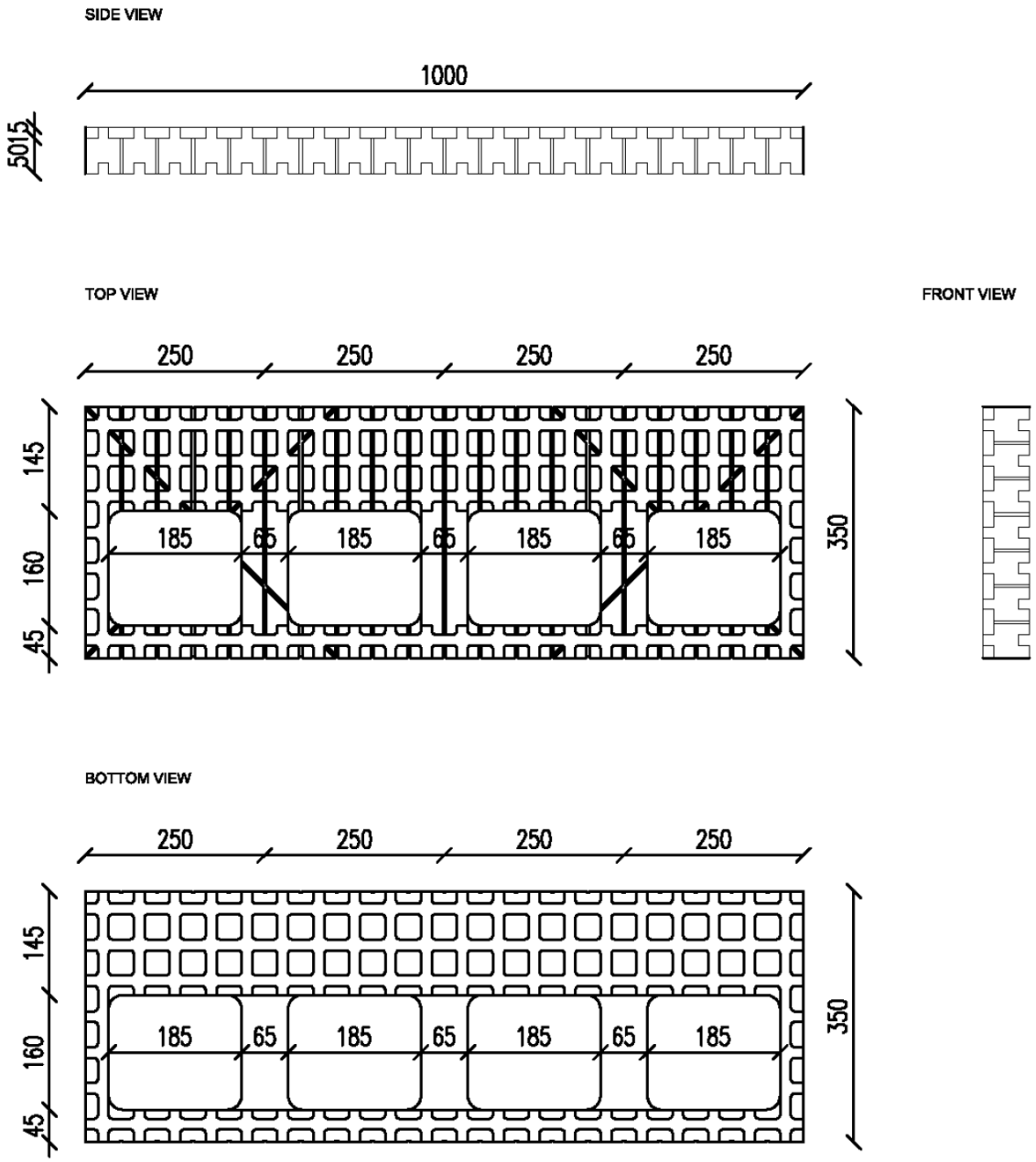


TOP VIEW



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A35
SYSTEM: "KING BLOCK" Inner angle joint element - right MCFU 35 E45 RI (33,2cm + 23,2cm) x 35cm x 25cm	



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A36
SYSTEM: "KING BLOCK" Heigh adapter MH 1/35 100cm x 5cm x 35cm	

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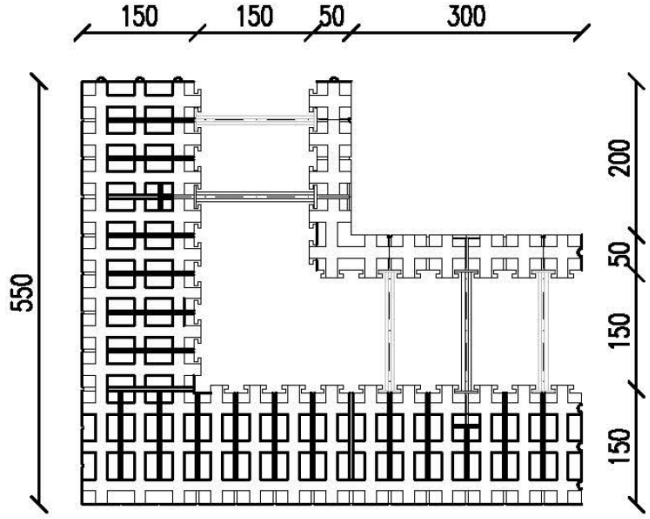
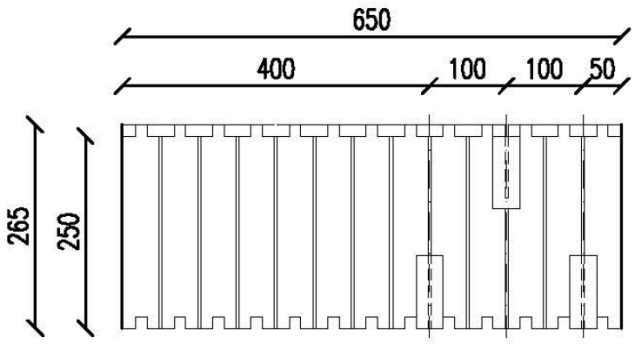
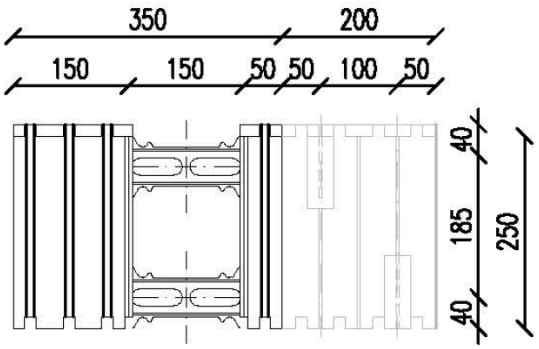
TOP VIEW



SIDE VIEW



FRONT VIEW



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A37
SYSTEM: "KING BLOCK" 90° corner (external / left) MCFU35 E90 LA 120cm x 35cm x 25cm	

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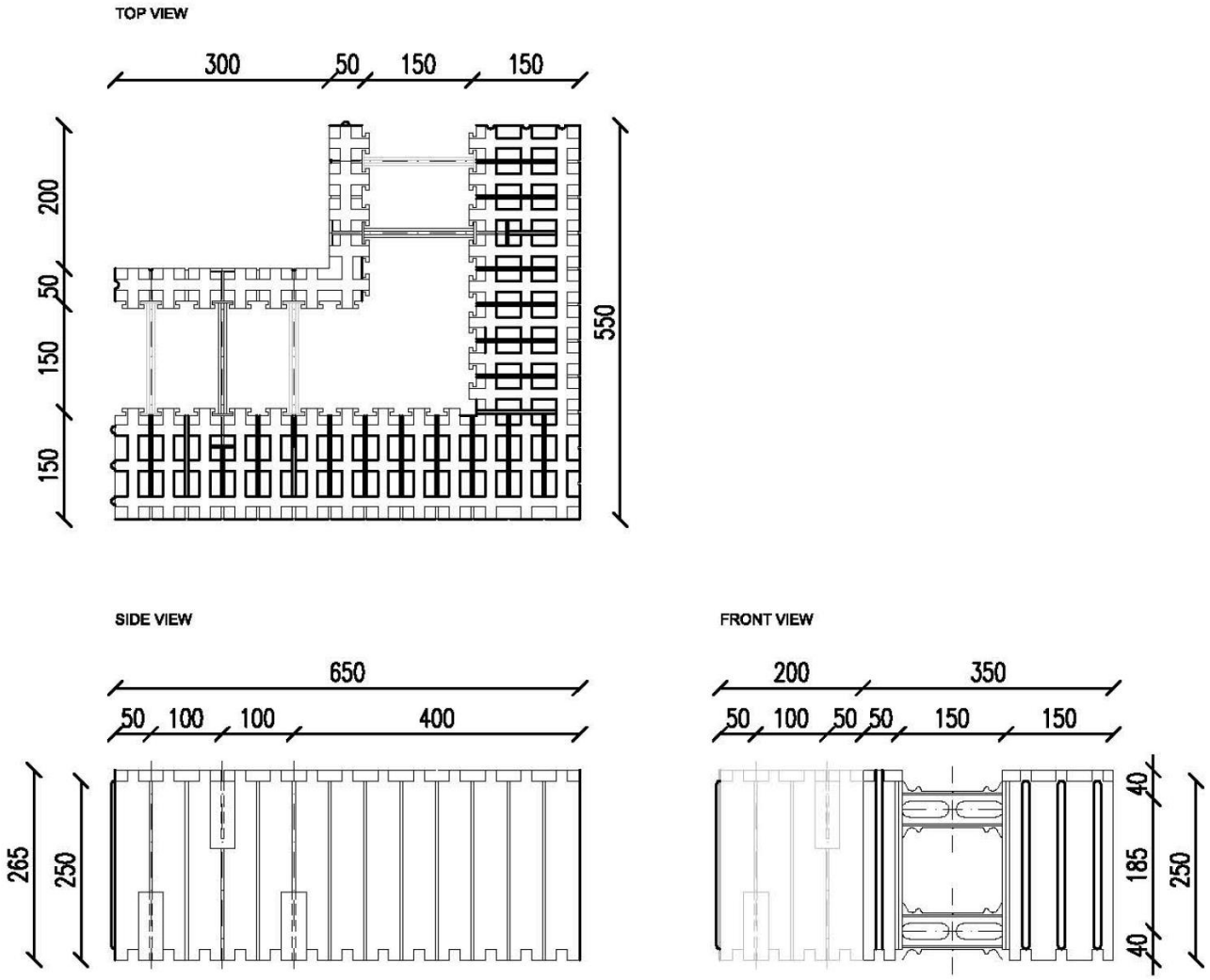

All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A38
SYSTEM: "KING BLOCK" 90° corner (external / right) MCFU35 E90 RA 120cm x 35cm x 25cm	

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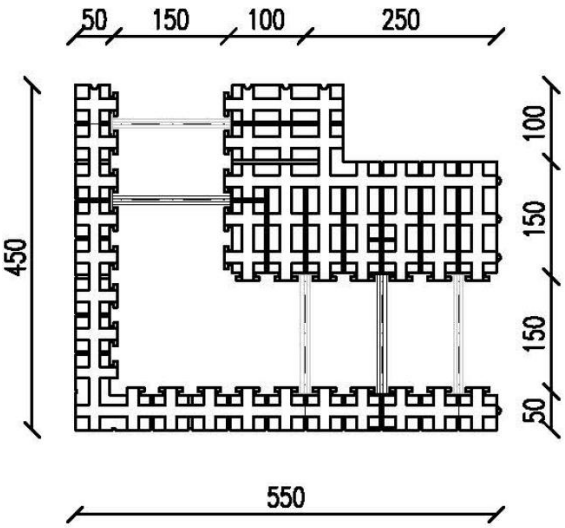
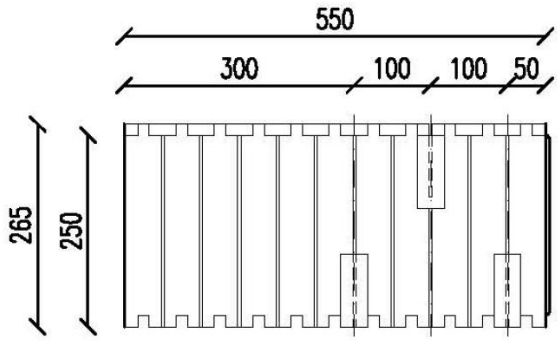
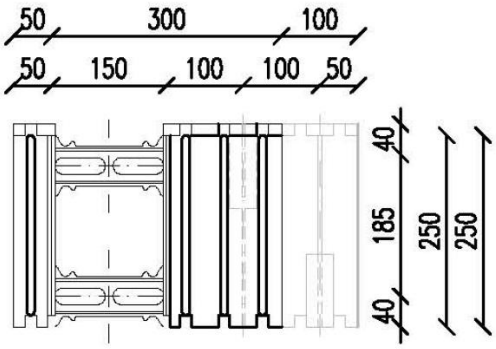
TOP VIEW



SIDE VIEW



FRONT VIEW



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A39
SYSTEM: "KING BLOCK" 90° comer (internal / left) MCFU35 E90 LI 30cm x 35cm x 25cm	

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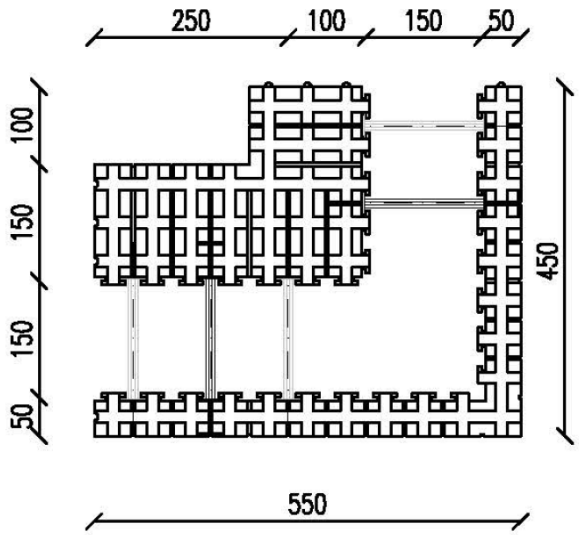
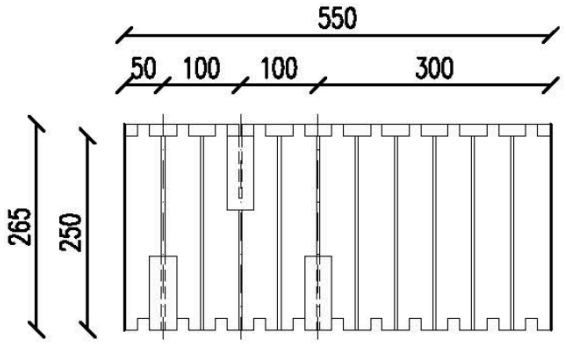
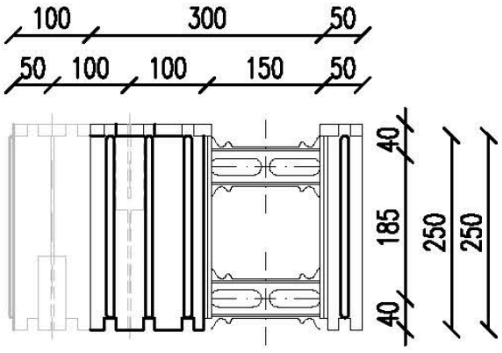
TOP VIEW



SIDE VIEW



FRONT VIEW



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A40
SYSTEM: "KING BLOCK" 90° comer (internal / right) MCFU35 E90 RI 30cm x 35cm x 25cm	

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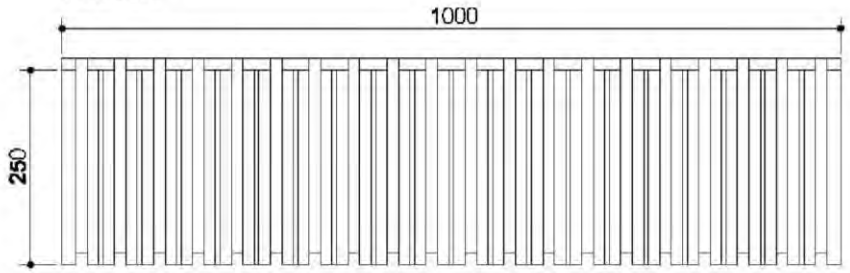
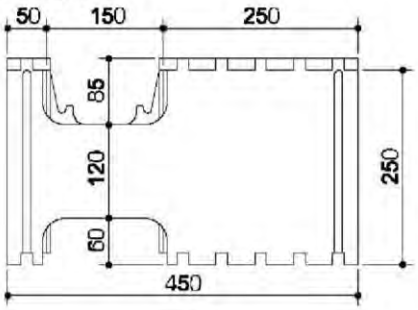
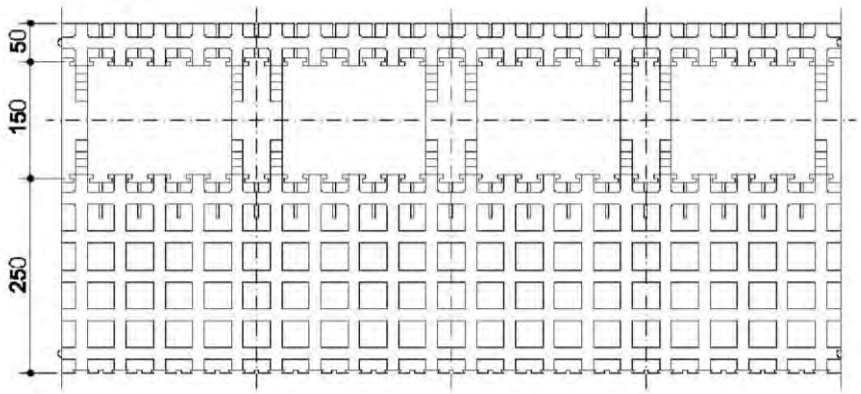
SIDE VIEW



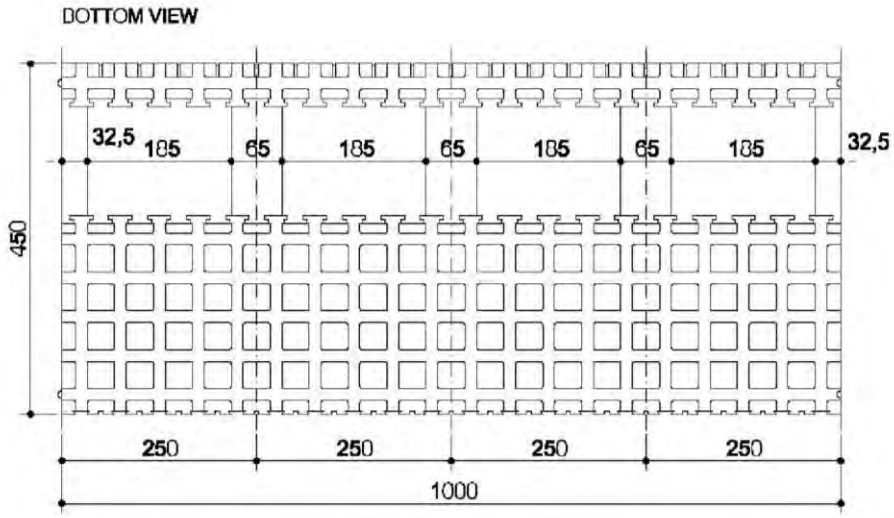
FRONT VIEW



TOP VIEW

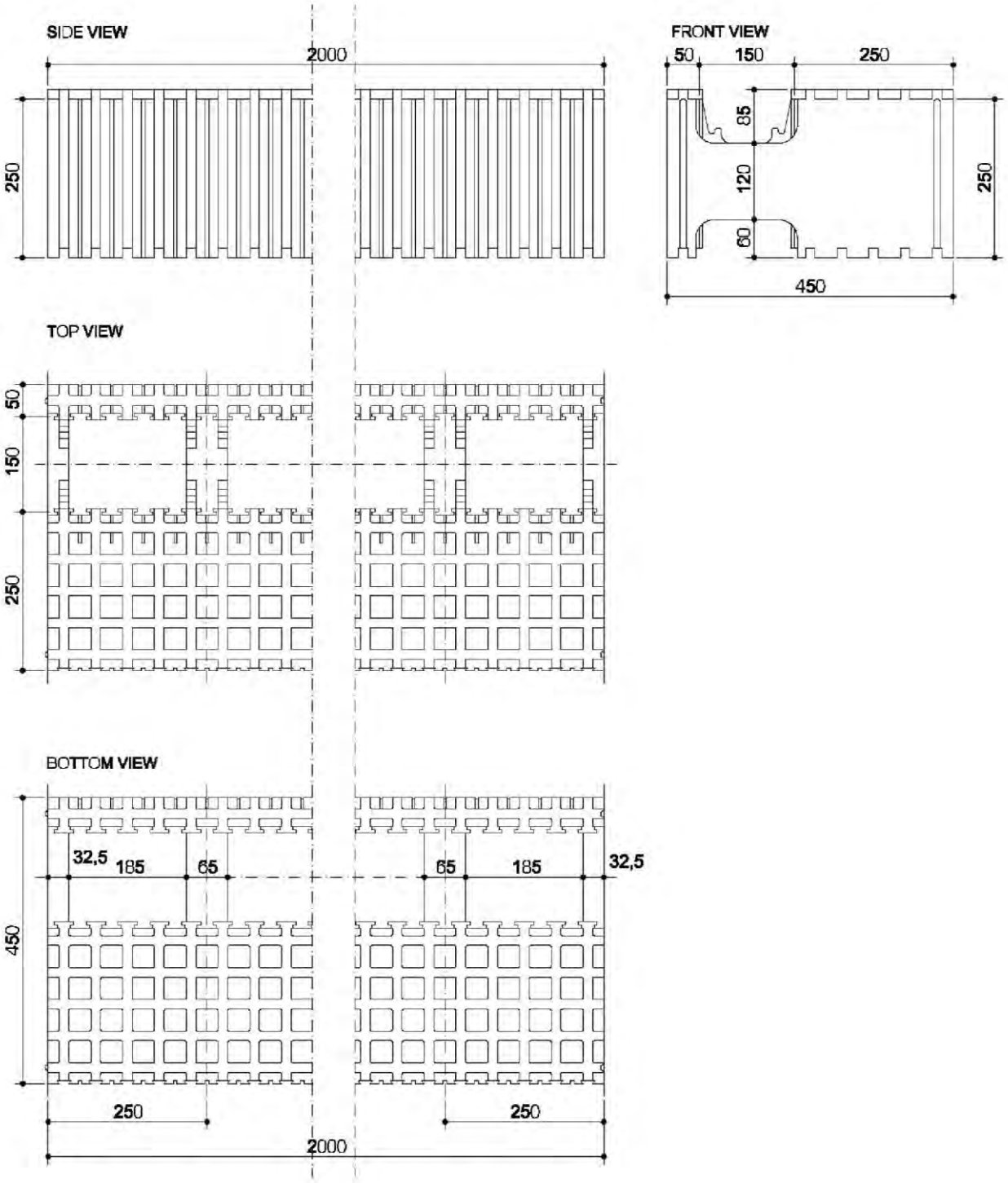


BOTTOM VIEW



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A41
SYSTEM: "SUPER KING BLOCK" Primary block MC 1/45 100cm x 45cm x 25cm	



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A42
SYSTEM: "SUPER KING BLOCK" Primary block MC 2/45 200cm x 45cm x 25cm	

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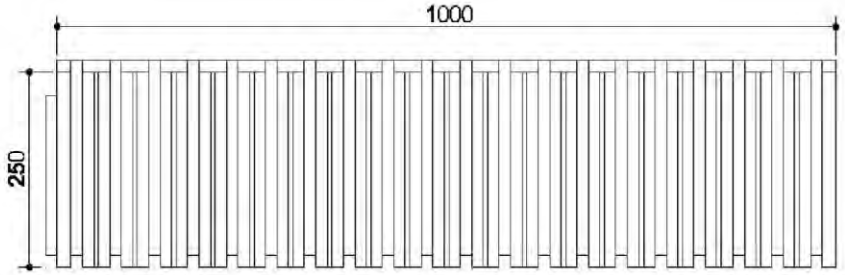
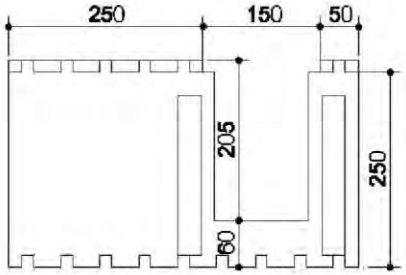
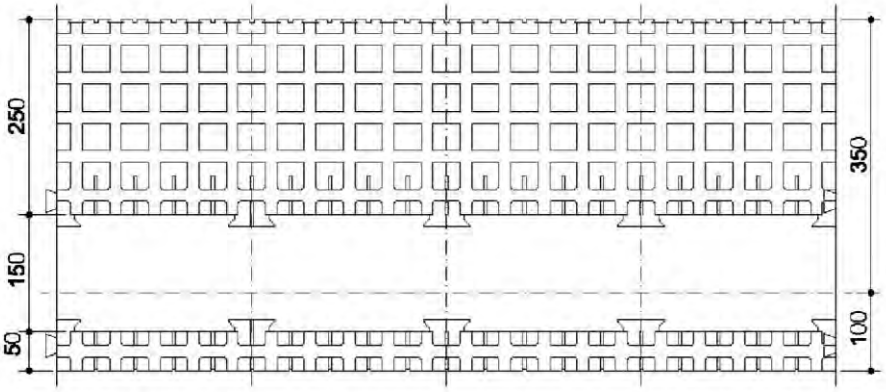
SIDE VIEW



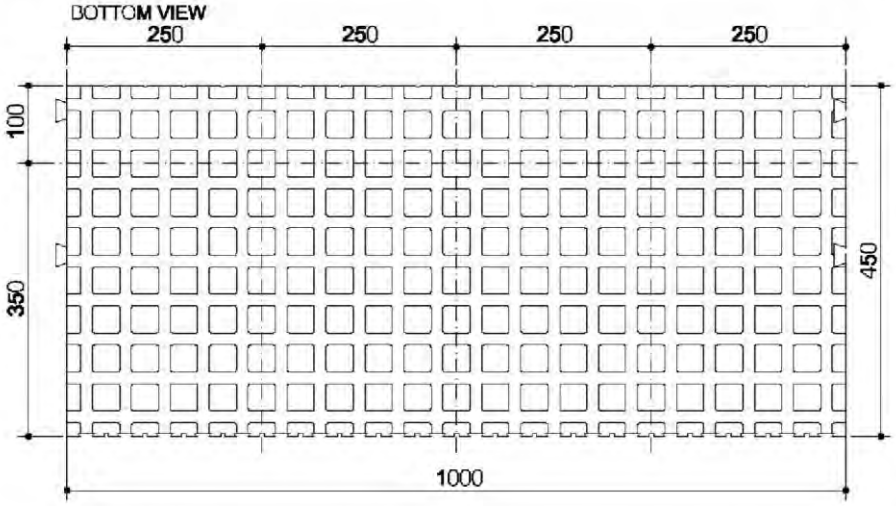
FRONT VIEW



TOP VIEW

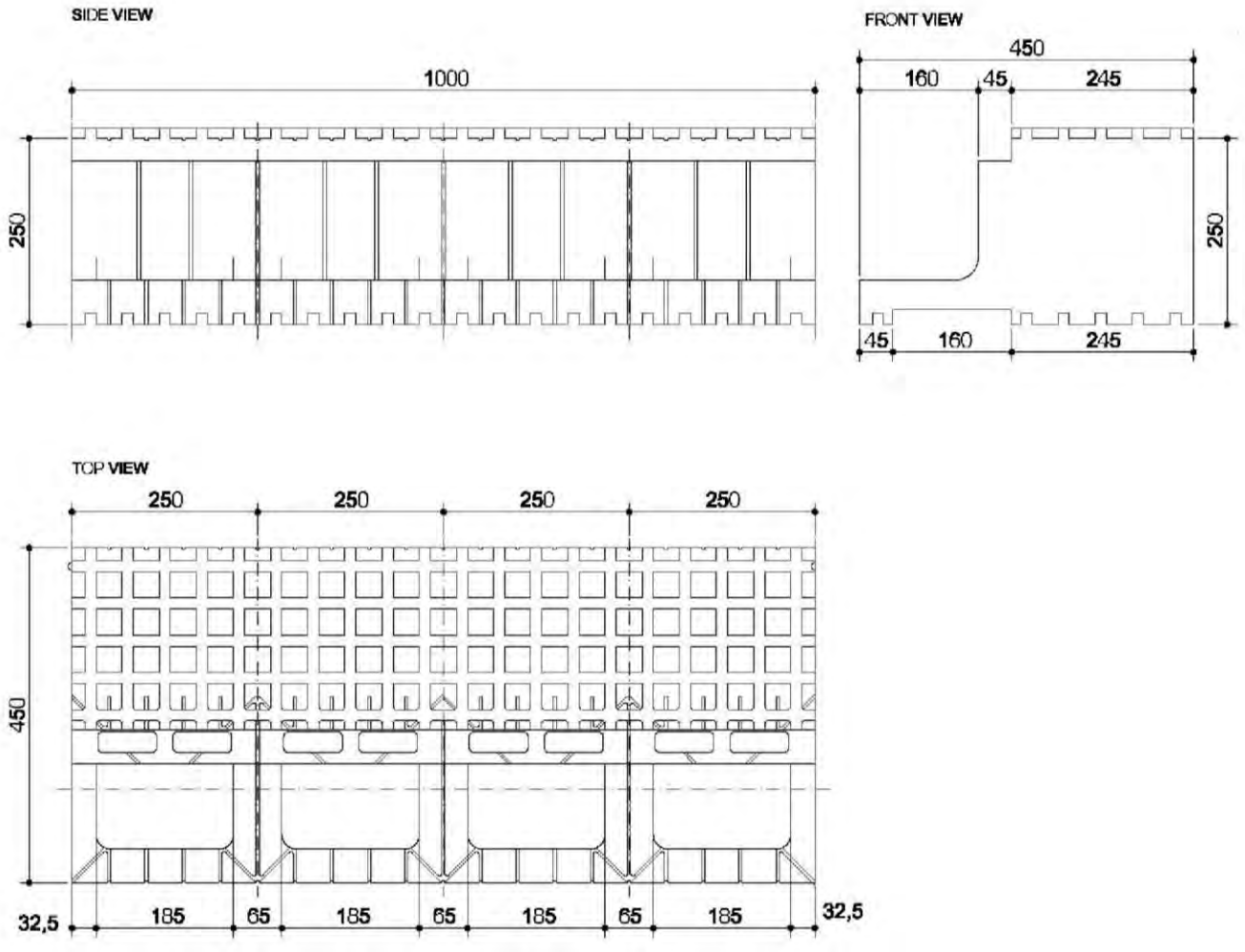


BOTTOM VIEW



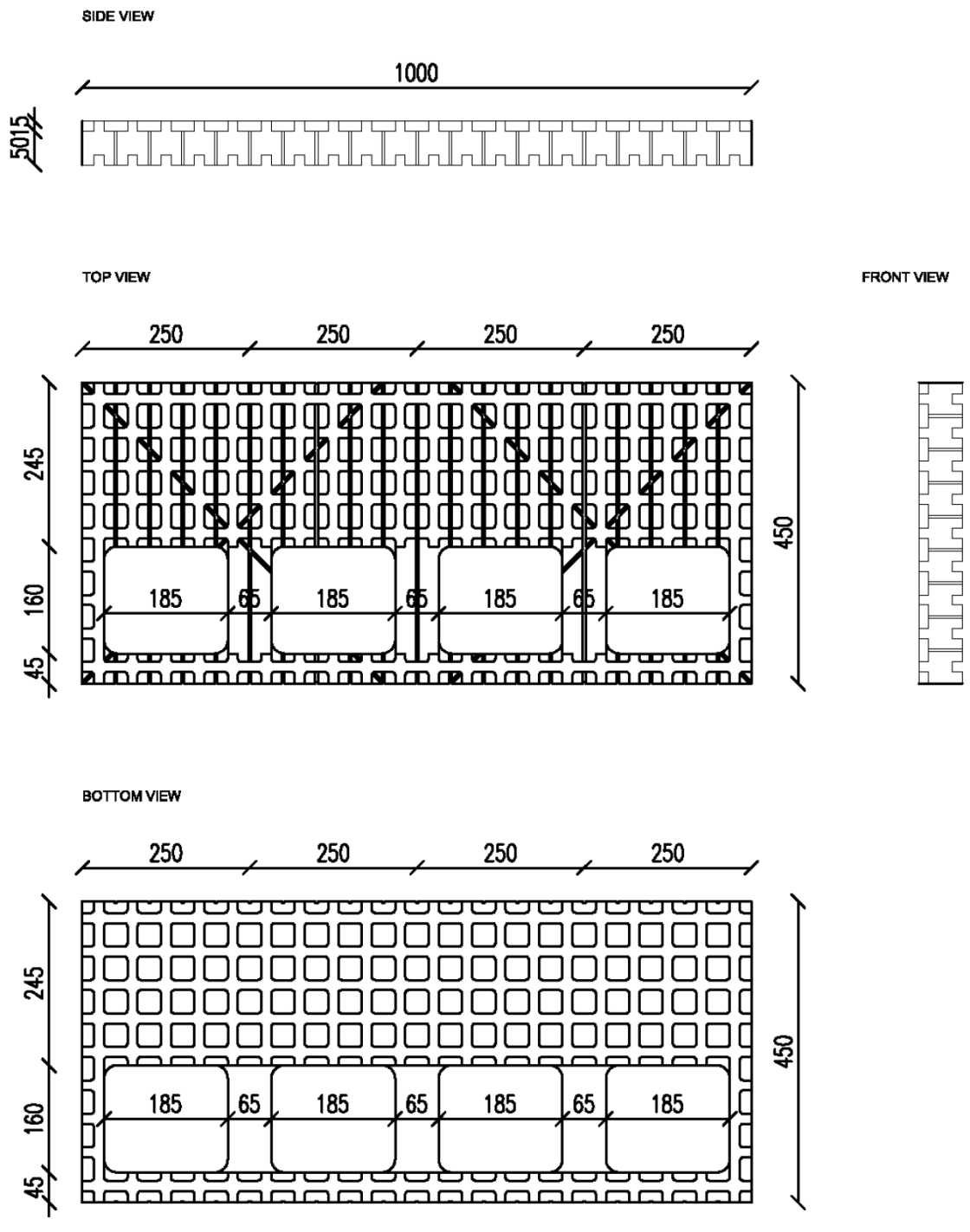
All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A43
SYSTEM: "SUPER KING BLOCK" Header block ML 1/45 100cm x 45cm x 25cm	



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A44
SYSTEM: "SUPER KING BLOCK" Floor support element MP 1/45 100cm x 45cm x 25cm	



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A45
SYSTEM: "SUPER KING BLOCK" Heigh adapter MH 1/45 100cm x 5cm x 45cm	

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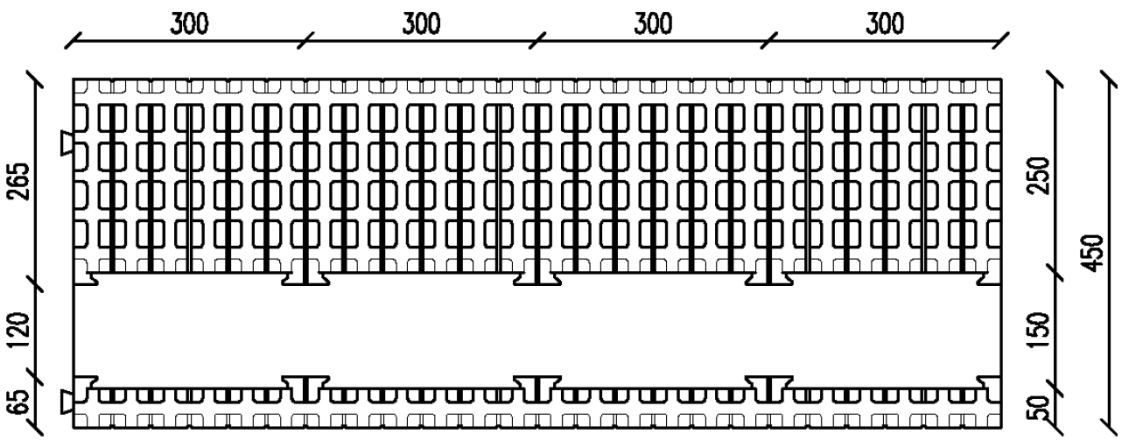
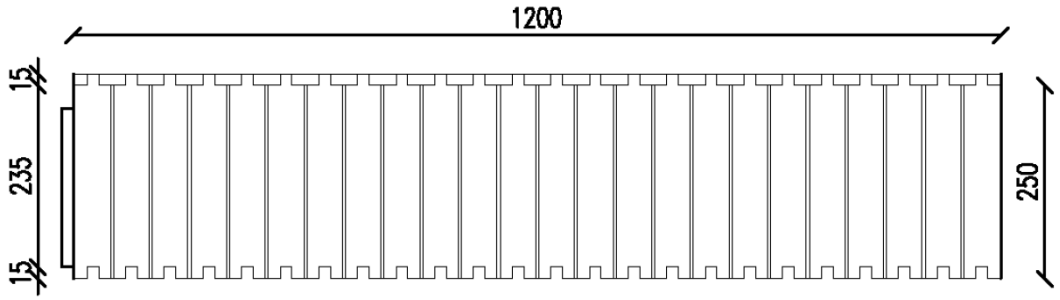
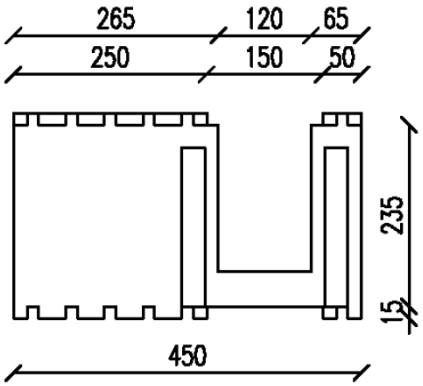
TOP VIEW



SIDE VIEW

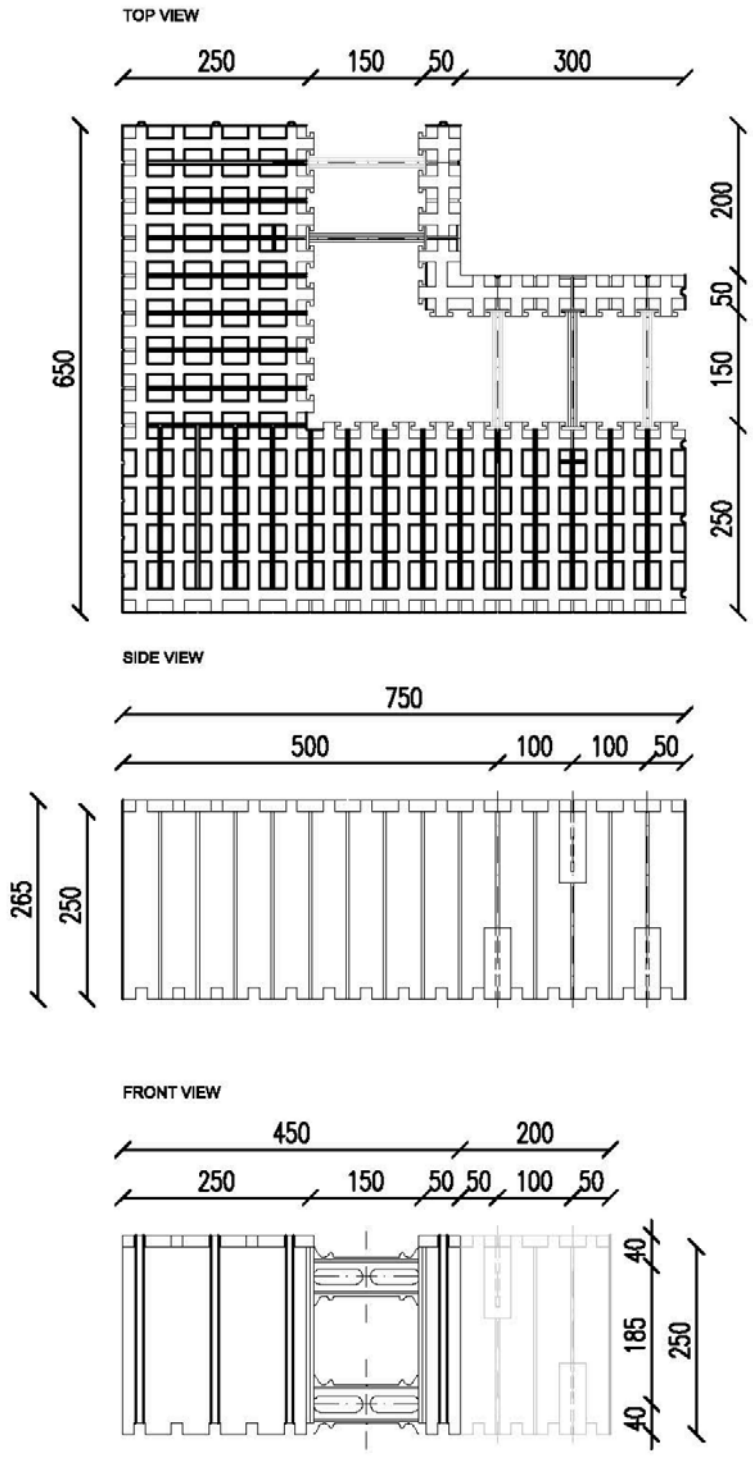


FRONT VIEW



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A46
SYSTEM: "SUPER KING BLOCK" Door header element MLA 1,2/45 120cm x 25cm x 45cm	



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A47
SYSTEM: "SUPER KING BLOCK" 90° corner (external / left) MCFU 45 E90 LA 140cm x 25cm x 45cm	

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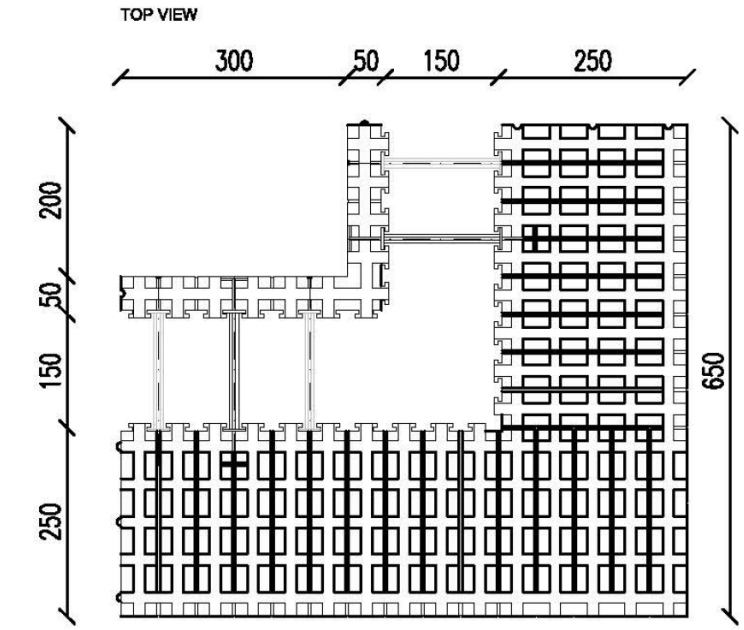

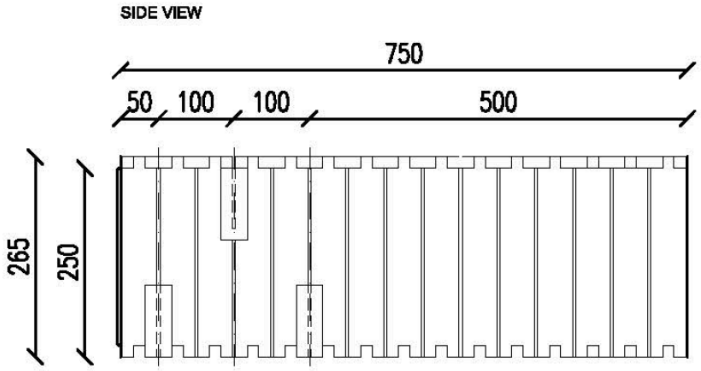

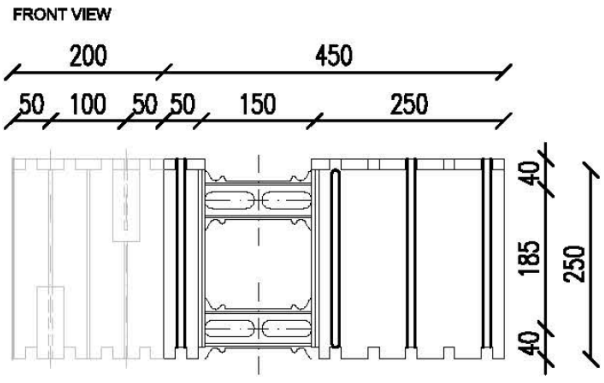

All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A48
SYSTEM: "SUPER KING BLOCK" 90° comer (external / right) MCFU 45 E90 RA 140cm x 25cm x 45cm	

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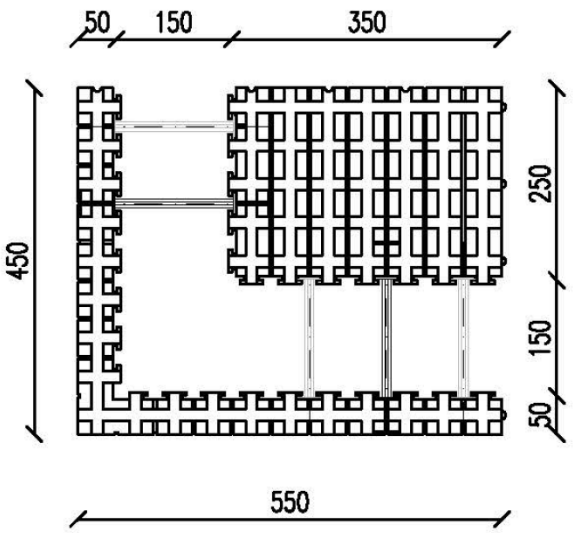
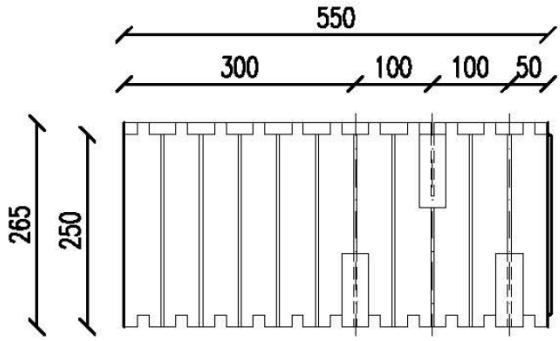
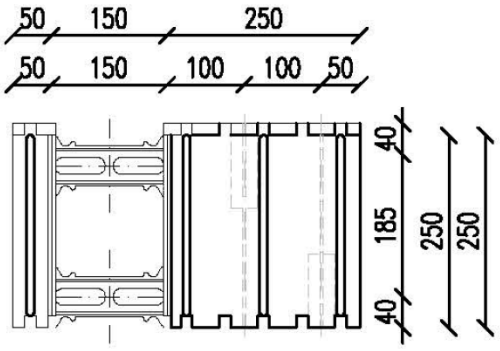
TOP VIEW



SIDE VIEW



FRONT VIEW



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A49
SYSTEM: "SUPER KING BLOCK" 90° corner (internal / left) MCFU 45 E90 LI 35cm x 25cm x 45cm	

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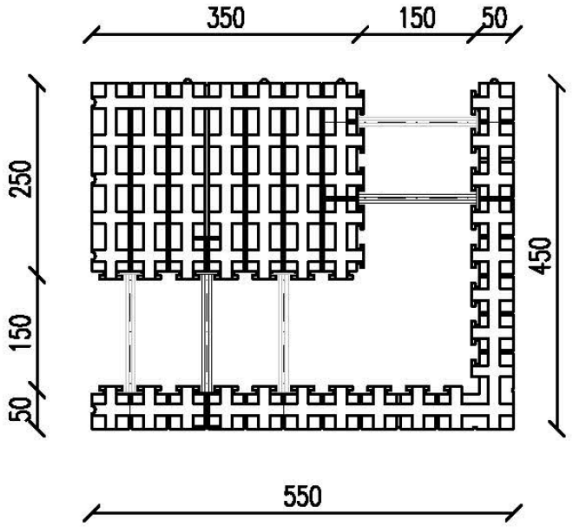
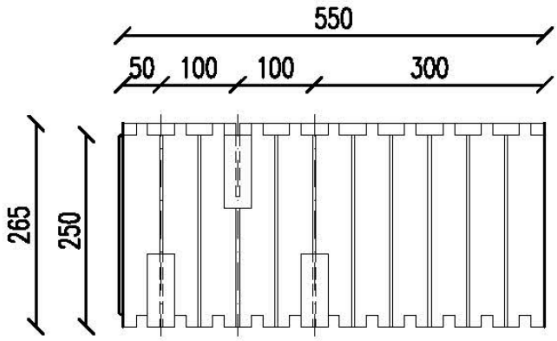
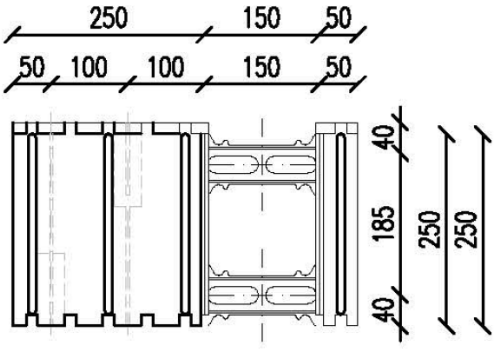
TOP VIEW



SIDE VIEW



FRONT VIEW



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A50
SYSTEM: "SUPER KING BLOCK" 90° corner (internal / right) MCFU 45 E90 RI 35cm x 25cm x 45cm	

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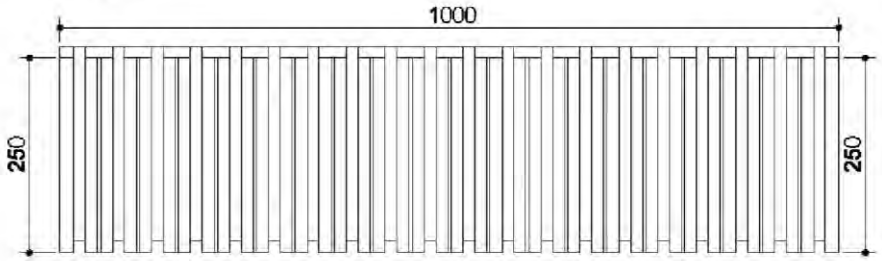
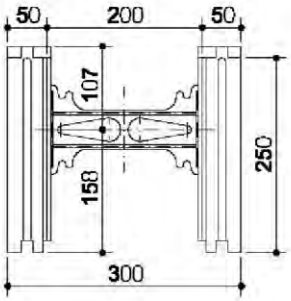
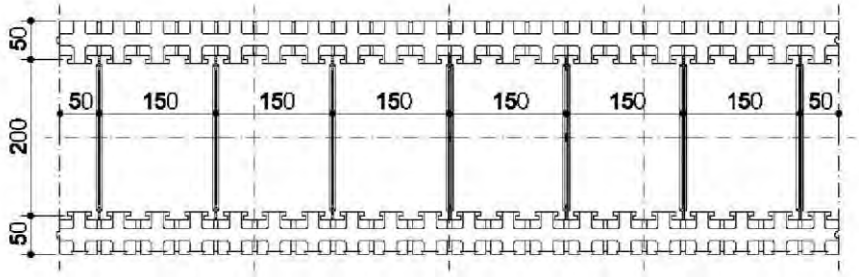
SIDE VIEW



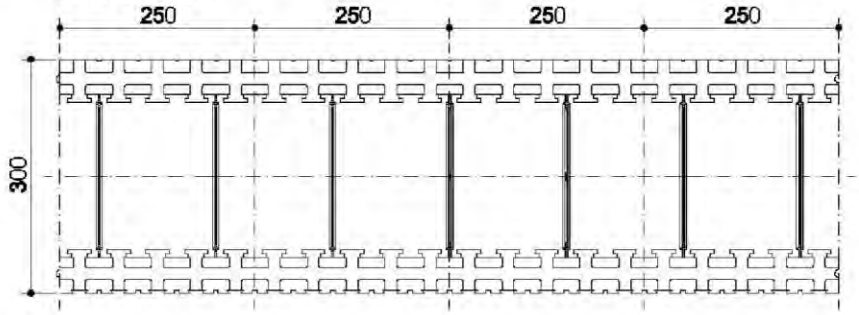
FRONT VIEW



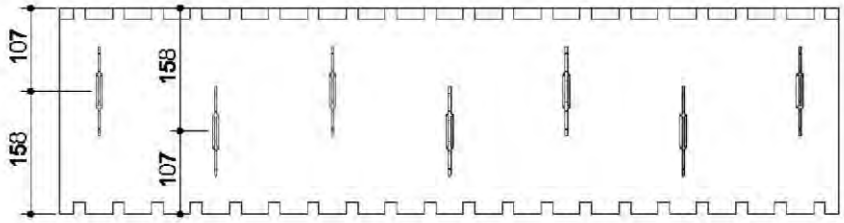
TOP VIEW



BOTTOM VIEW



ARRANGEMENT OF PLASTIC TIES



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A51
SYSTEM: "BLOCK PLUS" Basic element MCF 1/30+ 100cm x 30cm x 25cm	

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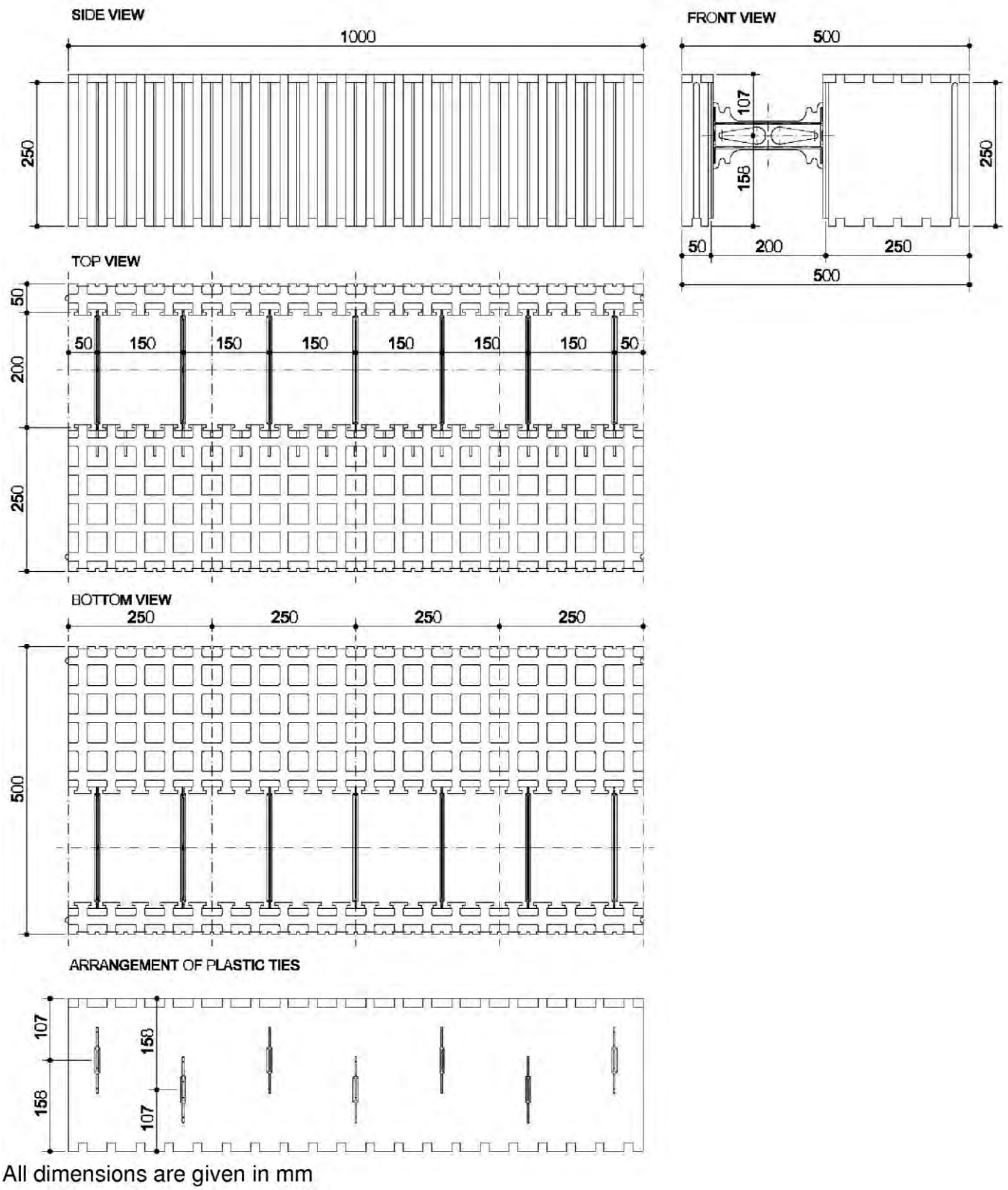

All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A52
SYSTEM: "BLOCK PLUS" Basic element MCF 1/50+ 100cm x 50cm x 25cm	

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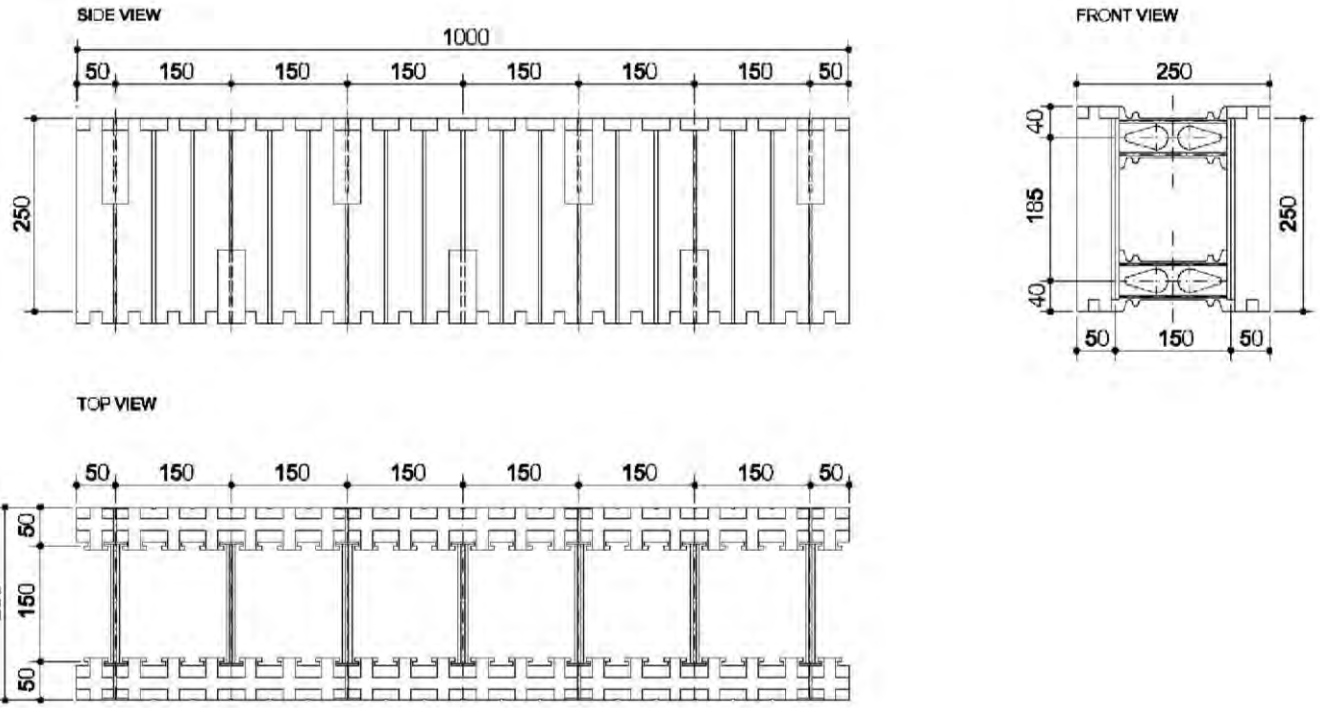
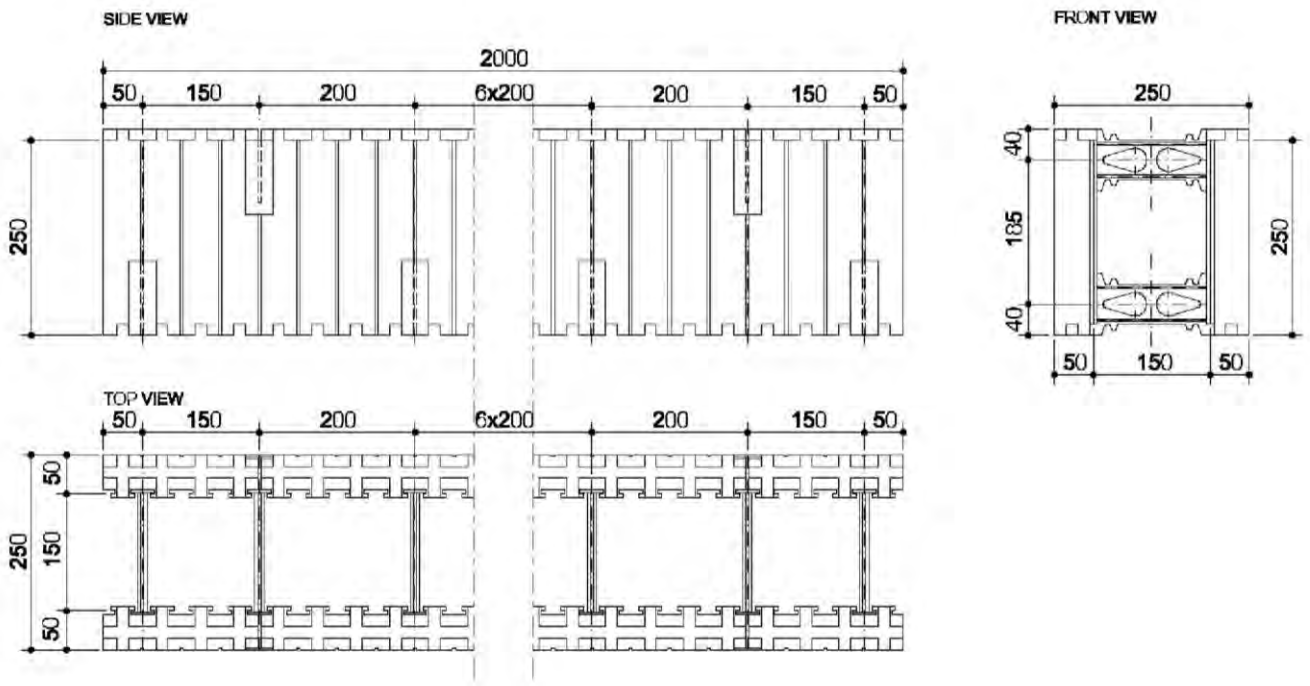


All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A53
UNIVERSAL SYSTEM (DISMOUNTABLE ELEMENTS) Block with plastic tie MCFU 1/25 100cm x 25cm x 25cm	



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A54
UNIVERSAL SYSTEM (DISMOUNTABLE ELEMENTS) Block with plastic tie MCFU 2/25 200cm x 25cm x 25cm	

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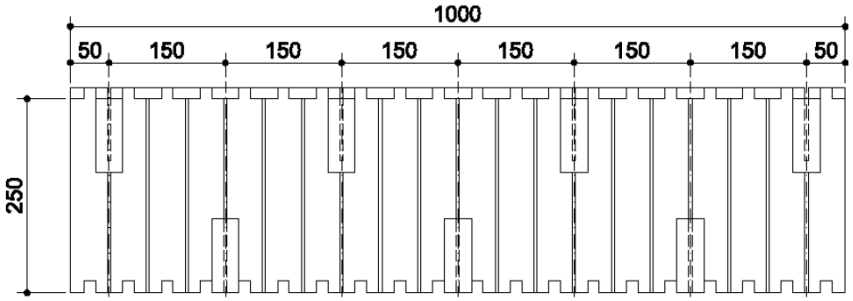
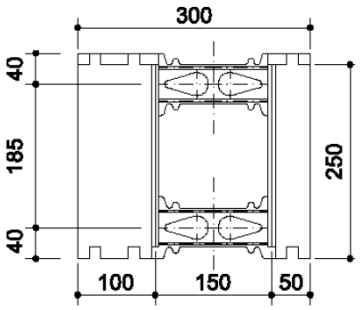
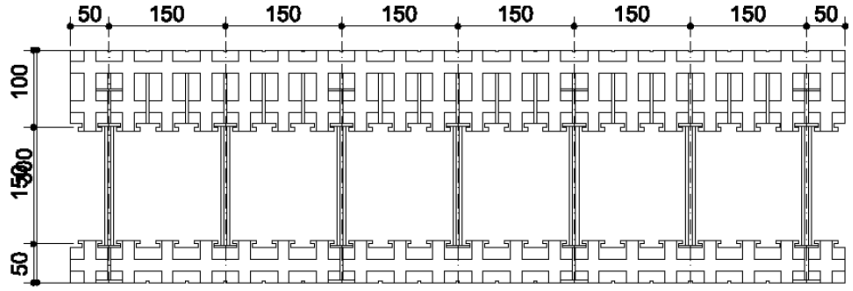
SIDE VIEW



FRONT VIEW



TOP VIEW



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A55
UNIVERSAL SYSTEM (DISMOUNTABLE ELEMENTS) Block with plastic tie MCFU 1/30 100cm x 30cm x 25cm	

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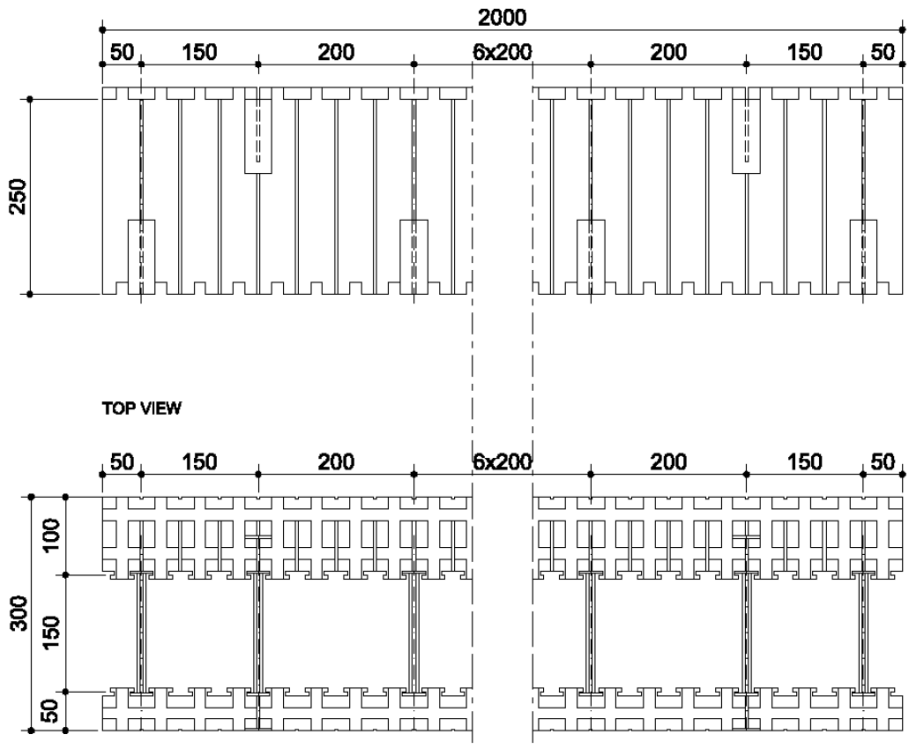
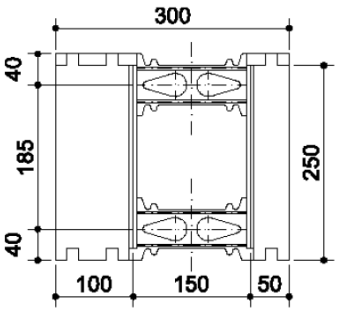
SIDE VIEW



FRONT VIEW



TOP VIEW

All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A56
UNIVERSAL SYSTEM (DISMOUNTABLE ELEMENTS) Block with plastic tie MCFU 2/30 200cm x 30cm x 25cm	

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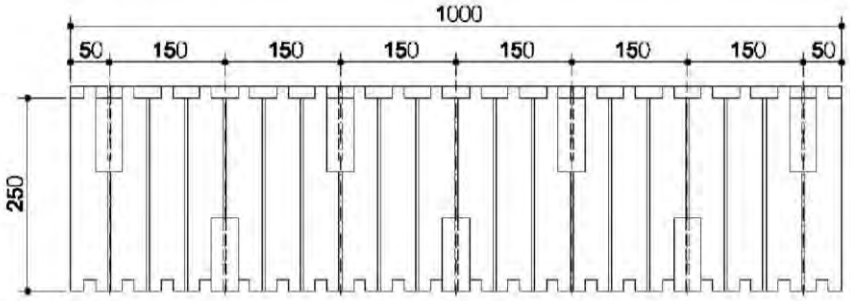
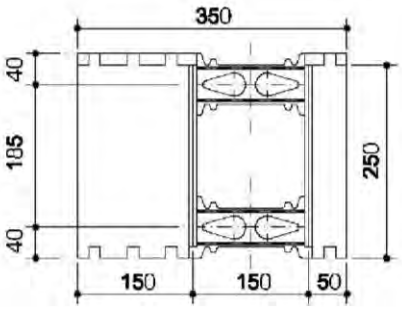
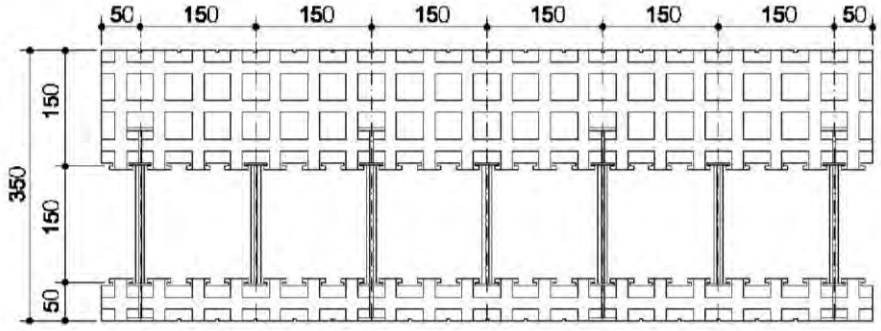
SIDE VIEW



FRONT VIEW



TOP VIEW



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A57
UNIVERSAL SYSTEM (DISMOUNTABLE ELEMENTS) Block with plastic tie MCFU 1/35 100cm x 35cm x 25cm	

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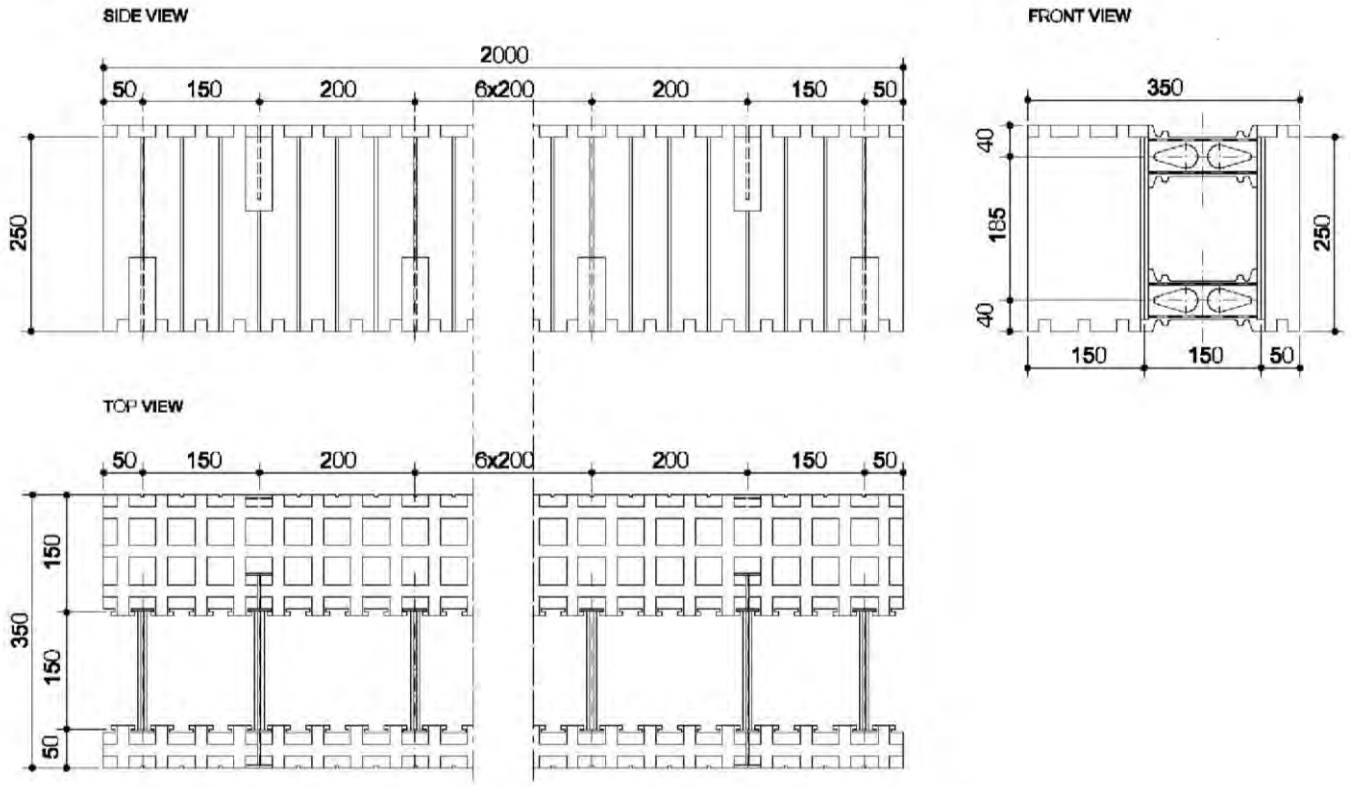

All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A58
UNIVERSAL SYSTEM (DISMOUNTABLE ELEMENTS) Block with plastic tie MCFU 2/35 200cm x 35cm x 25cm	

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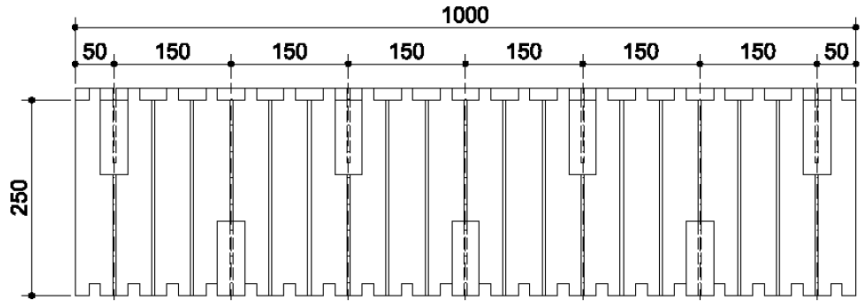
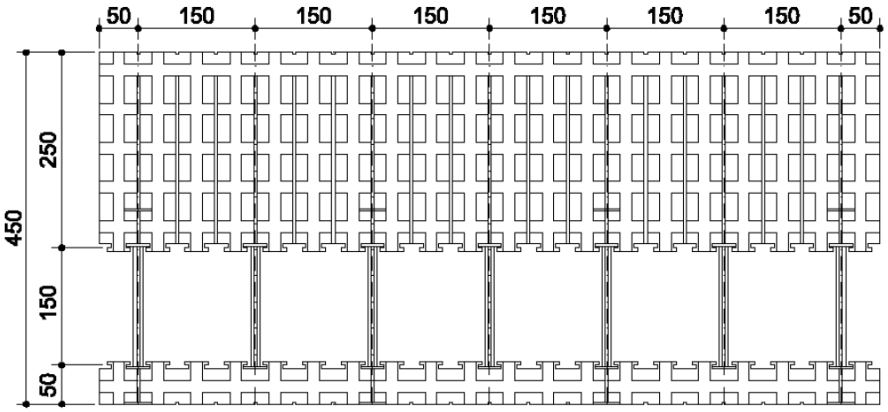
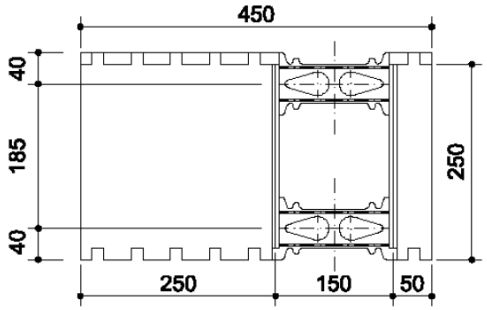
SIDE VIEW



TOP VIEW



FRONT VIEW



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A59
UNIVERSAL SYSTEM (DISMOUNTABLE ELEMENTS) Block with plastic tie MCFU 1/45 100cm x 45cm x 25cm	

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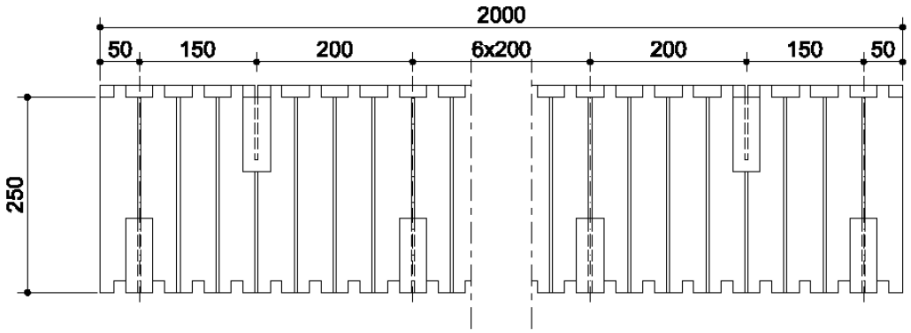
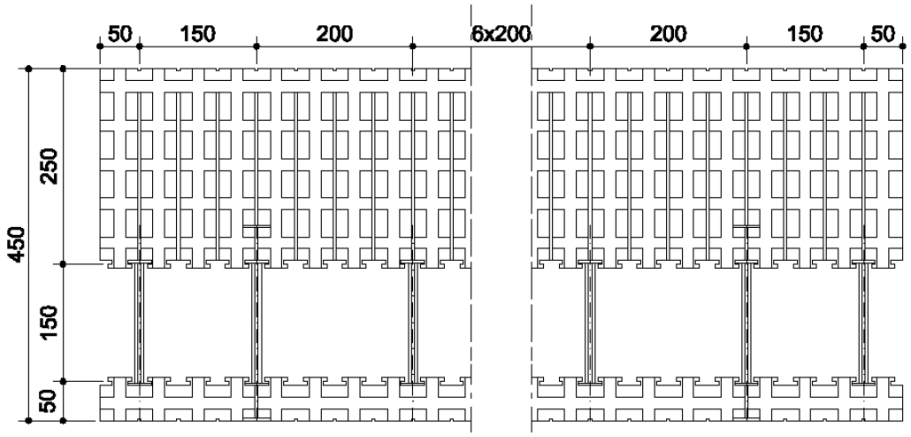
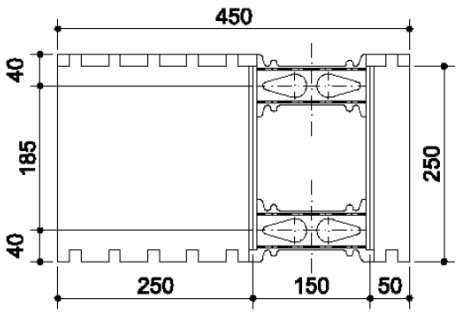
SIDE VIEW



TOP VIEW



FRONT VIEW



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A60
UNIVERSAL SYSTEM (DISMOUNTABLE ELEMENTS) Block with plastic tie MCFU 2/45 200cm x 45cm x 25cm	

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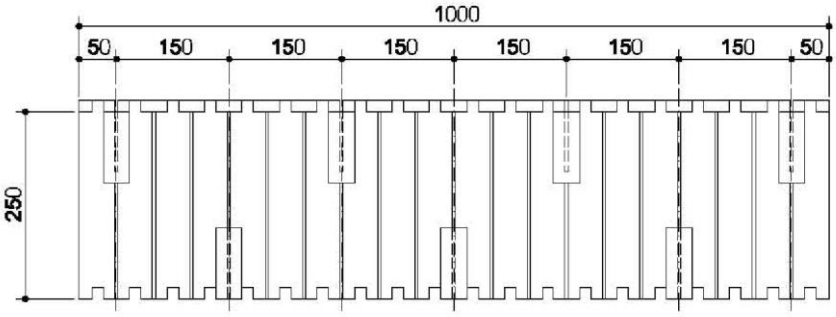
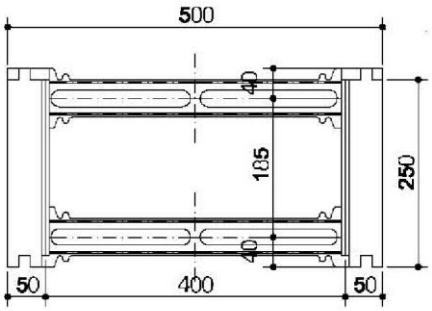
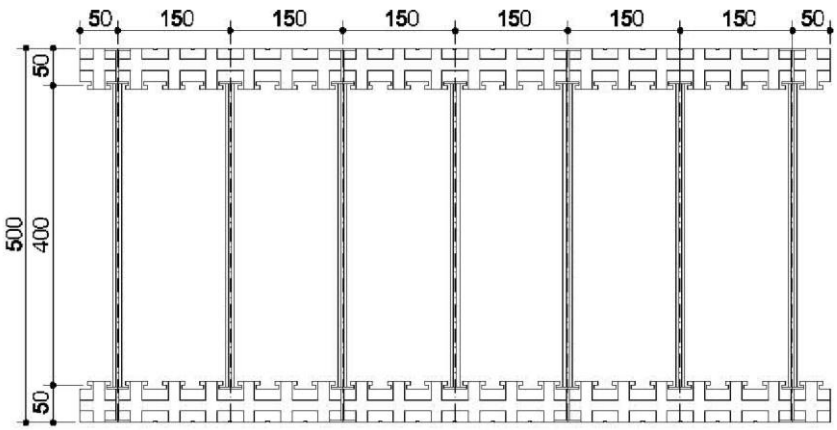
SIDE VIEW



FRONT VIEW



TOP VIEW



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A61
UNIVERSAL SYSTEM (DISMOUNTABLE ELEMENTS) Block with plastic tie MCFU 1/50 100cm x 50cm x 25cm	

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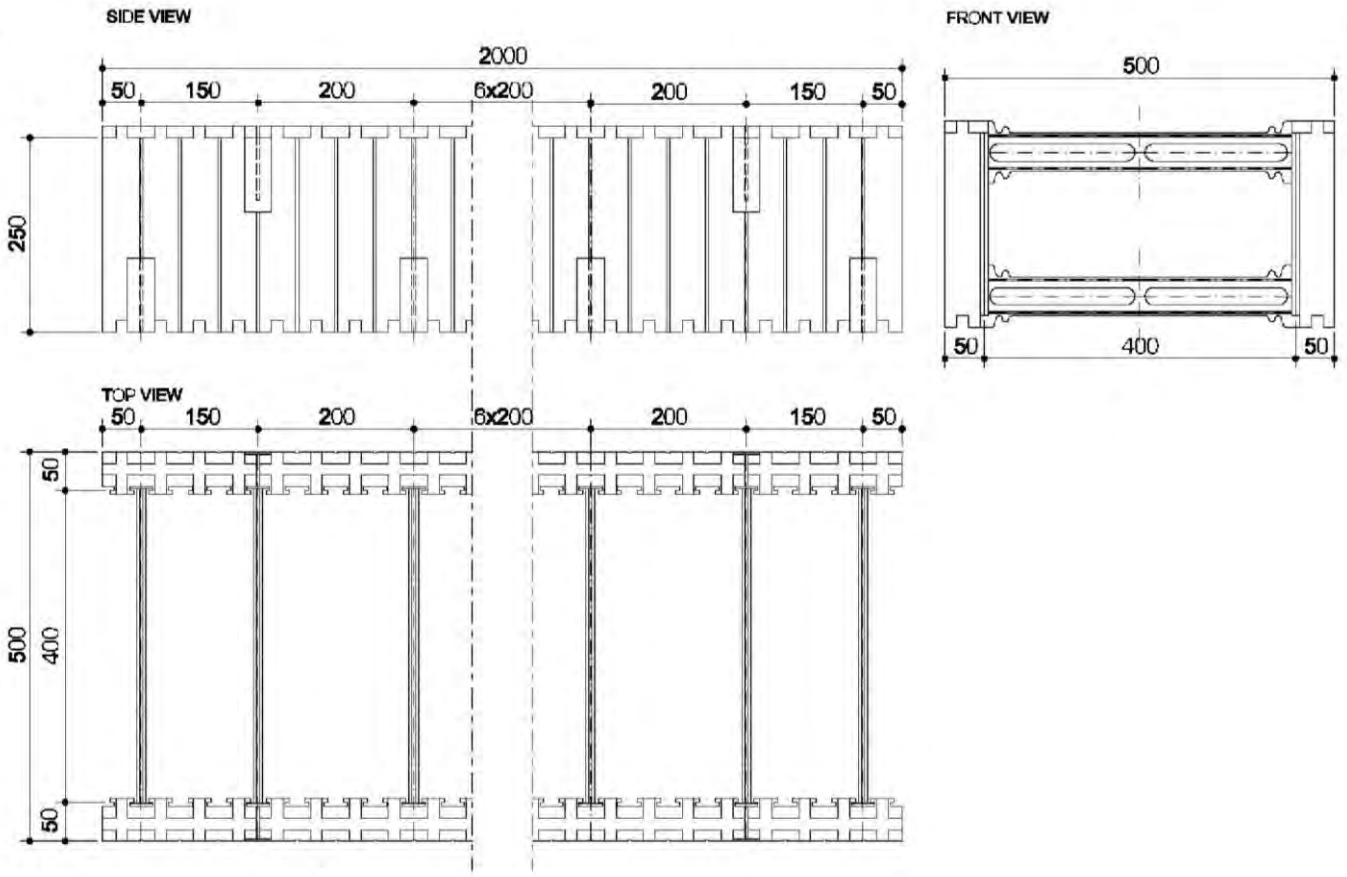

All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A62
UNIVERSAL SYSTEM (DISMOUNTABLE ELEMENTS) Block with plastic tie MCFU 2/50 200cm x 50cm x 25cm	

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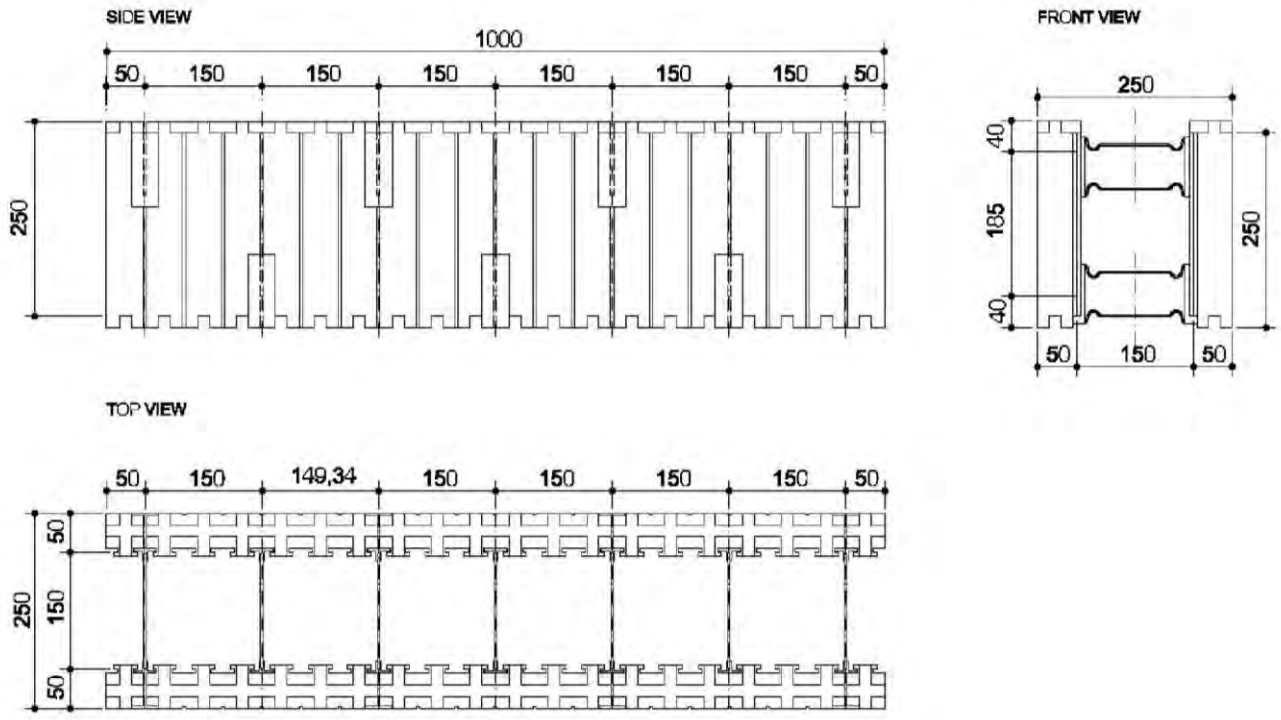

All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A63
UNIVERSAL SYSTEM (DISMOUNTABLE ELEMENTS) Plastic-steel tie block MCFU-St 1/25 100cm x 25cm x 25cm	

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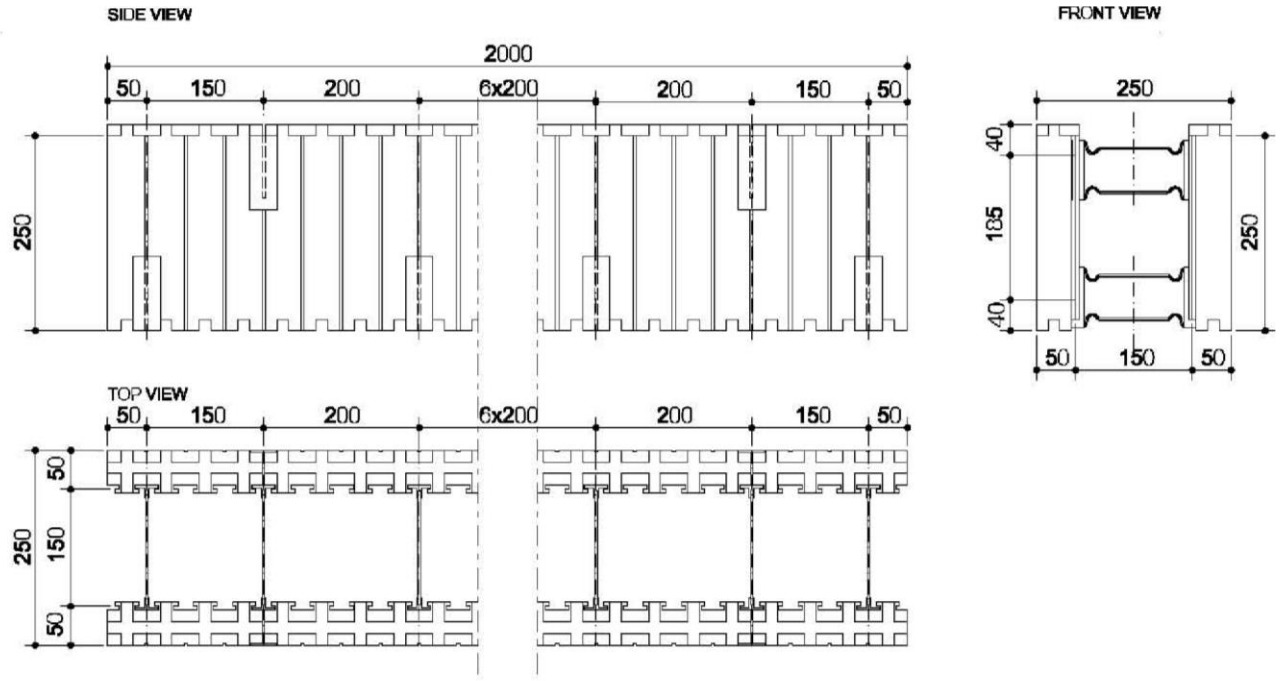

All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A64
UNIVERSAL SYSTEM (DISMOUNTABLE ELEMENTS) Plastic-steel tie block MCFU-St 2/25 200cm x 25cm x 25cm	

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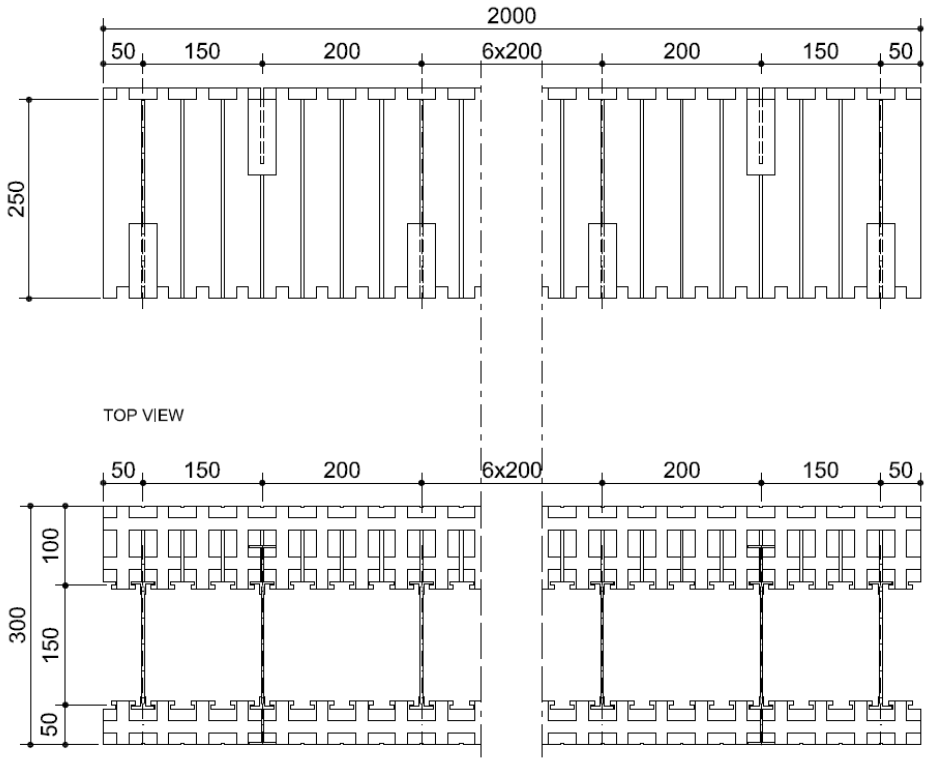
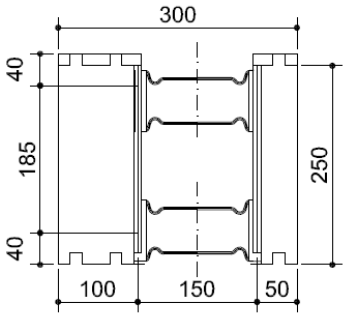
SIDE VIEW



FRONT VIEW



TOP VIEW

All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A65
UNIVERSAL SYSTEM (DISMOUNTABLE ELEMENTS) Plastic-steel tie block MCFU-St 2/30 200cm x 30cm x 25cm	

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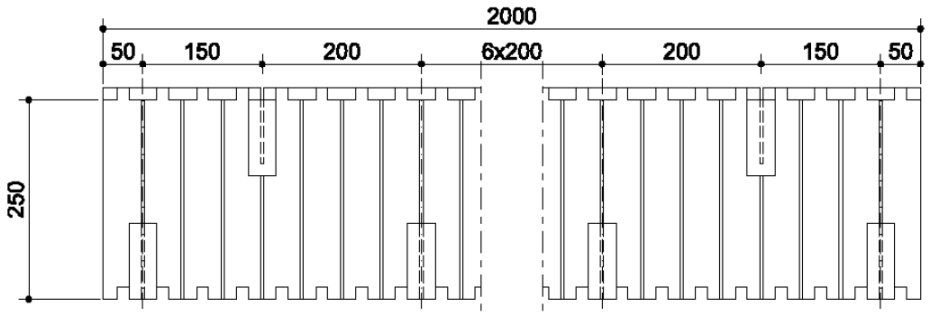
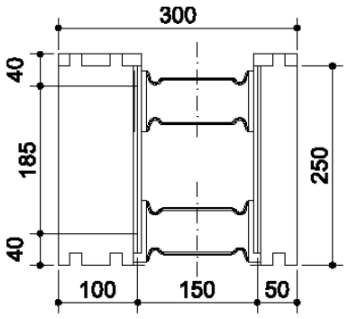
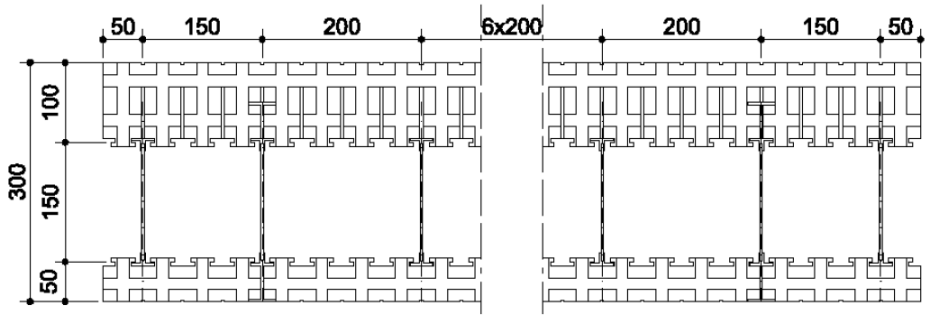
SIDE VIEW



FRONT VIEW



TOP VIEW



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A66
UNIVERSAL SYSTEM (DISMOUNTABLE ELEMENTS) Plastic-steel tie block MCFU-St 1/30 100cm x 30cm x 25cm	

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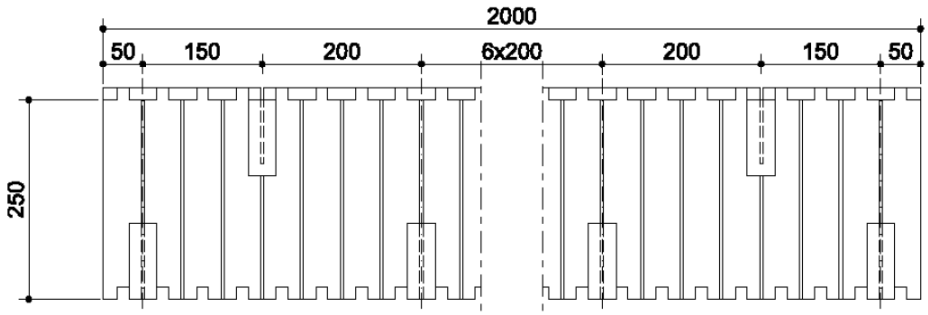
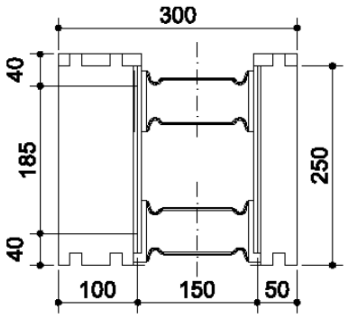
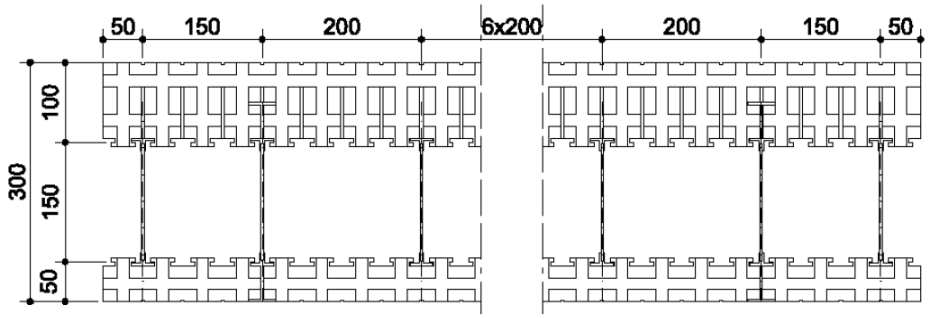
SIDE VIEW



FRONT VIEW



TOP VIEW



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A67
UNIVERSAL SYSTEM (DISMOUNTABLE ELEMENTS) Plastic-steel tie block MCFU-St 1/35 100cm x 35cm x 25cm	

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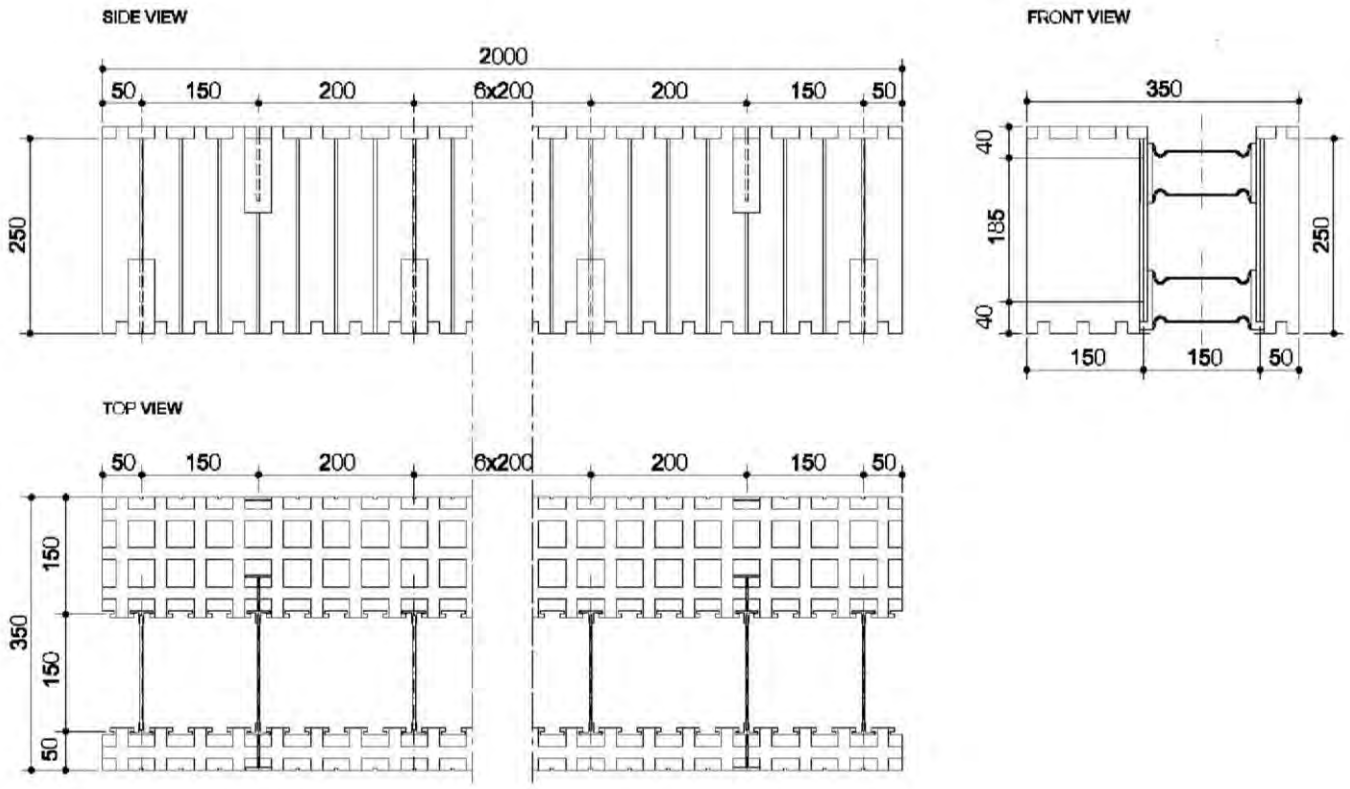

All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A68
UNIVERSAL SYSTEM (DISMOUNTABLE ELEMENTS) Plastic-steel tie block MCFU-St 2/35 200cm x 35cm x 25cm	

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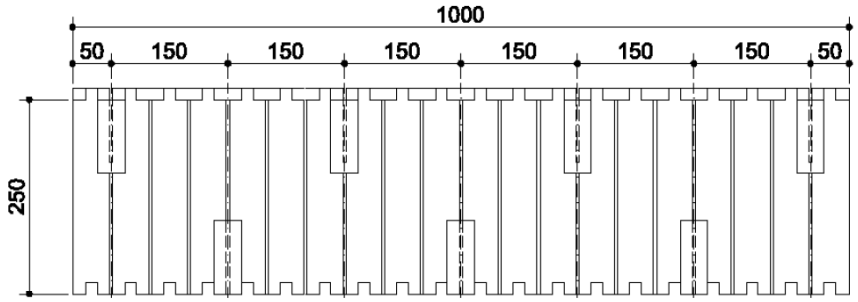
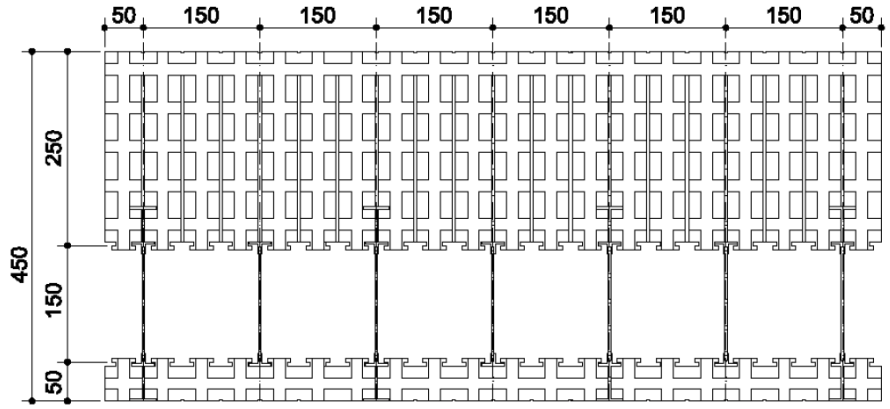
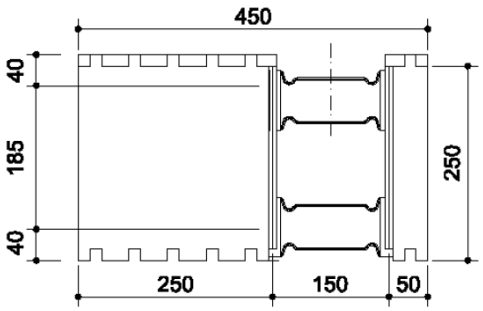
SIDE VIEW



TOP VIEW



FRONT VIEW



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A69
UNIVERSAL SYSTEM (DISMOUNTABLE ELEMENTS) Plastic-steel tie block MCFU-St 1/45 100cm x 45cm x 25cm	

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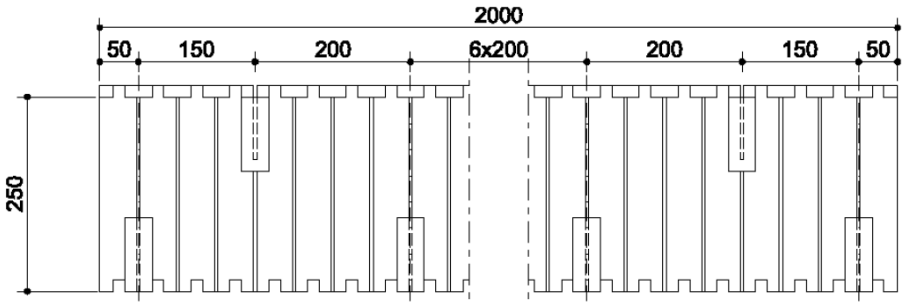
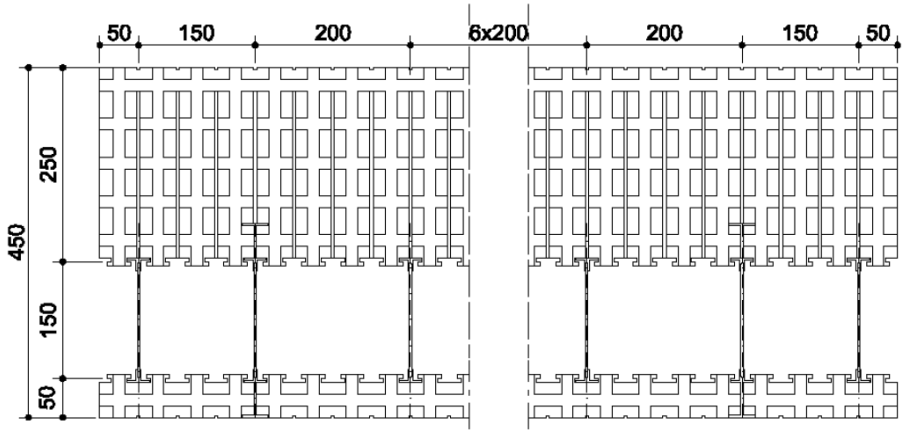
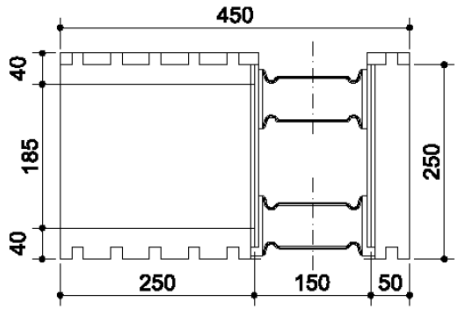
SIDE VIEW



TOP VIEW



FRONT VIEW



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A70
UNIVERSAL SYSTEM (DISMOUNTABLE ELEMENTS) Plastic-steel tie block MCFU-St 2/45 200cm x 45cm x 25cm	

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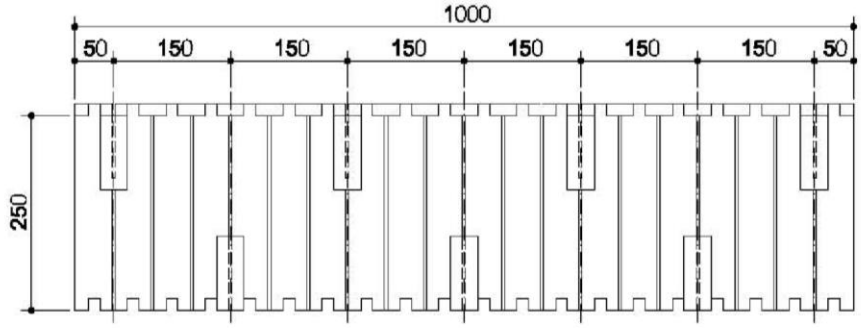
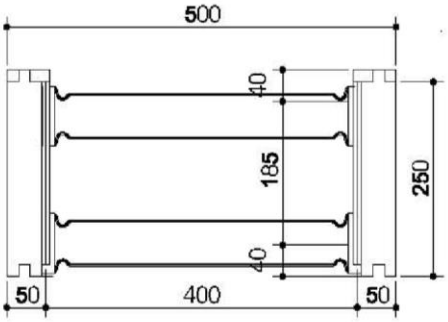
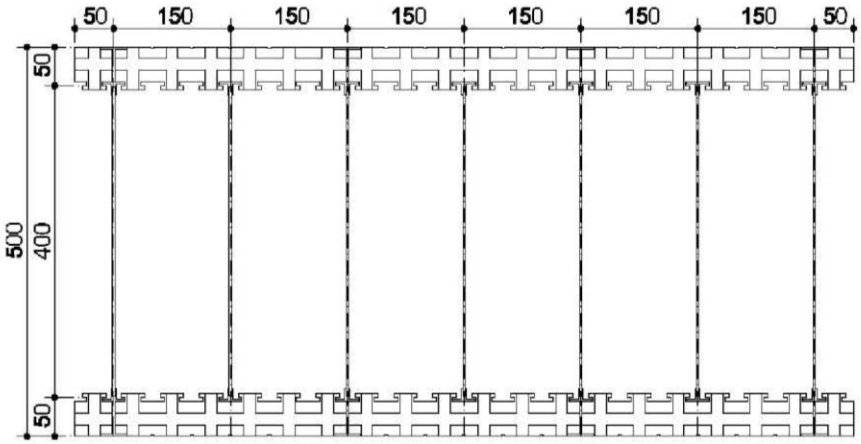
SIDE VIEW



FRONT VIEW

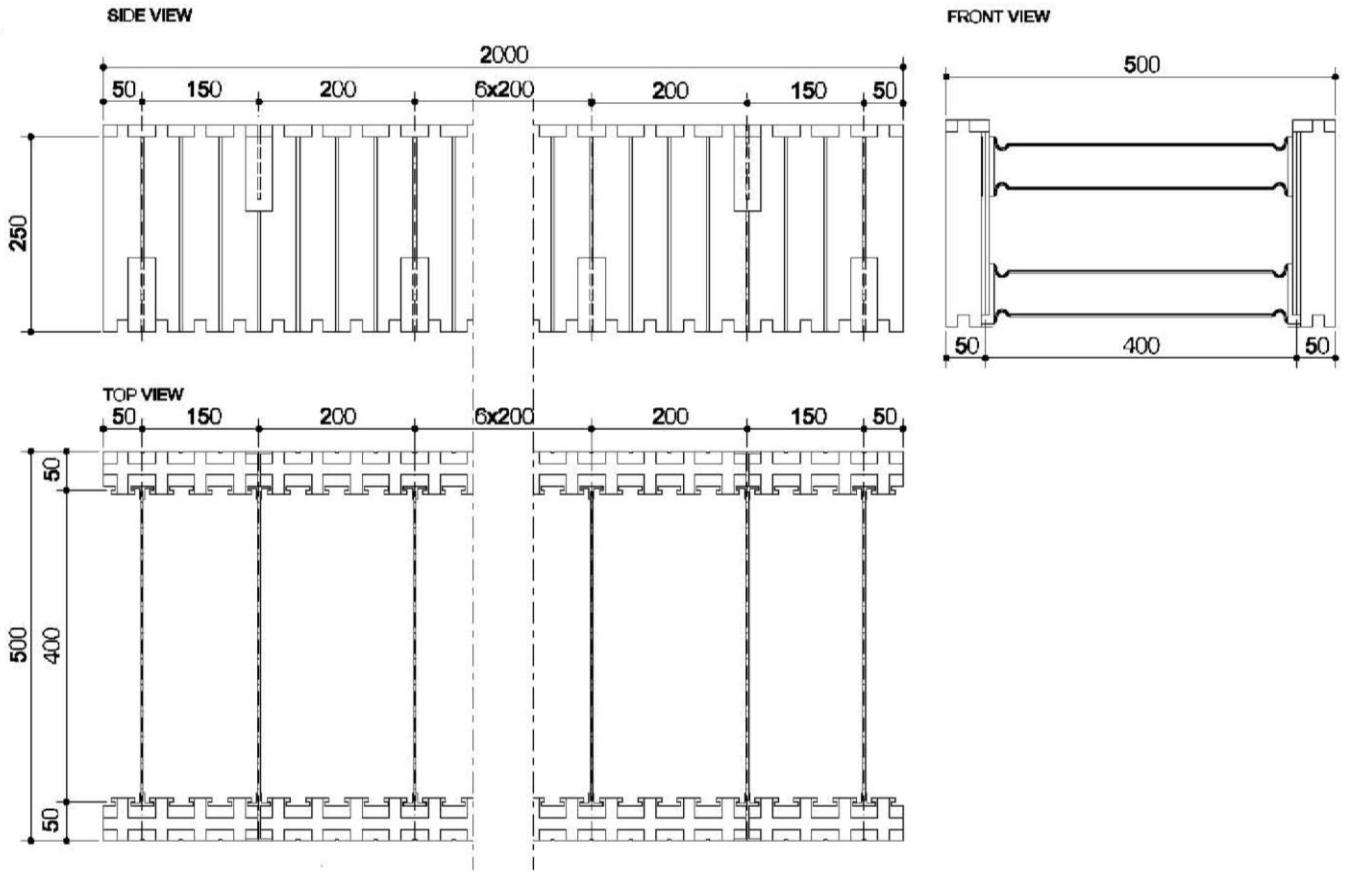


TOP VIEW



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A71
UNIVERSAL SYSTEM (DISMOUNTABLE ELEMENTS) Plastic-steel tie block MCFU-St 1/50 100cm x 50cm x 25cm	



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A72
UNIVERSAL SYSTEM (DISMOUNTABLE ELEMENTS) Plastic-steel tie block MCFU-St 2/50 200cm x 50cm x 25cm	

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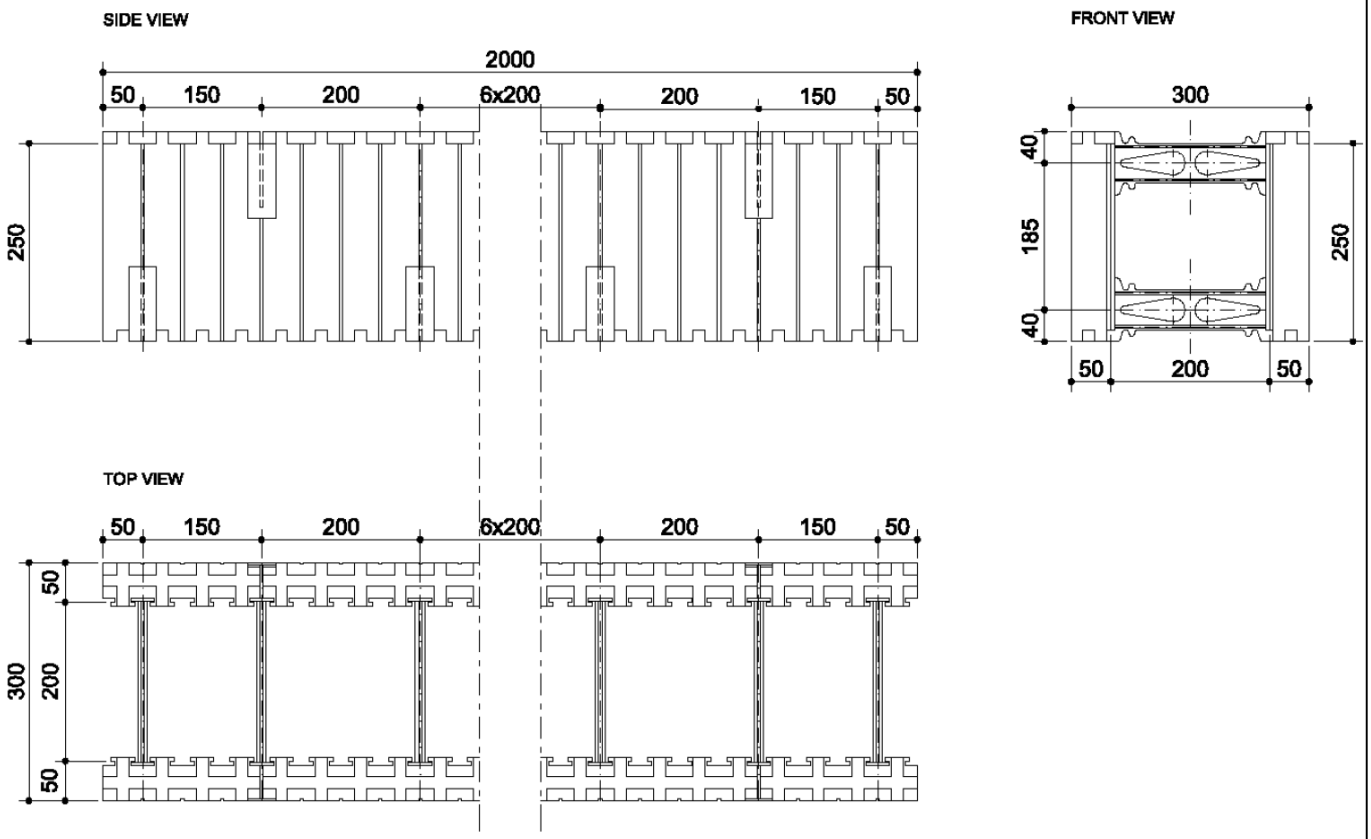

All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A73
UNIVERSAL PLUS SYSTEM (DISMOUNTABLE ELEMENTS) Block with plastic tie MCFU 2/30+ 200cm x 25cm x 30cm	

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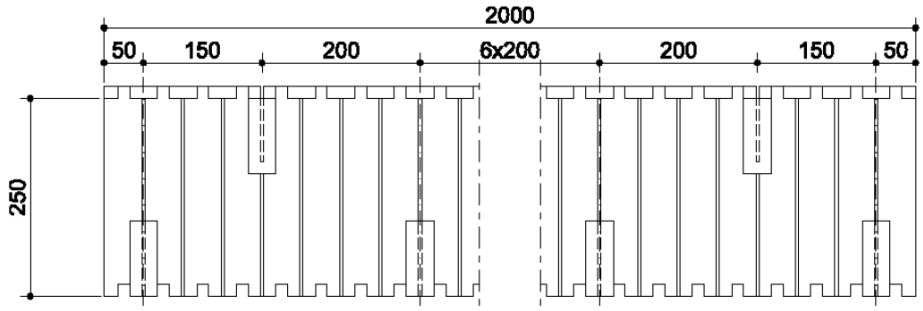
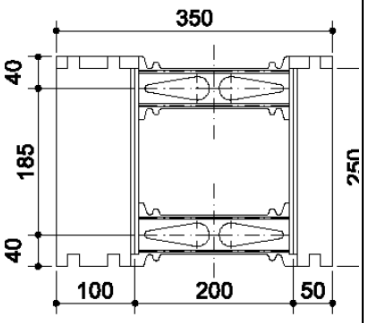
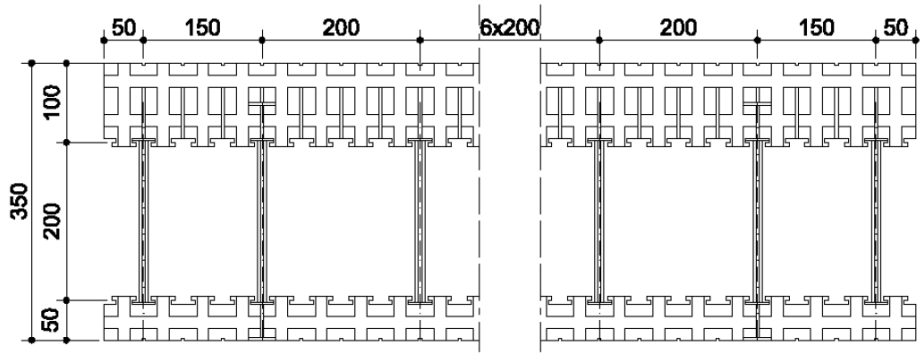
SIDE VIEW



FRONT VIEW



TOP VIEW



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A74
UNIVERSAL PLUS SYSTEM (DISMOUNTABLE ELEMENTS) Block with plastic tie MCFU 2/35+ 200cm x 25cm x 35cm	

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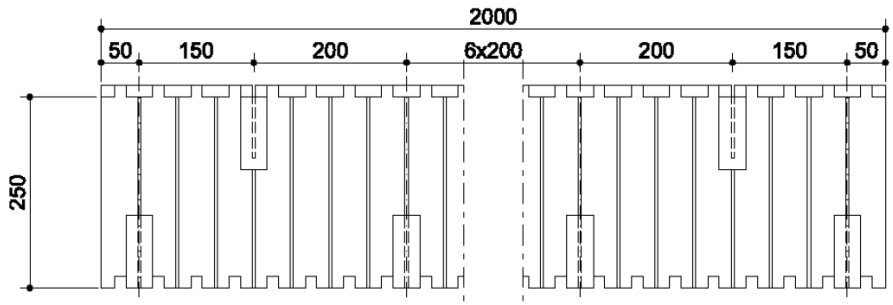
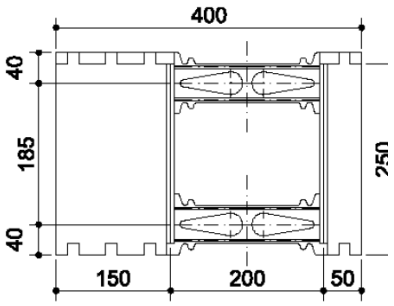
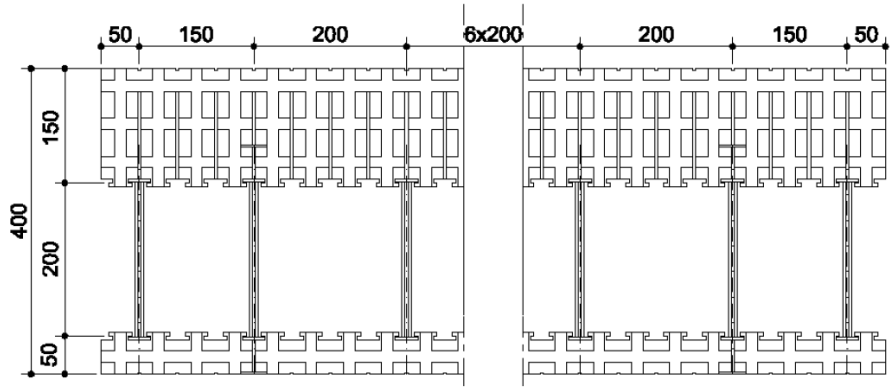
SIDE VIEW



FRONT VIEW



TOP VIEW



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A75
UNIVERSAL PLUS SYSTEM (DISMOUNTABLE ELEMENTS) Block with plastic tie MCFU 2/40+ 200cm x 25cm x 40cm	

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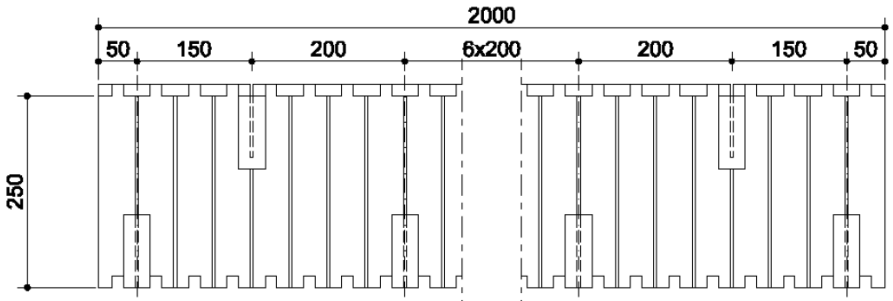
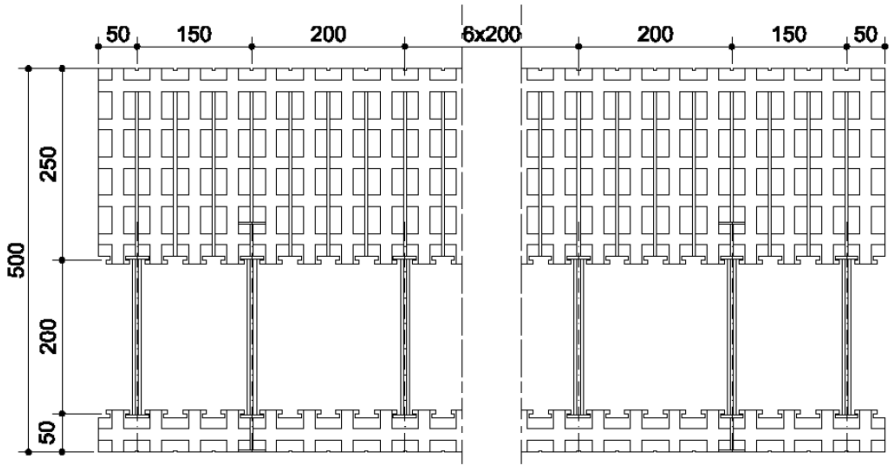
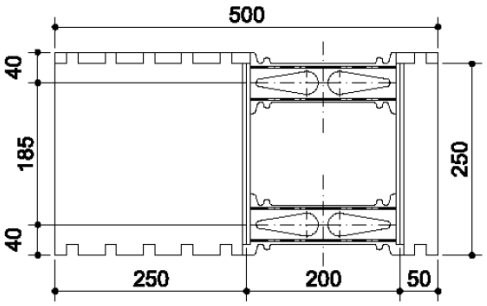
SIDE VIEW



TOP VIEW



FRONT VIEW



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A76
UNIVERSAL PLUS SYSTEM (DISMOUNTABLE ELEMENTS) Block with plastic tie MCFU 2/50+ 200cm x 25cm x 50cm	

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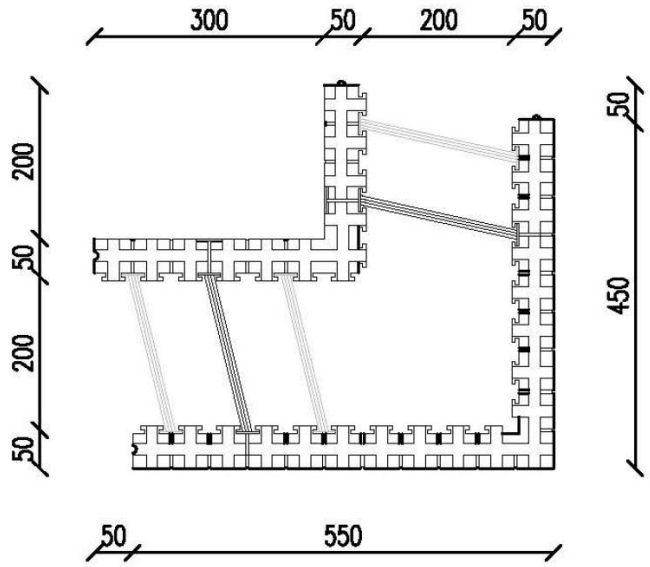
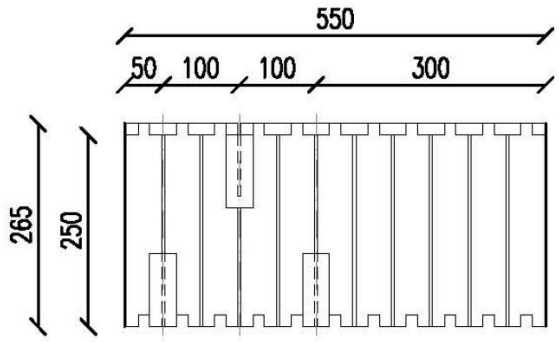
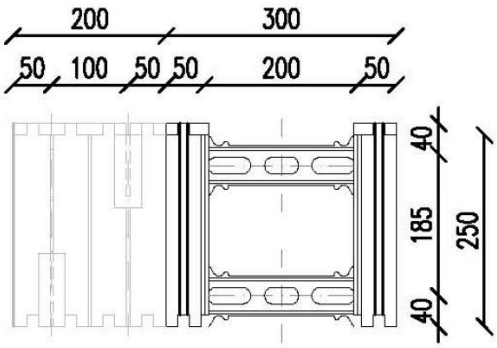
TOP VIEW



SIDE VIEW



FRONT VIEW



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A77
UNIVERSAL PLUS SYSTEM (DISMOUNTABLE ELEMENTS) 90° corner MCFU 30+ E90 RA / LI ETA-07-0117 100{60)cm x 25cm x 30cm (external right / internal left)	

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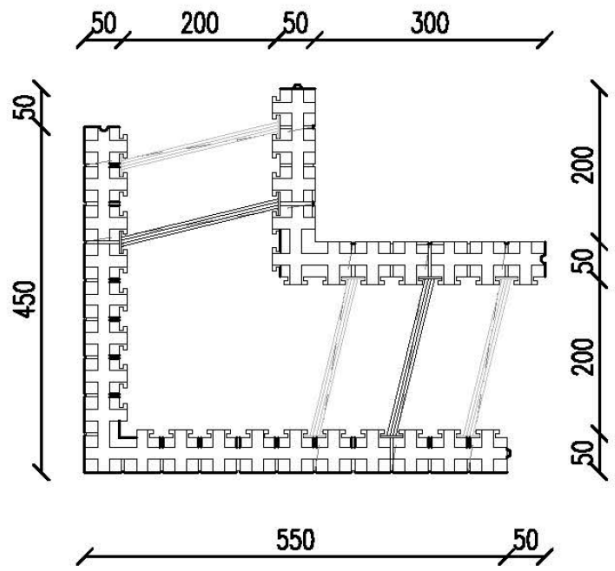
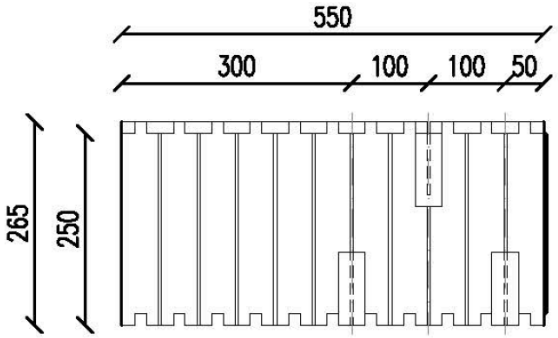
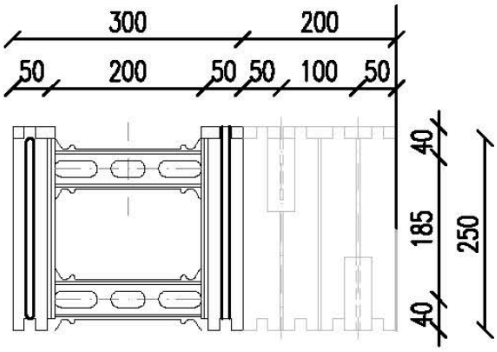
TOP VIEW



SIDE VIEW



FRONT VIEW



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A78
UNIVERSAL PLUS SYSTEM (DISMOUNTABLE ELEMENTS) 90° corner MCFU 30+ E90 LA / RI 100(60)cm x 25cm x 30cm (external left / internal right)	

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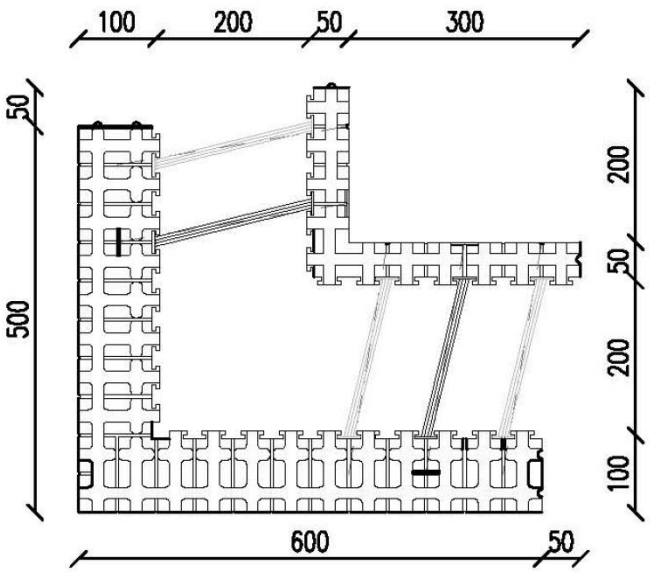
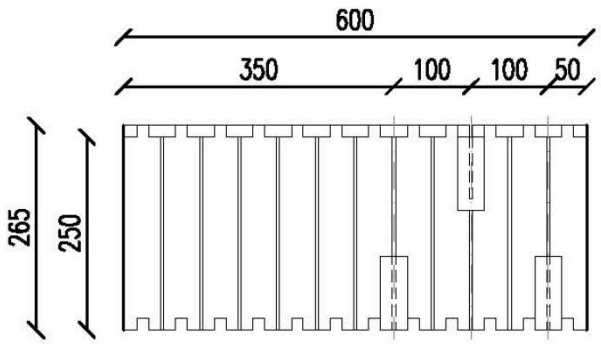
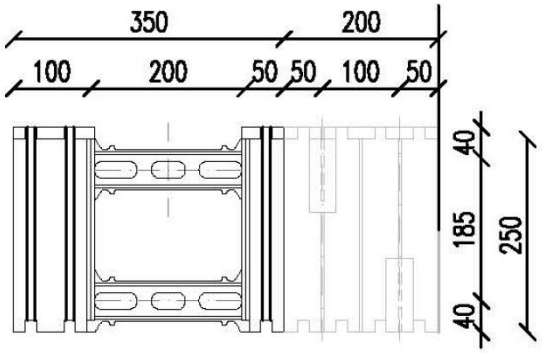
TOP VIEW



SIDE VIEW



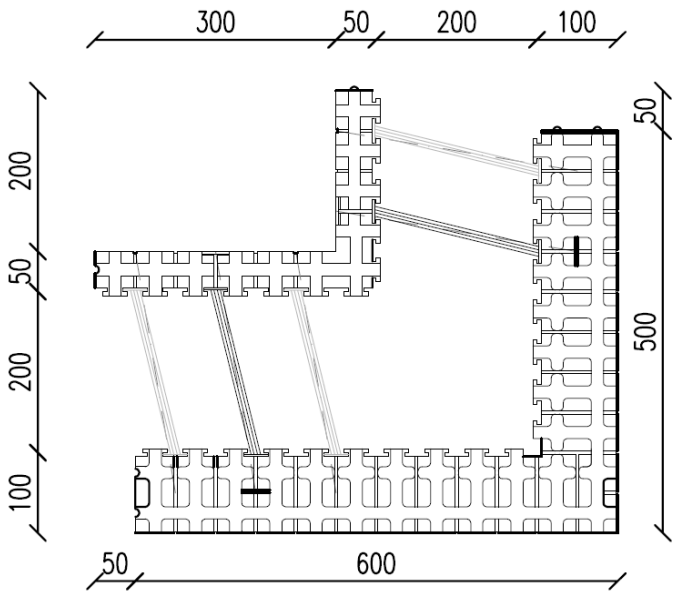
FRONT VIEW



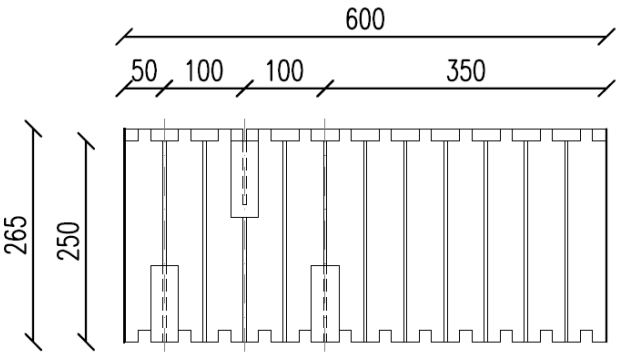
All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A79
UNIVERSAL PLUS SYSTEM (DISMOUNTABLE ELEMENTS) 90° corner (external / left) MCFU35+ E90 LA 110cm x 35cm x 25cm	

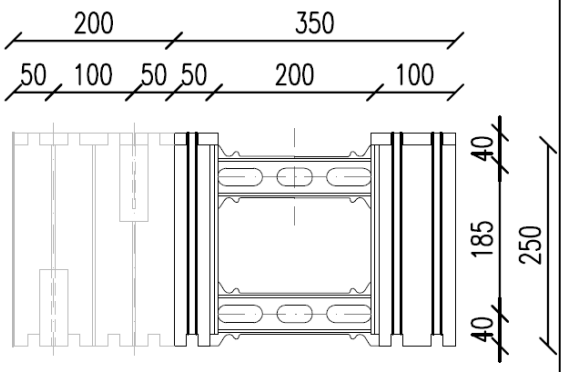
TOP VIEW



SIDE VIEW



FRONT VIEW



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A80
UNIVERSAL PLUS SYSTEM (DISMOUNTABLE ELEMENTS) 90° comer (external / right) MCFU35+ E90 RA 110cm x 35cm x 25cm	

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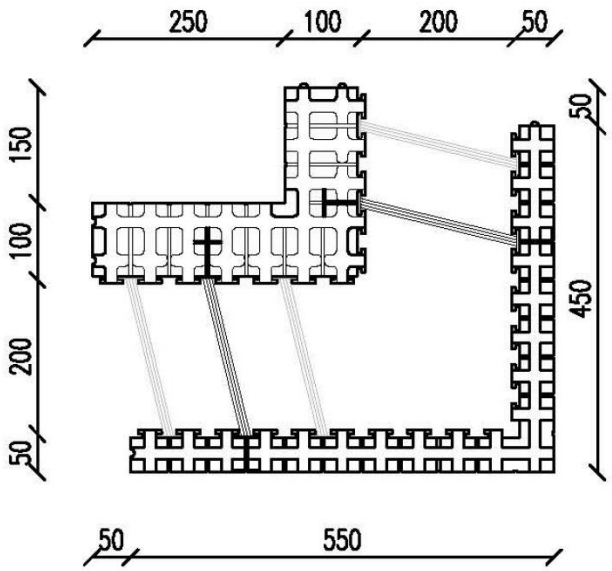
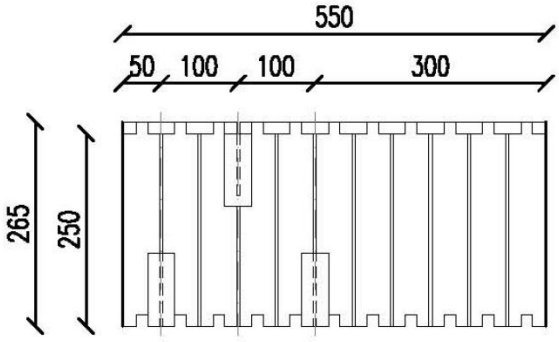
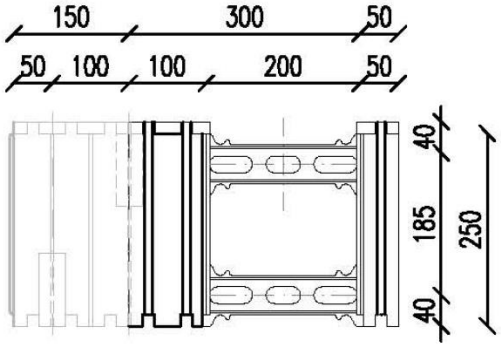
TOP VIEW



SIDE VIEW



FRONT VIEW



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A81
UNIVERSAL PLUS SYSTEM (DISMOUNTABLE ELEMENTS) 90° corner (internal / right) MCFU 35+ E90 RI 40cm x 35cm x 25cm	

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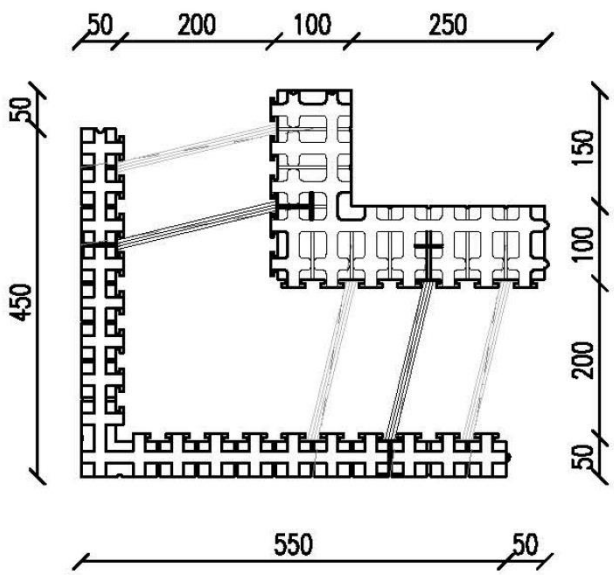
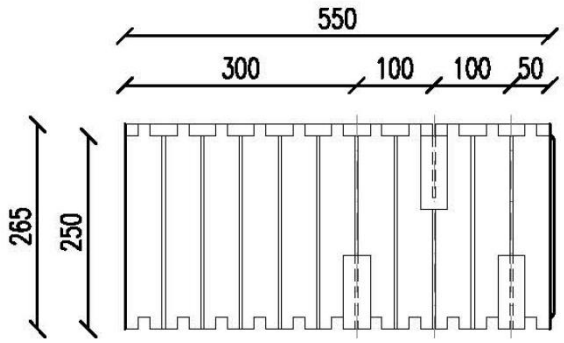
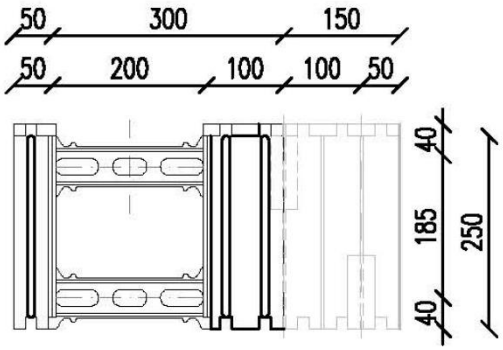
TOP VIEW



SIDE VIEW



FRONT VIEW



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A82
UNIVERSAL PLUS SYSTEM (DISMOUNTABLE ELEMENTS) 90° corner (internal / left) MCFU35+ E90 LI 40cm x 35cm x 25cm	

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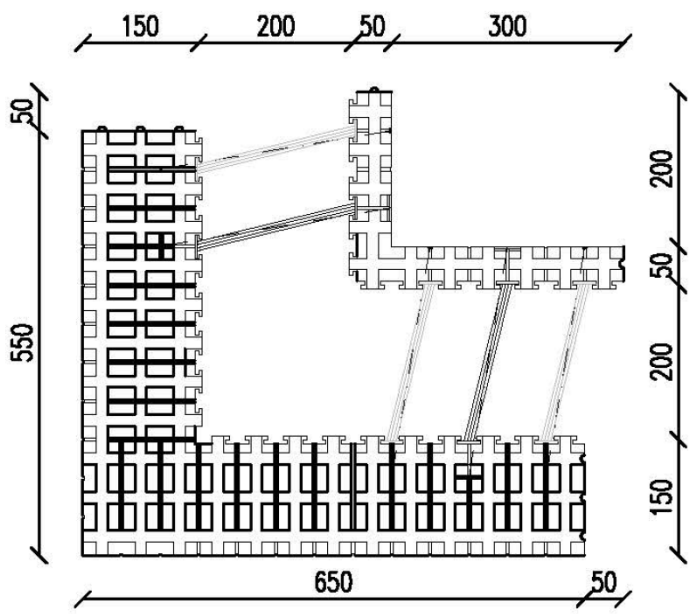
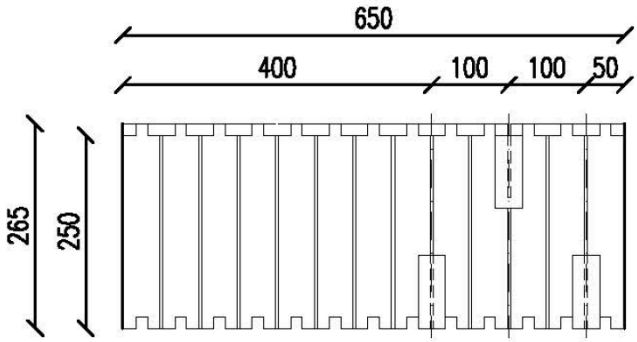
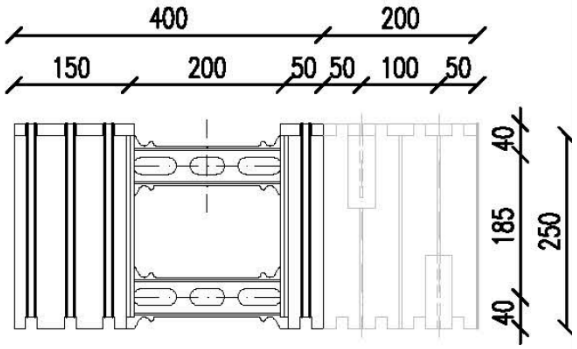
TOP VIEW



SIDE VIEW



FRONT VIEW



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A83
UNIVERSAL PLUS SYSTEM (DISMOUNTABLE ELEMENTS) 90° corner (external / left) MCFU40+ E90 LA 120cm x 40cm x 25cm	

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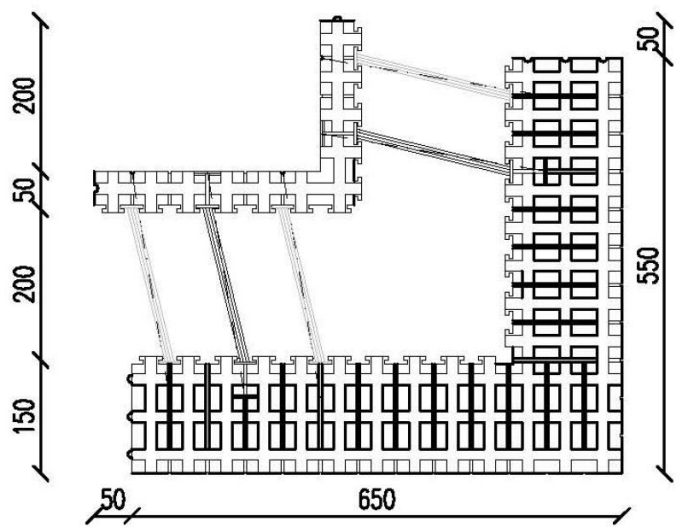
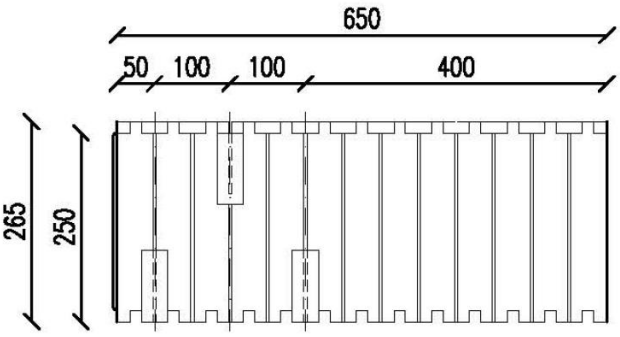
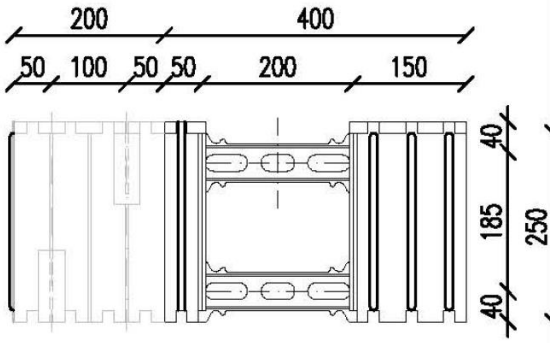
TOP VIEW



SIDE VIEW



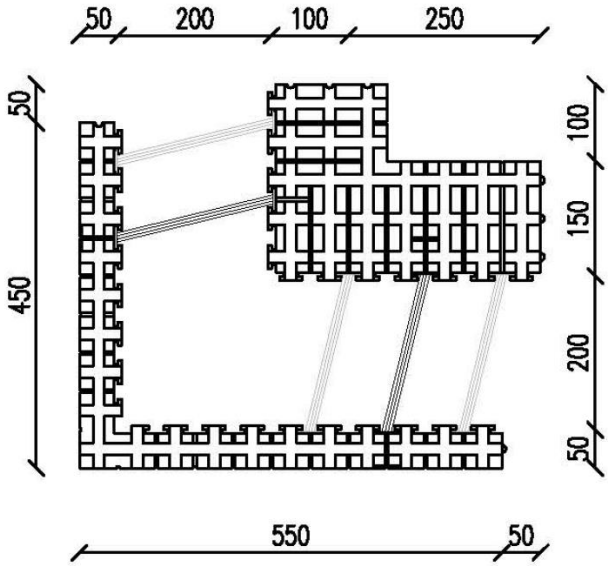
FRONT VIEW



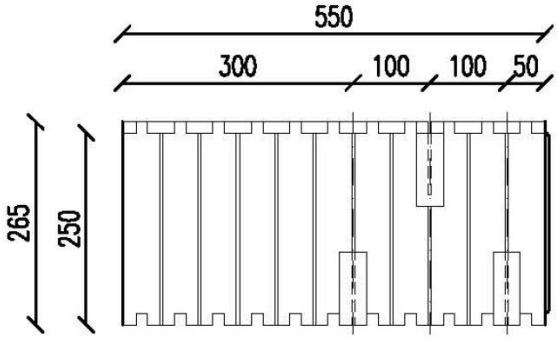
All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A84
UNIVERSAL PLUS SYSTEM (DISMOUNTABLE ELEMENTS) 90° comer (external / right) MCFU40+ E90 RA 120cm x 40cm x 25cm	

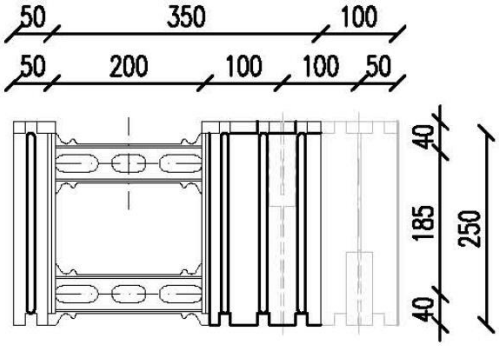
TOP VIEW



SIDE VIEW



FRONT VIEW



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A85
UNIVERSAL PLUS SYSTEM (DISMOUNTABLE ELEMENTS) 90° corner (internal / left) MCFU 40+ E90 LI 30cm x 40cm x 25cm	

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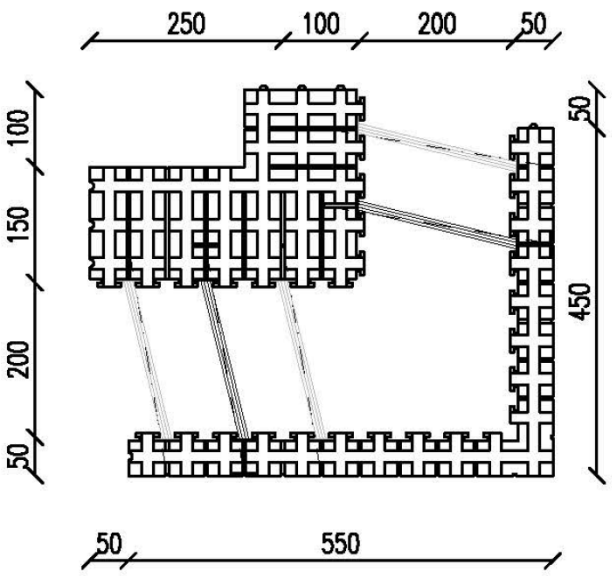
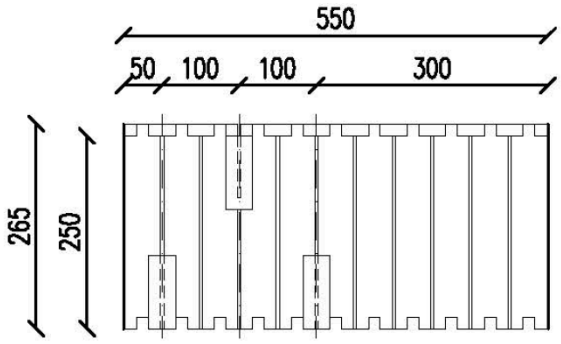
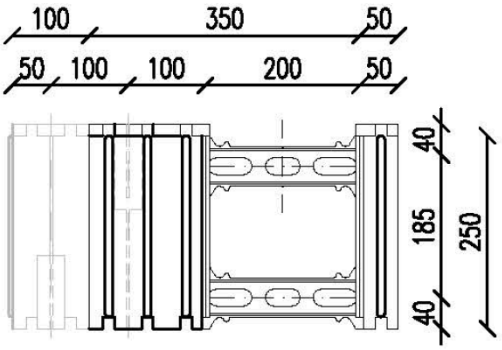
TOP VIEW



SIDE VIEW

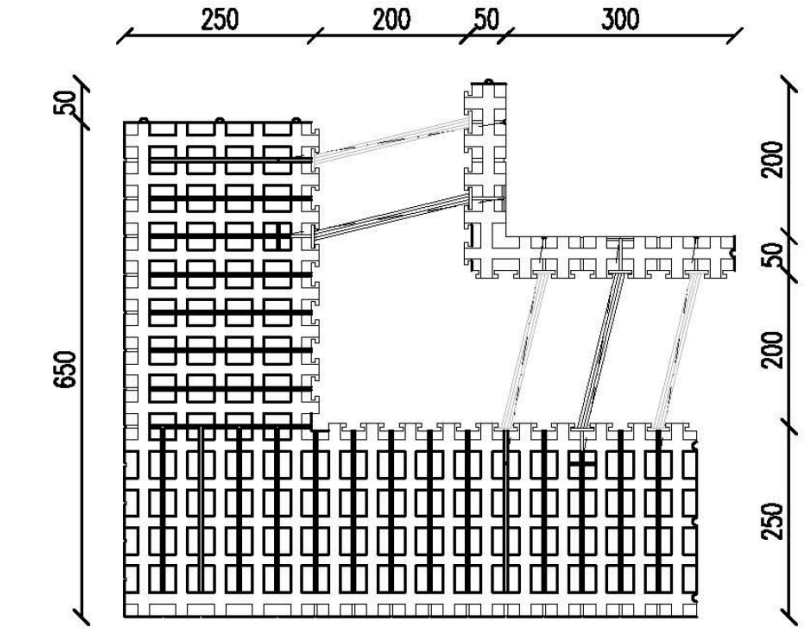


FRONT VIEW

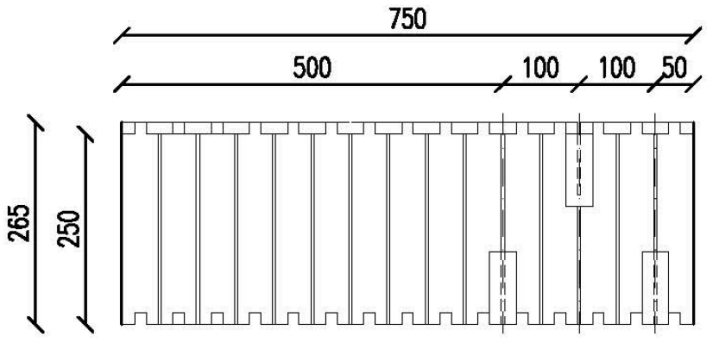


All dimensions are given in mm

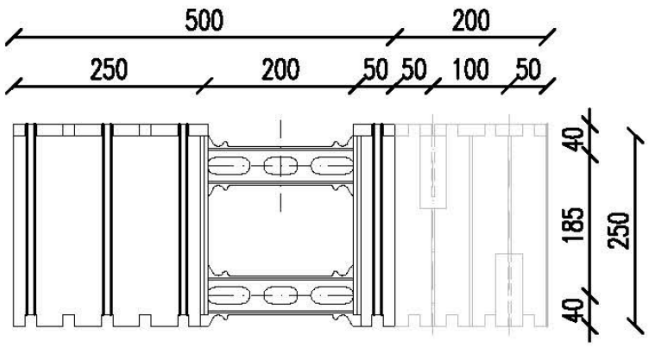
Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A86
UNIVERSAL PLUS SYSTEM (DISMOUNTABLE ELEMENTS) 90° corner (internal / right) MCFU 40+ E90 RI 30cm x 40cm x 25cm	



SIDE VIEW



FRONT VIEW



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A87
UNIVERSAL PLUS SYSTEM (DISMOUNTABLE ELEMENTS) 90° comer (external / left) MCFU 50+ E90 LA 140cm x 25cm x 50cm	

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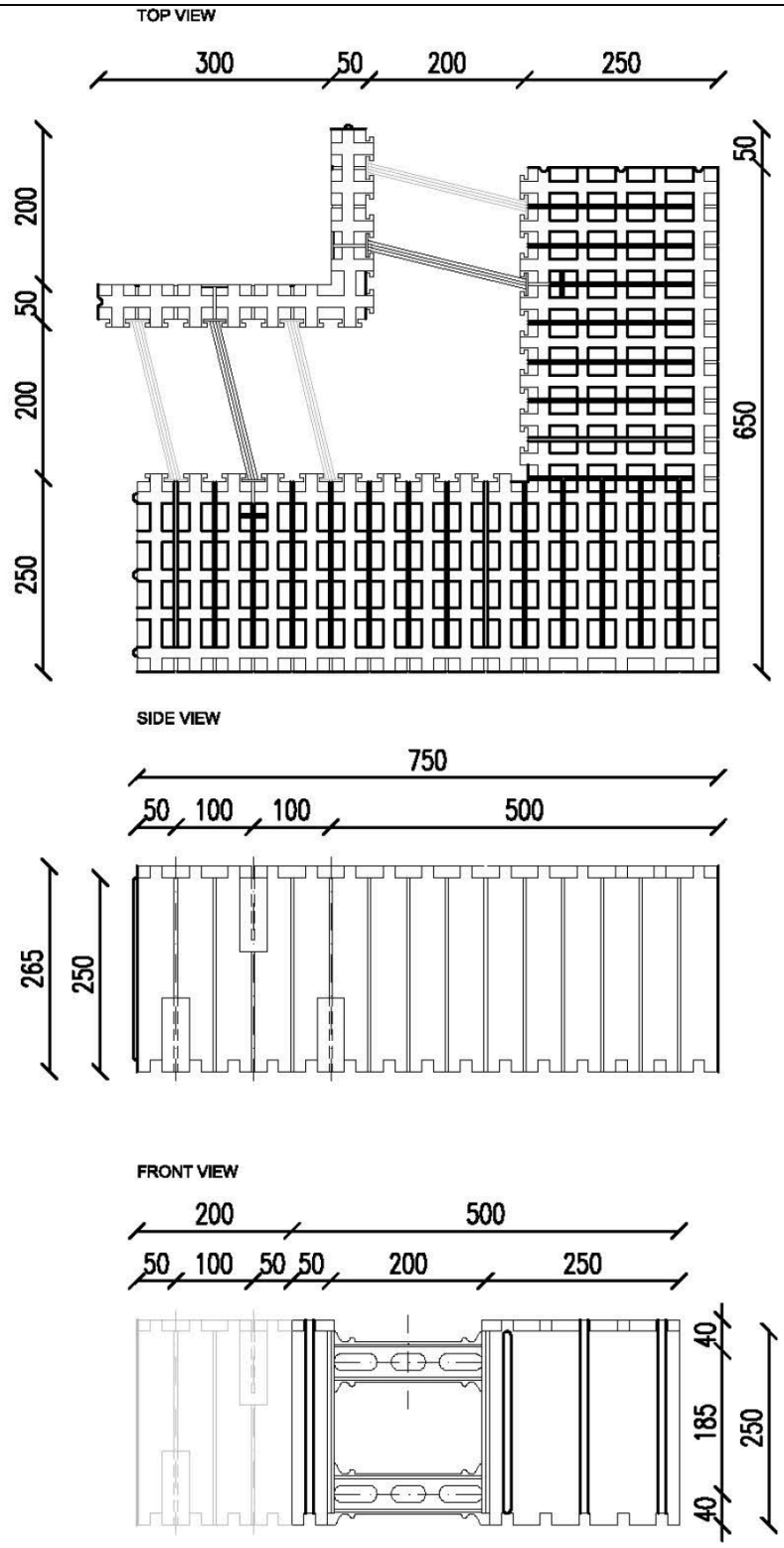

All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A88
UNIVERSAL PLUS SYSTEM (DISMOUNTABLE ELEMENTS) 90° corner (external / right) MCFU 50+ E90 RA 140cm x 25cm x 50cm	

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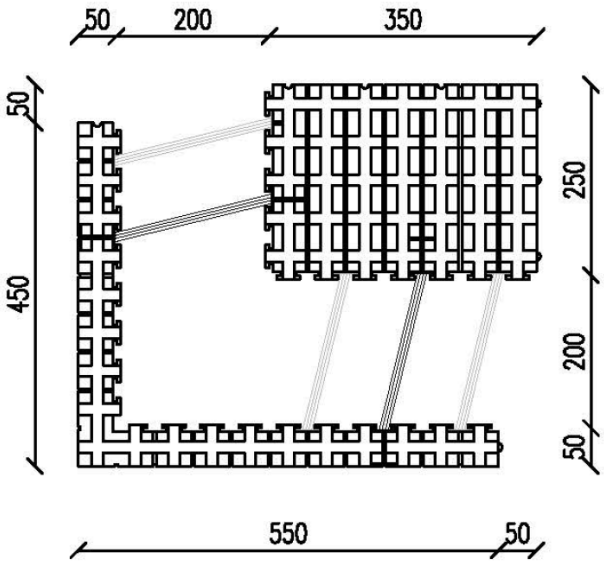
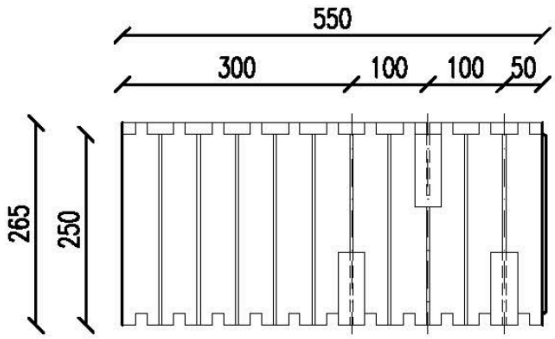
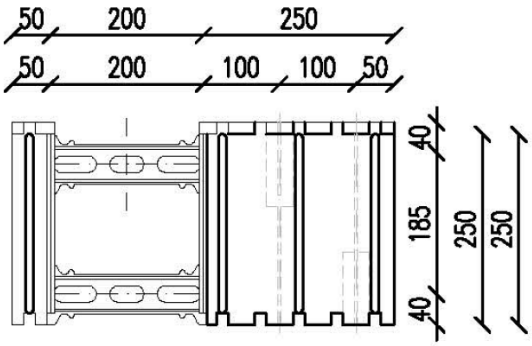
TOP VIEW



SIDE VIEW



FRONT VIEW



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A89
UNIVERSAL PLUS SYSTEM (DISMOUNTABLE ELEMENTS) 90° corner (internal / left) MCFU 50+ E90 LI 35cm x 25cm x 50cm	

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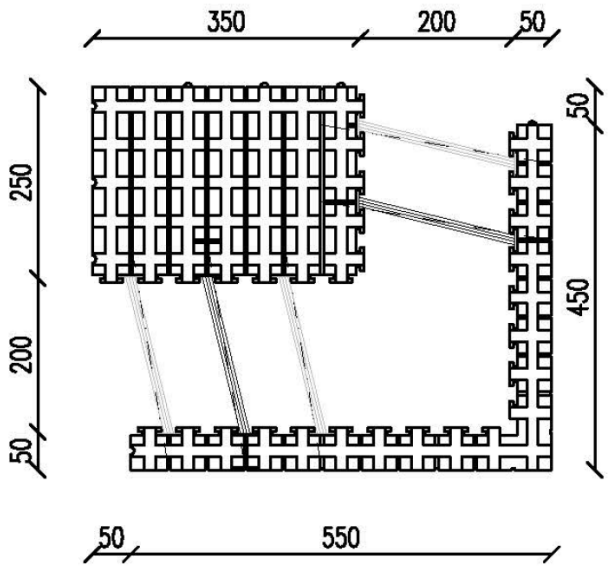
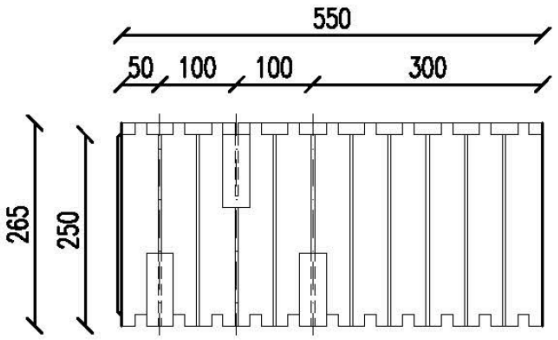
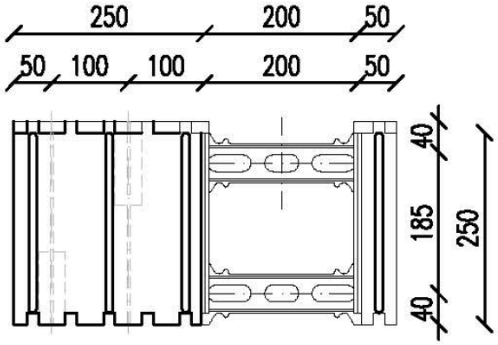
TOP VIEW



SIDE VIEW



FRONT VIEW



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A90
UNIVERSAL PLUS SYSTEM (DISMOUNTABLE ELEMENTS) 90° corner (internal / right) MCFU 50+ E90 RI 35cm x 25cm x 50cm	

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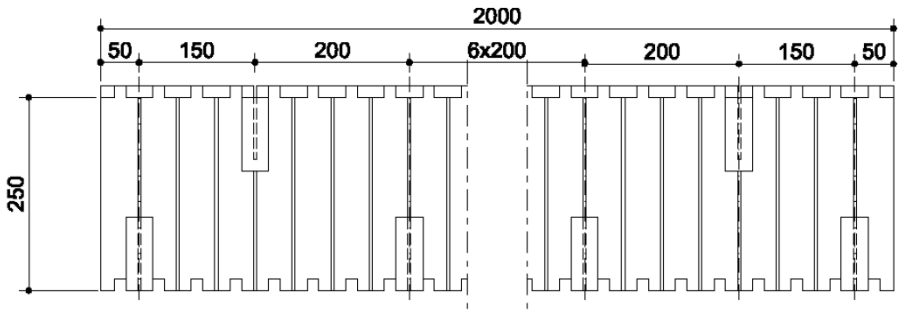
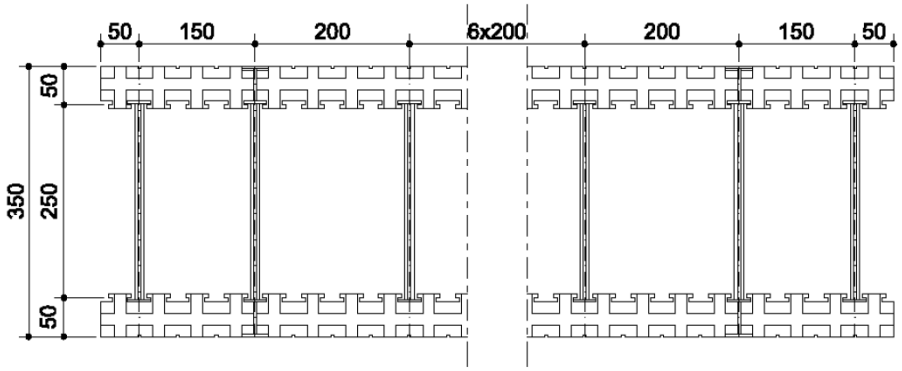
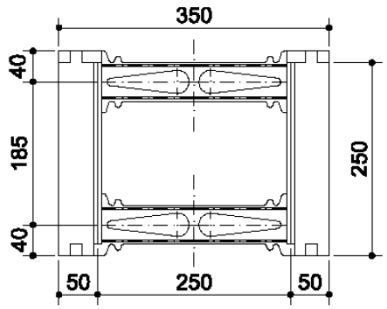
SIDE VIEW



TOP VIEW



FRONT VIEW



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A91
UNIVERSAL PLUS SYSTEM (DISMOUNTABLE ELEMENTS) Block with plastic tie MCFU 2/35++ 200cm x 25cm x 35cm	

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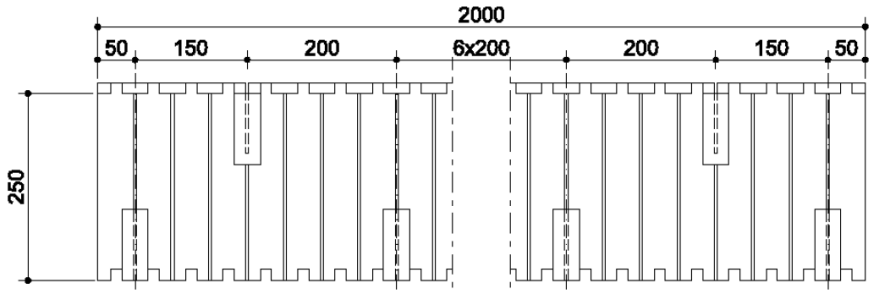
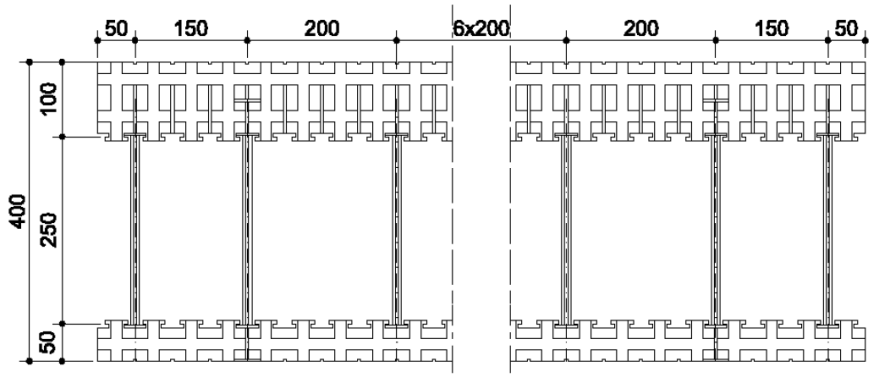
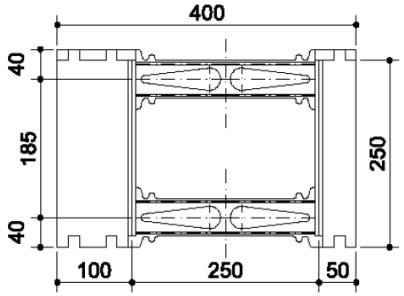
SIDE VIEW



TOP VIEW



FRONT VIEW



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A92
UNIVERSAL PLUS SYSTEM (DISMOUNTABLE ELEMENTS) Block with plastic tie MCFU 2/40++ 200cm x 25cm x 40cm	

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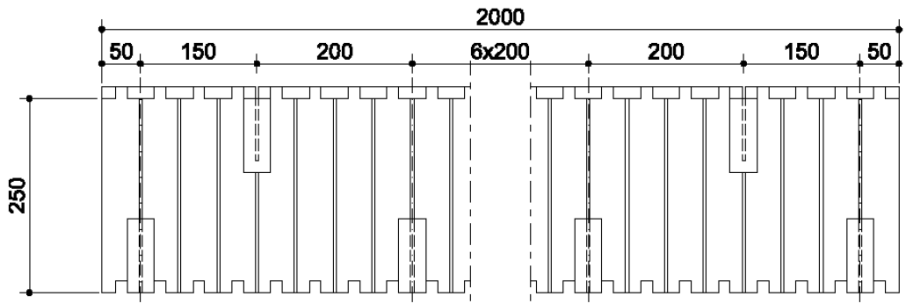
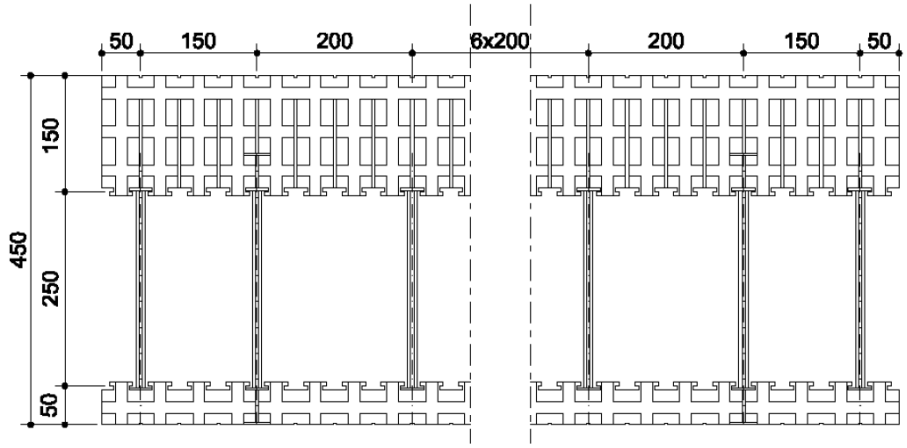
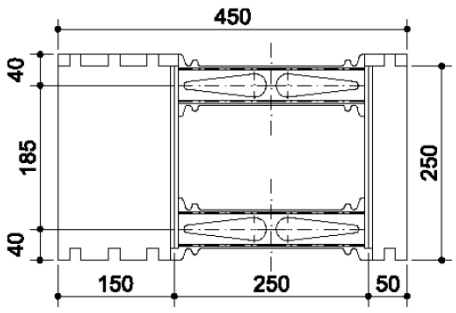
SIDE VIEW



TOP VIEW



FRONT VIEW



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A93
UNIVERSAL PLUS SYSTEM (DISMOUNTABLE ELEMENTS) Block with plastic tie MCFU 2/45++ 200cm x 25cm x 45cm	

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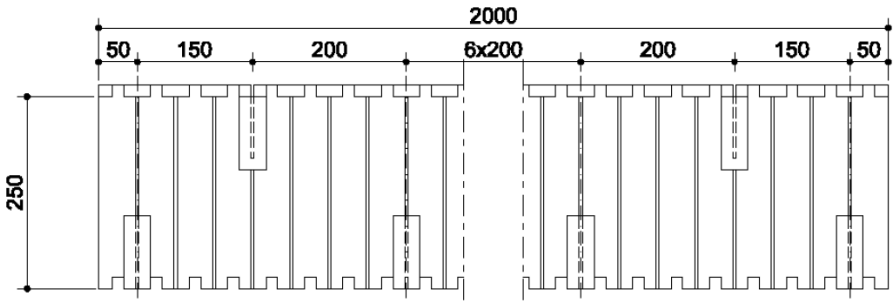
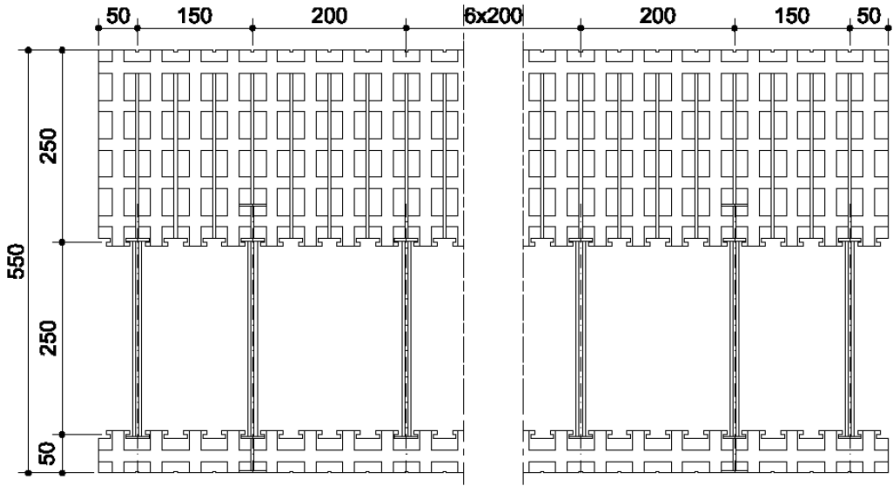
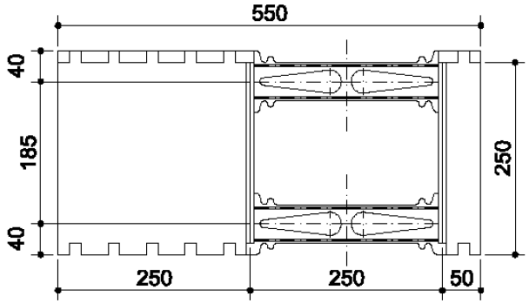
SIDE VIEW



TOP VIEW

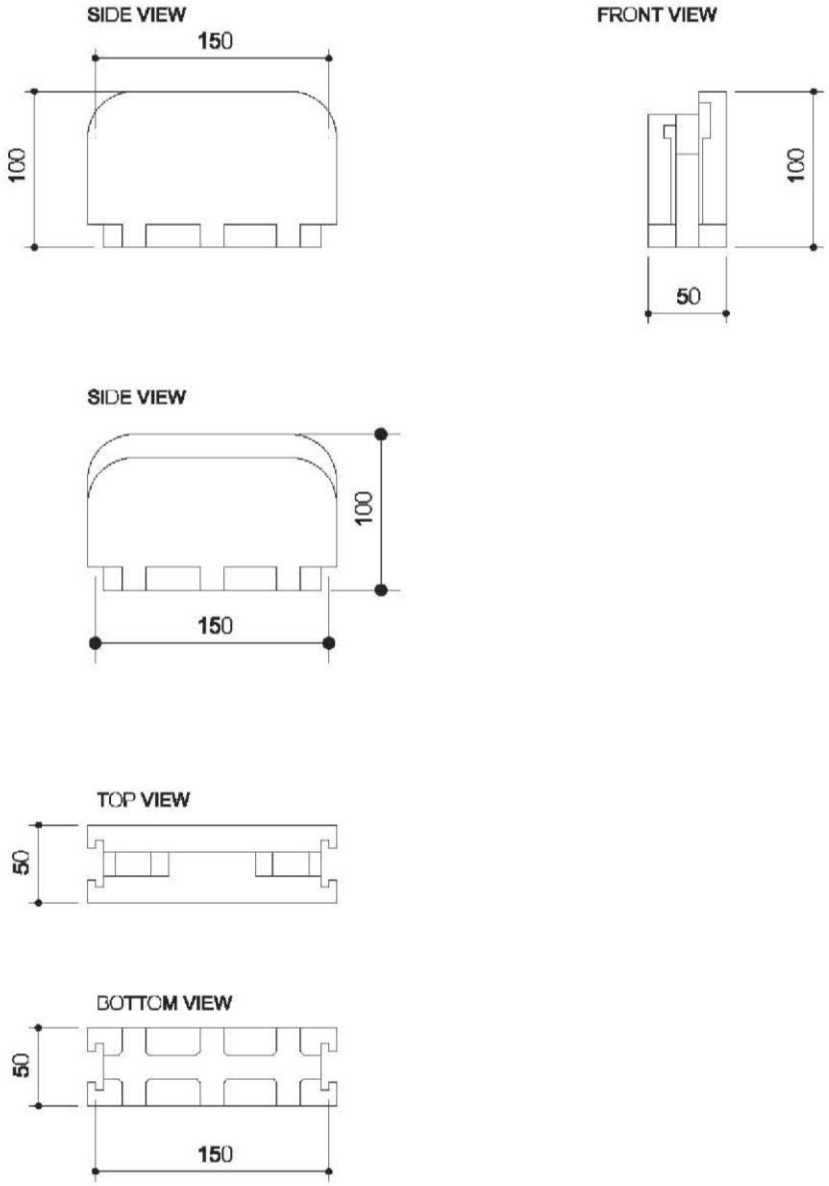


FRONT VIEW



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A94
UNIVERSAL PLUS SYSTEM (DISMOUNTABLE ELEMENTS) Block with plastic tie MCFU 2/55++ 200cm x 25cm x 55cm	



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A95
ADDITIONAL ELEMENT "STANDARD" Top plug OH 15cm x 5cm x 10cm	

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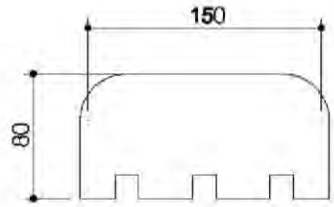
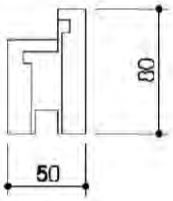
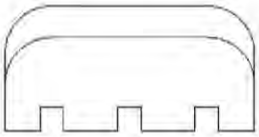
SIDE VIEW



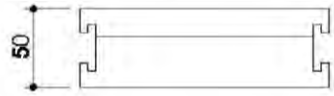
SIDE VIEW



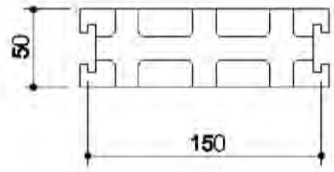
SIDE VIEW



TOP VIEW

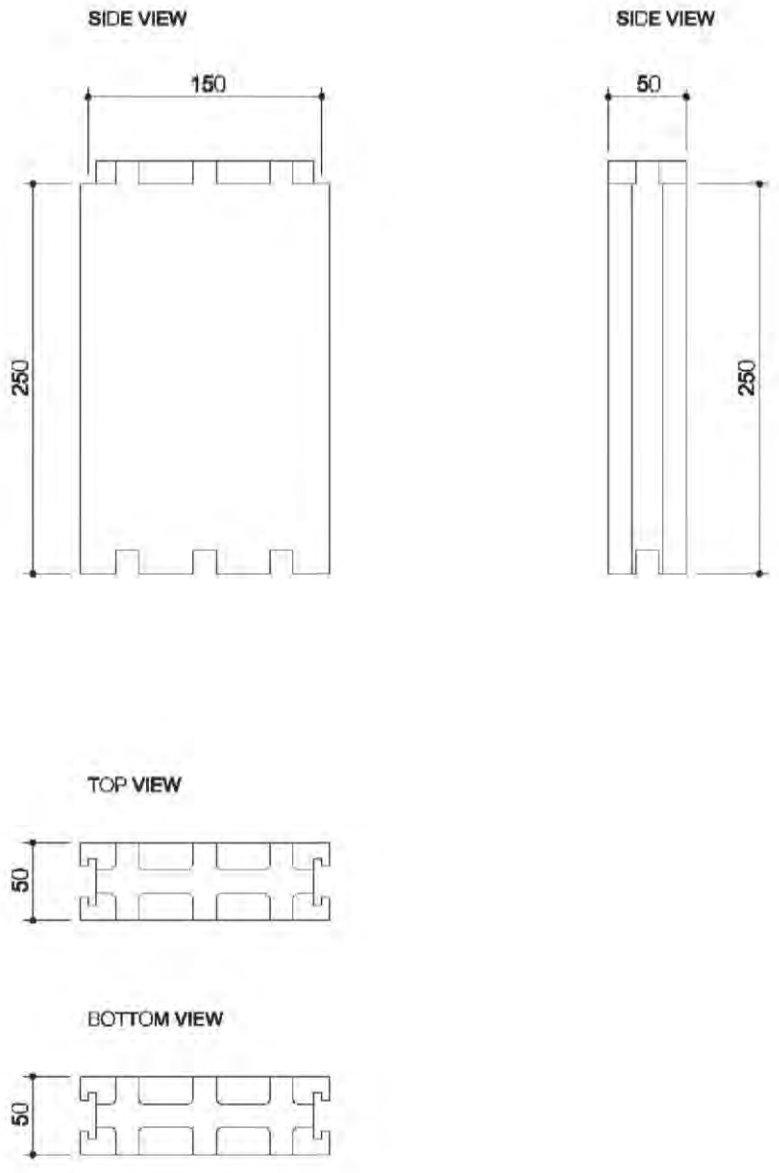


BOTTOM VIEW



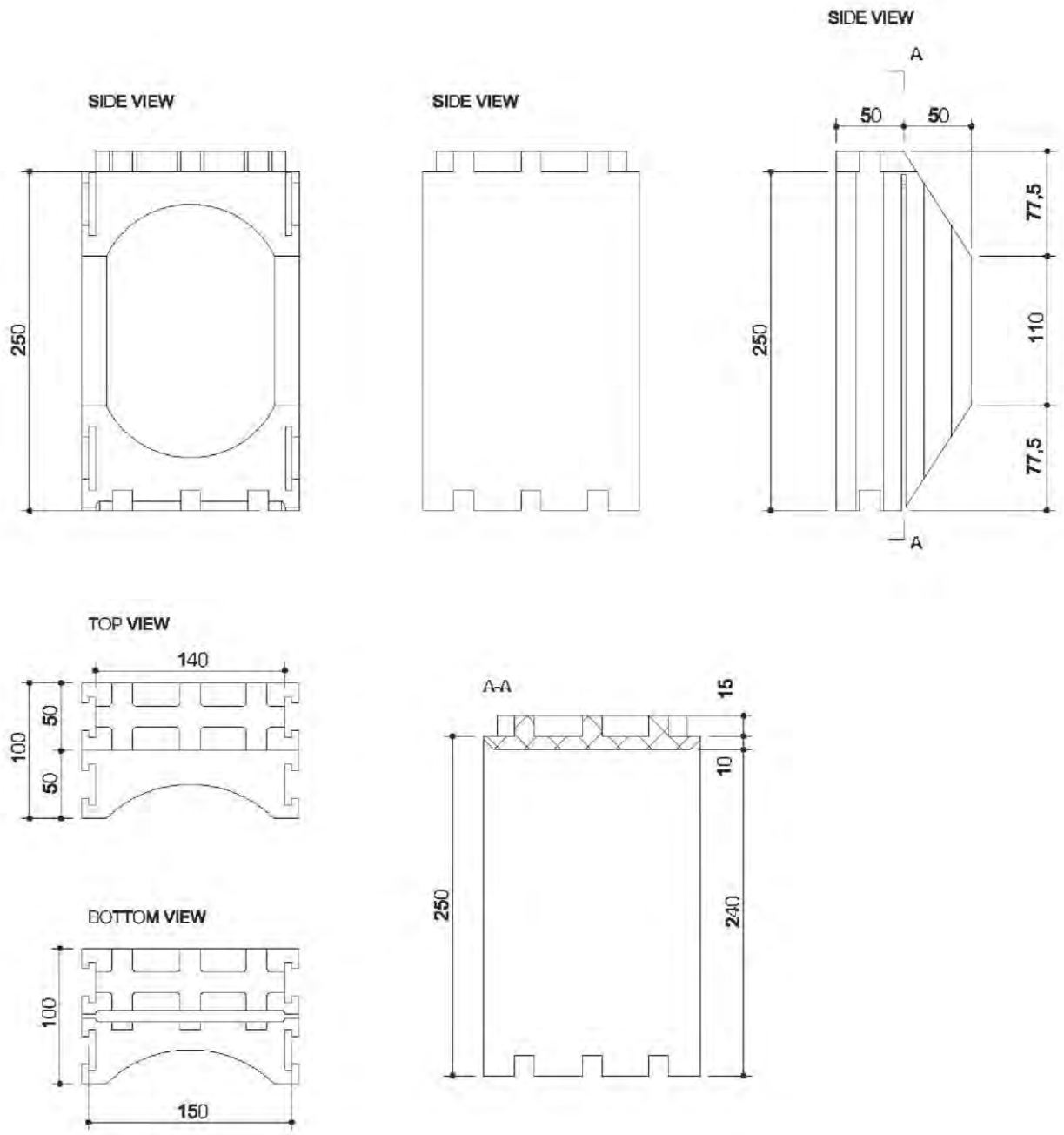
All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A96
ADDITIONAL ELEMENT "STANDARD" Bottom plug OB 15cm x 5cm x 8cm	



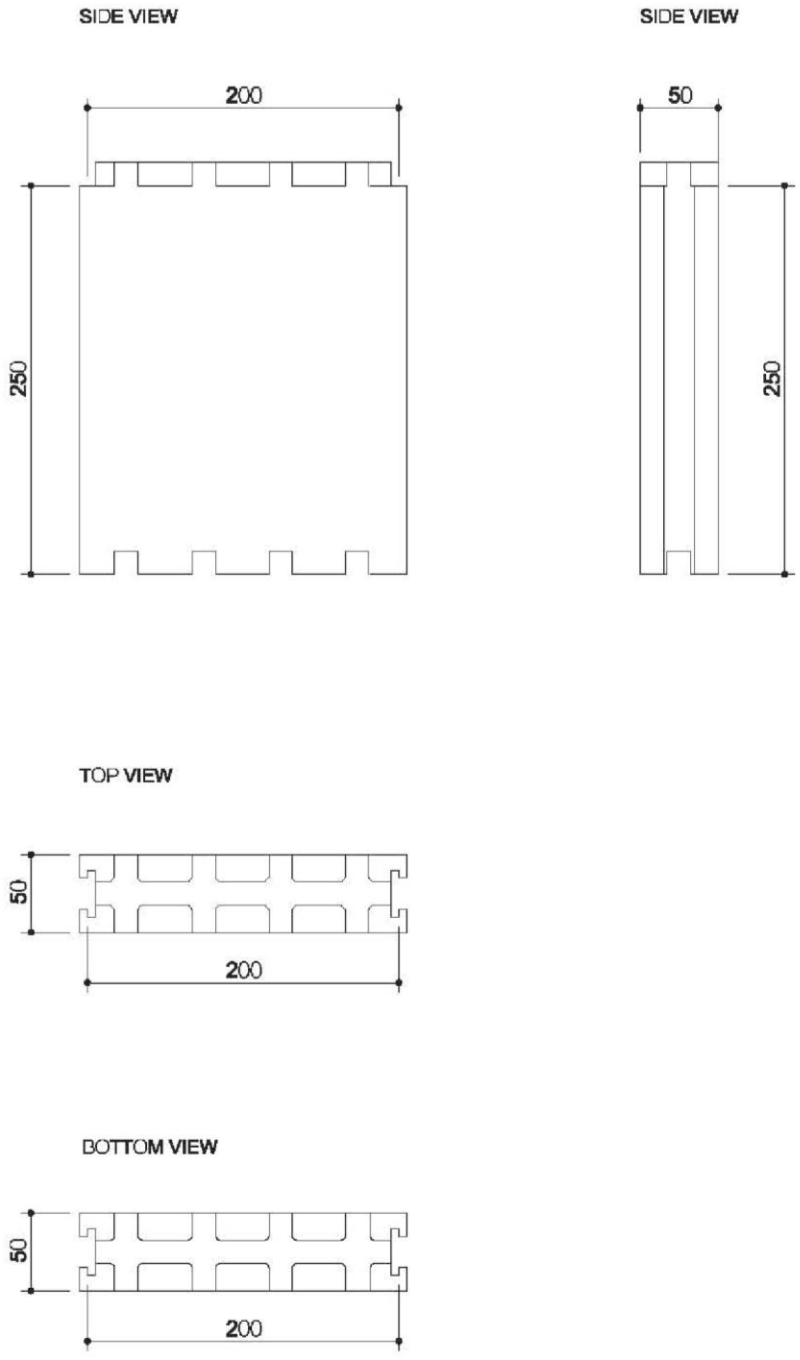
All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A97
ADDITIONAL ELEMENT "STANDARD" Insert element OC 15cm x 5cm x 25cm	



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A98
ADDITIONAL ELEMENT "STANDARD" Double insert element OC BIS 15cm x 10cm x 25cm	



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A99
ADDITIONAL ELEMENT "SUPER KING BLOCK PLUS" Insert element, core 20cm OC 0,2/1 20cm x 5cm x 25cm	

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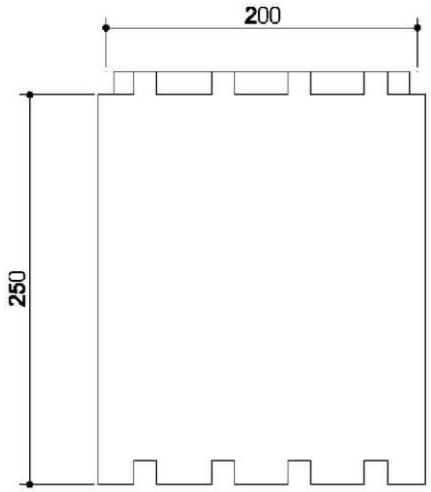
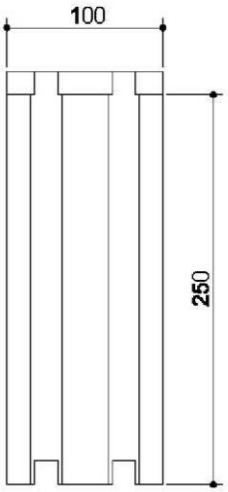
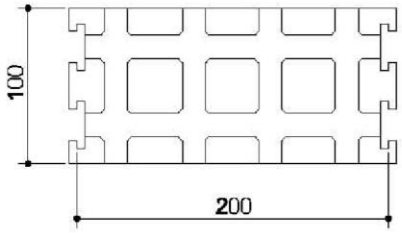
SIDE VIEW



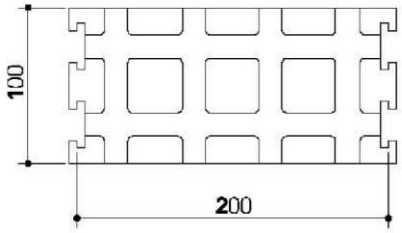
SIDE VIEW



TOP VIEW



BOTTOM VIEW



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A100
ADDITIONAL ELEMENT "SUPER KING BLOCK PLUS" Double insert element, core 20cm OC 0,2/2 20cm x 10cm x 25cm	

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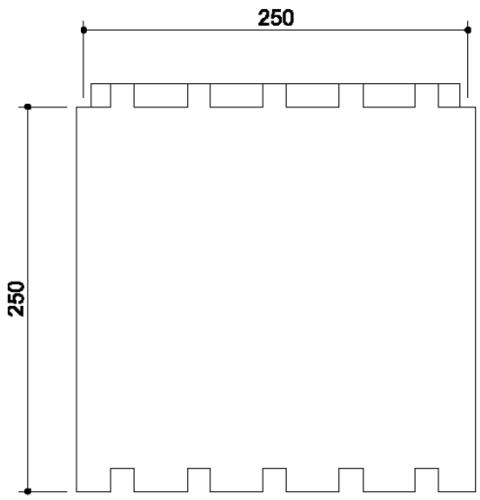
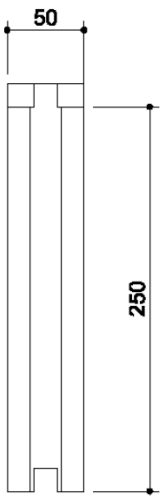
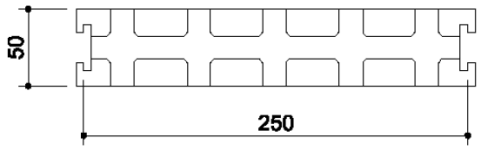
SIDE VIEW



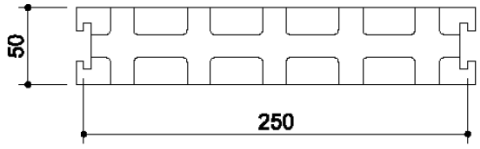
SIDE VIEW



TOP VIEW



BOTTOM VIEW



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A101
ADDITIONAL ELEMENT "SUPER KING BLOCK PLUS" Insert element, core 25cm OC 0,25/1 25cm x 5cm x 25cm	

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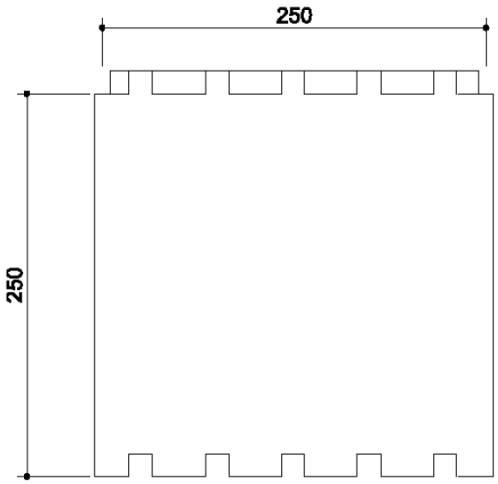
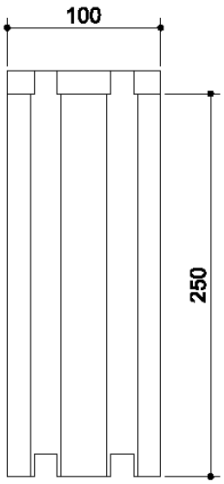
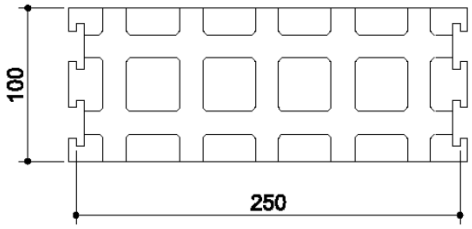
SIDE VIEW



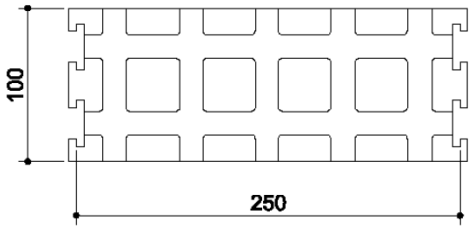
SIDE VIEW



TOP VIEW



BOTTOM VIEW



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A102
ADDITIONAL ELEMENT "SUPER KING BLOCK PLUS" Double insert element, core 25cm OC 0,25/2 25cm x 10cm x 25cm	

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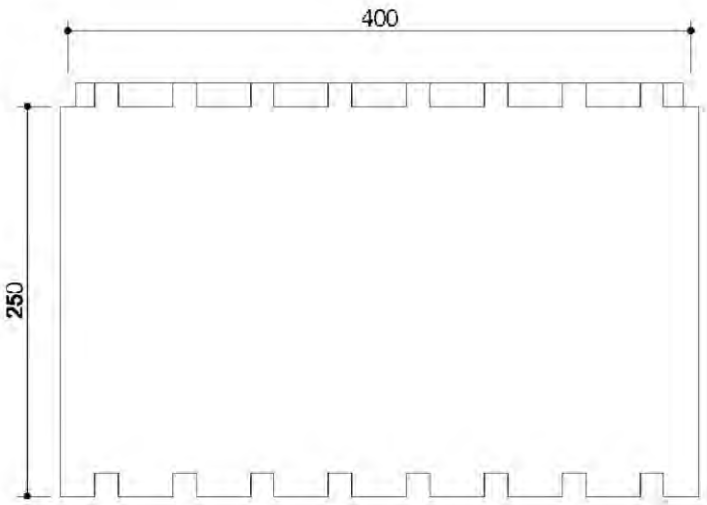
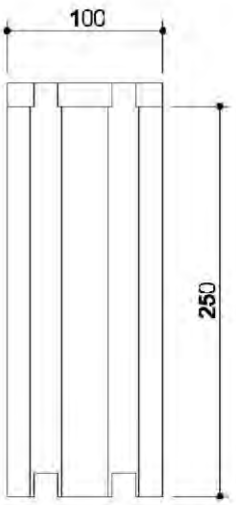
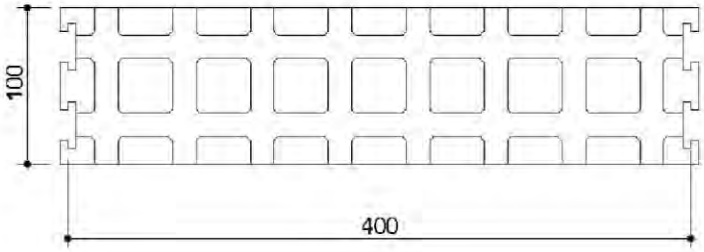
SIDE VIEW



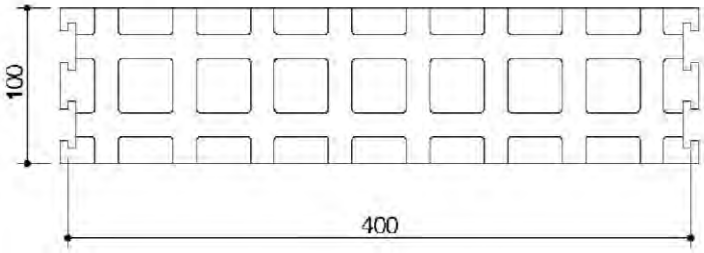
SIDE VIEW



TOP VIEW

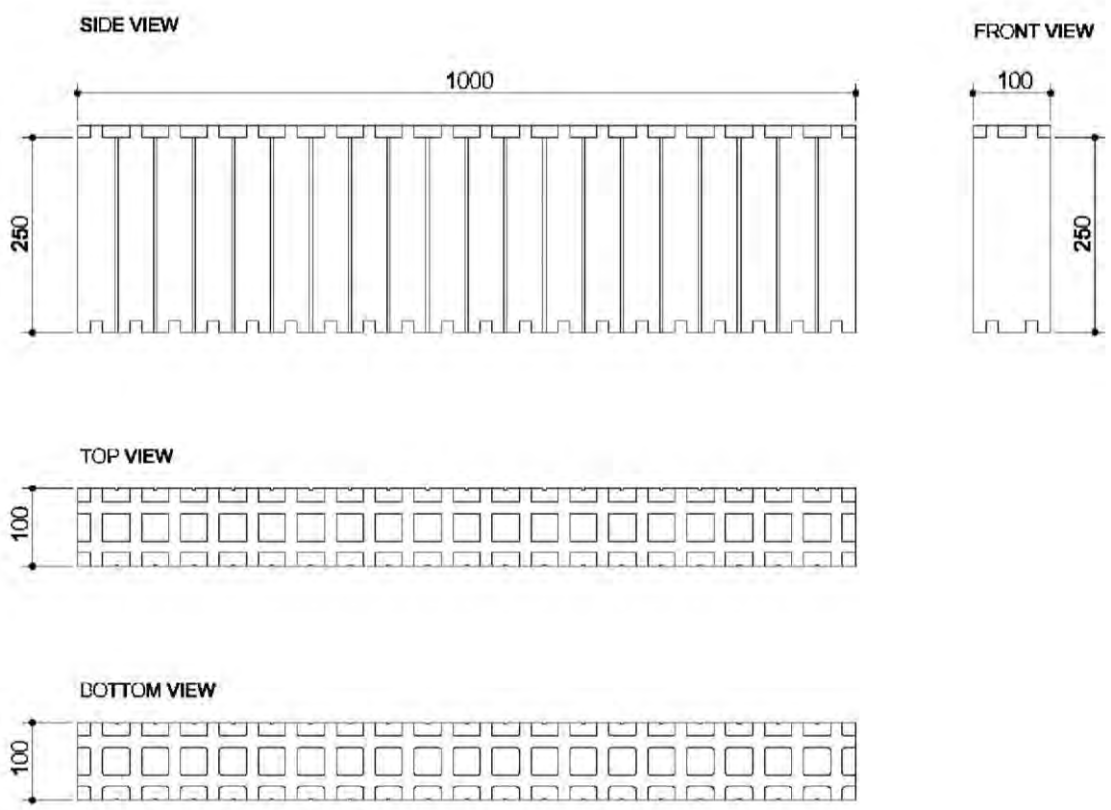


WIDOK Z GÓRY



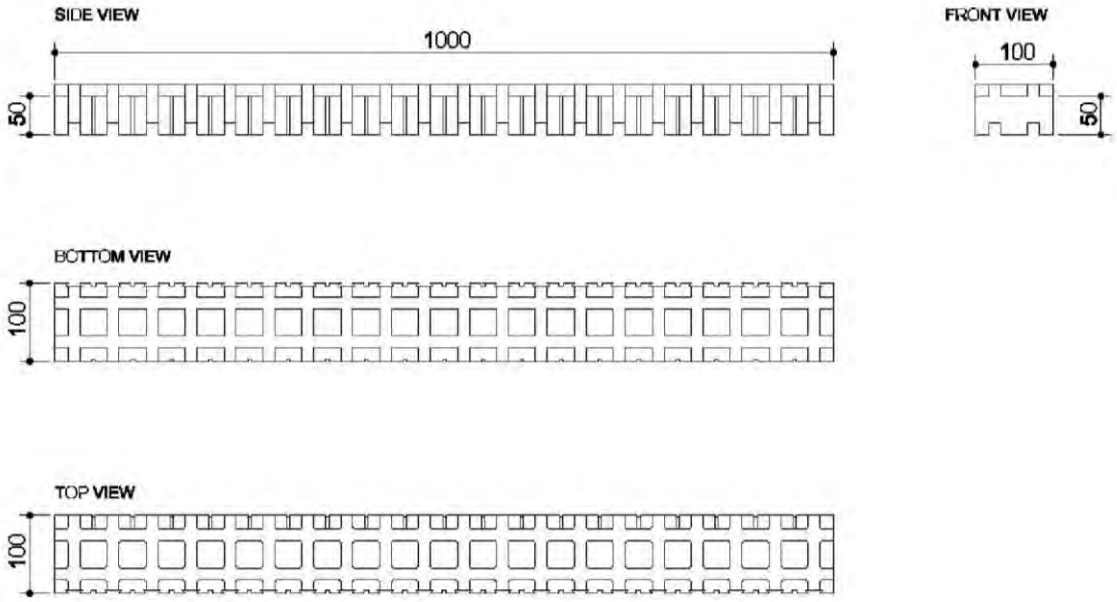
All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A103
ADDITIONAL ELEMENT "UNIVERSAL SYSTEM" Double insert element, core 40cm OC 0,4/2 40cm x 10cm x 25cm	



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A104
ADDITIONAL ELEMENT Additional element MD 1/10 100cm x 10cm x 25cm	



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A105
ADDITIONAL ELEMENT Height adapter MHD 1/10 100cm x 10cm x 5cm	

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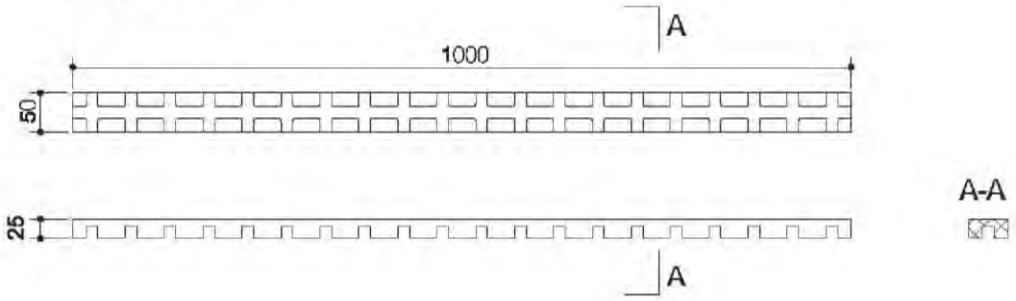
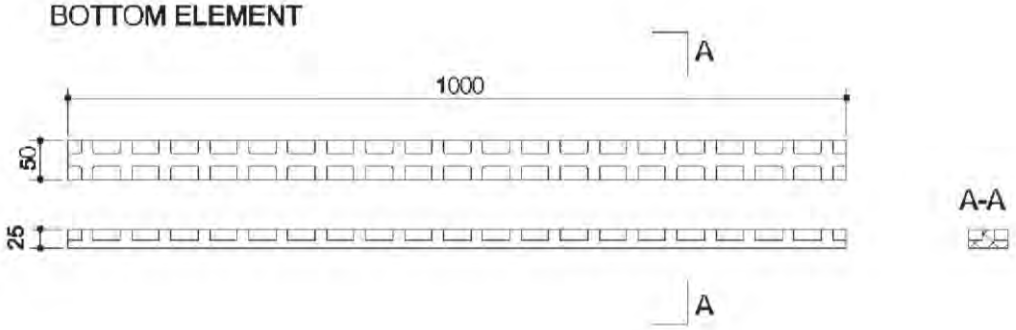
TOP ELEMENT

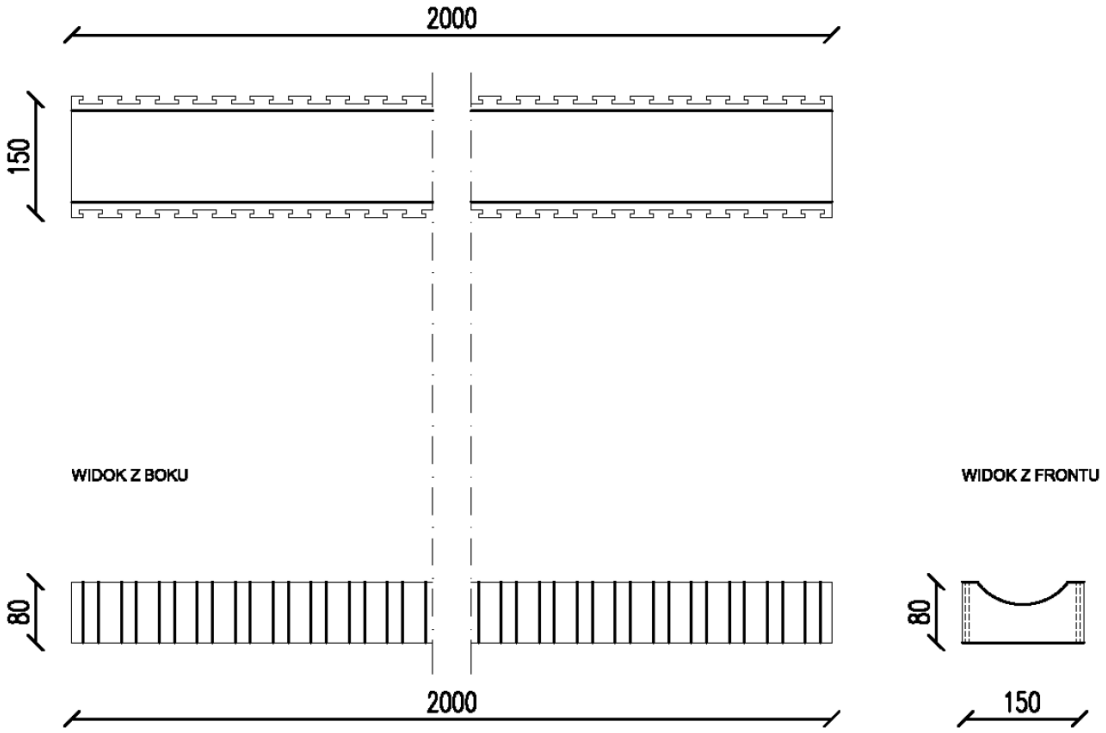


BOTTOM ELEMENT



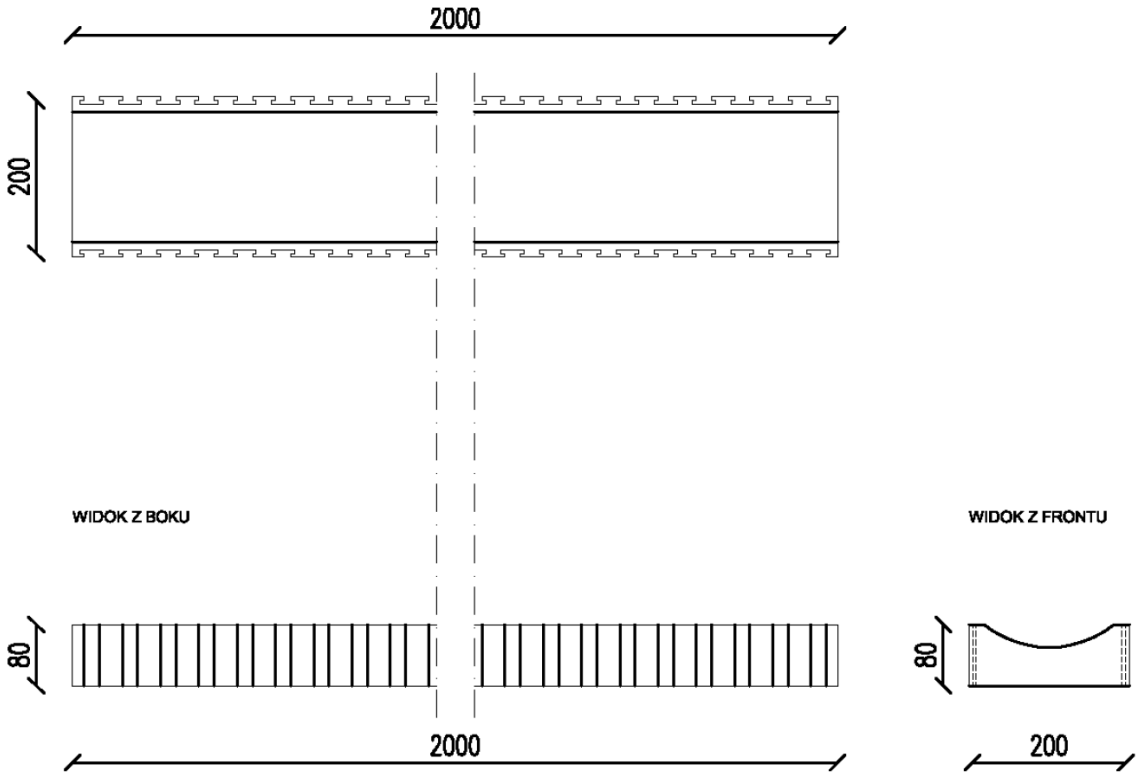
All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A106
ADDITIONAL ELEMENT Upper and bottom trimming strip LWG,LWD 100cm x 5cm x 2,5cm	



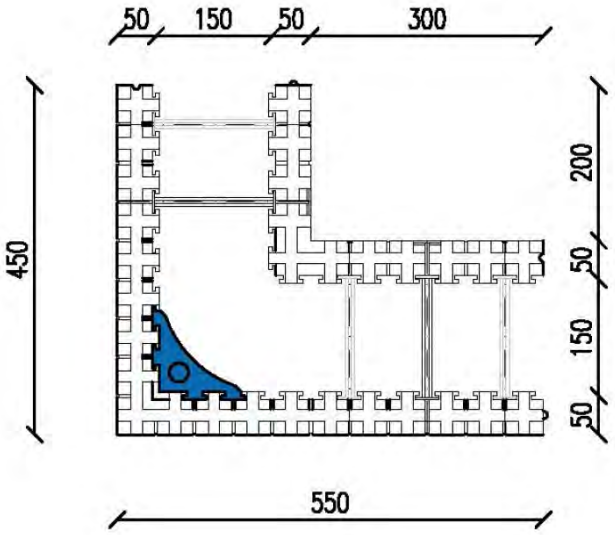
All dimensions are given in mm

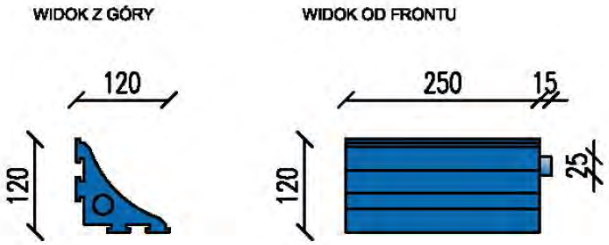
Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A107
ADDITIONAL ELEMENT Bottom of the header element MLI P 15 200x8x15cm	



All dimensions are given in mm

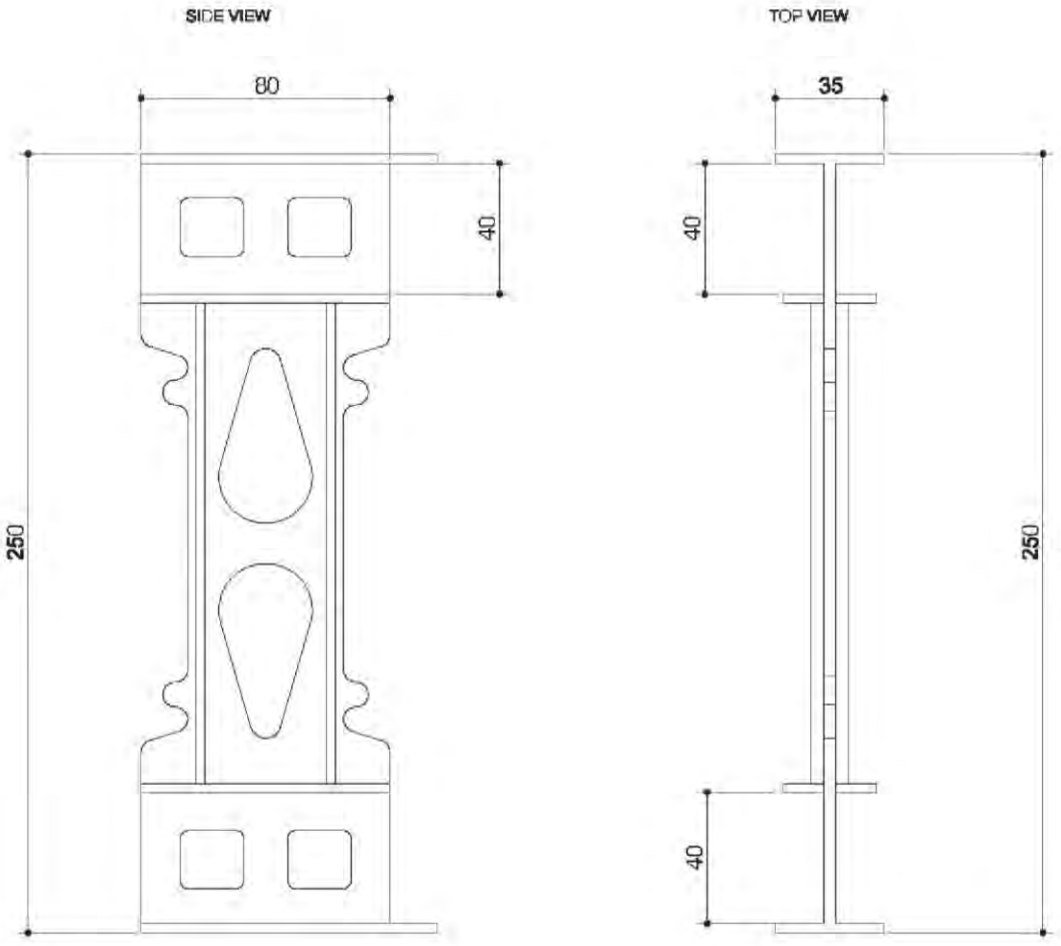
Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A108
ADDITIONAL ELEMENT Bottom of the header element MLIP 20 200x8x20cm	





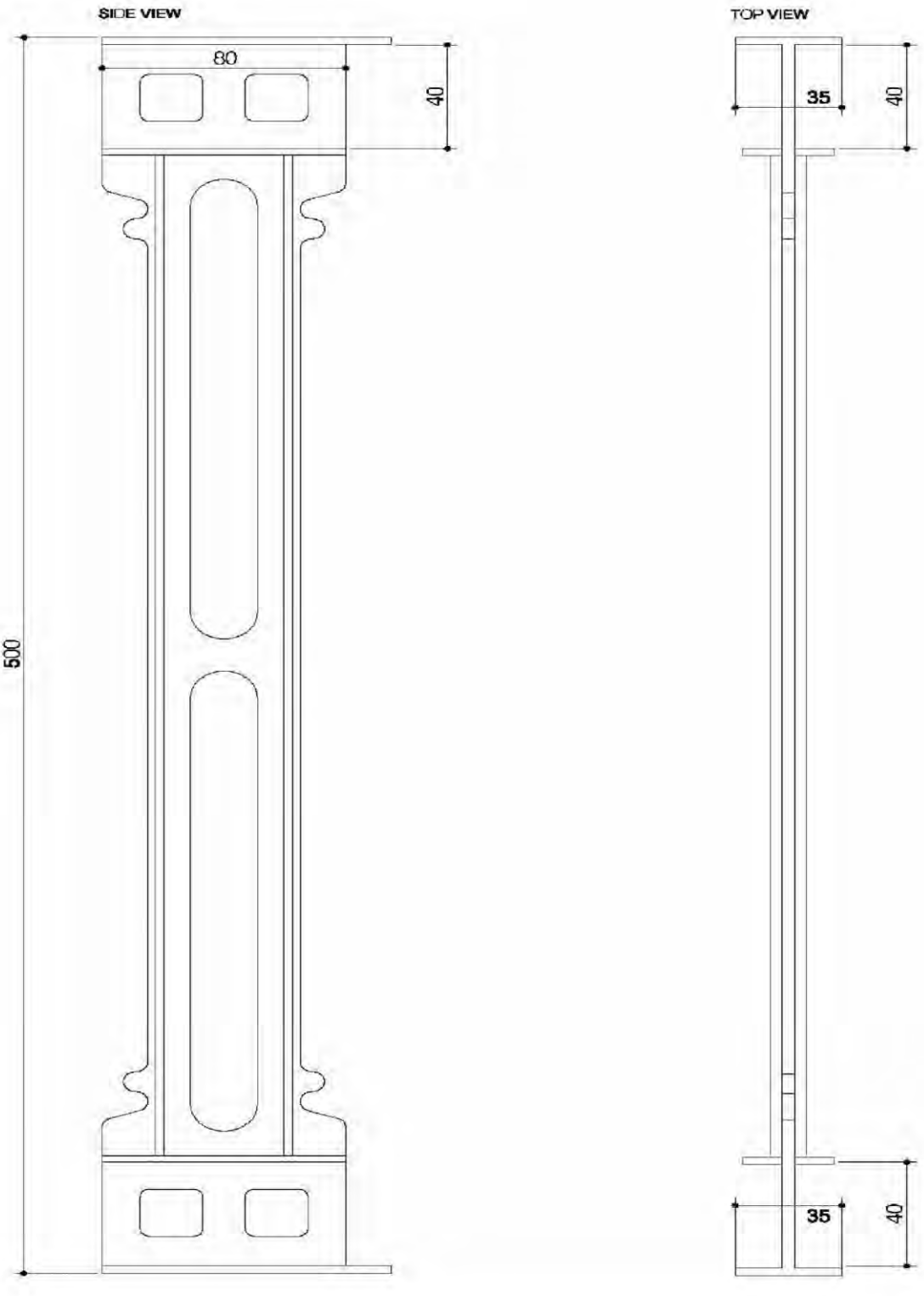
All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A109
ADDITIONAL ELEMENT 90° corner reinforcing element EC 90 15cm x 25cm x 12cm	



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A110
Wall type "UNIVERSAL" Tie for elements on Annex A13, A14, A23 to A26, A32 to A35, A37 to A40, A47 to A50, A53 to A60 25 cm x 8 cm x 3.5cm	



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A111
Wall type "UNIVERSAL" Tie for elements on Annex A61 and A62 50 cm x 8 cm x 3.5 cm	

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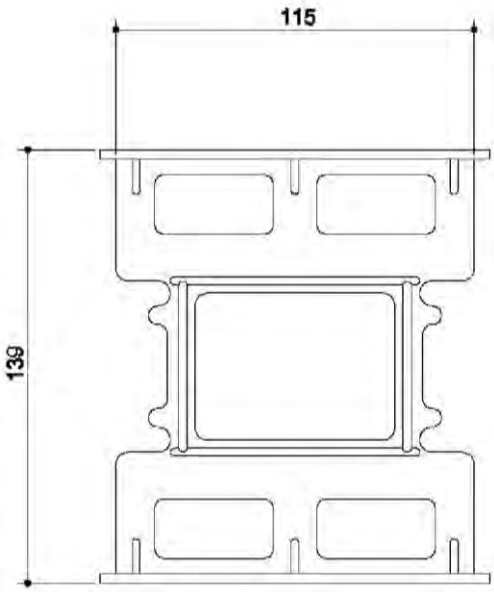
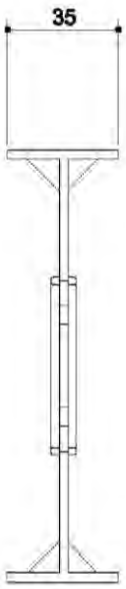
SIDE VIEW

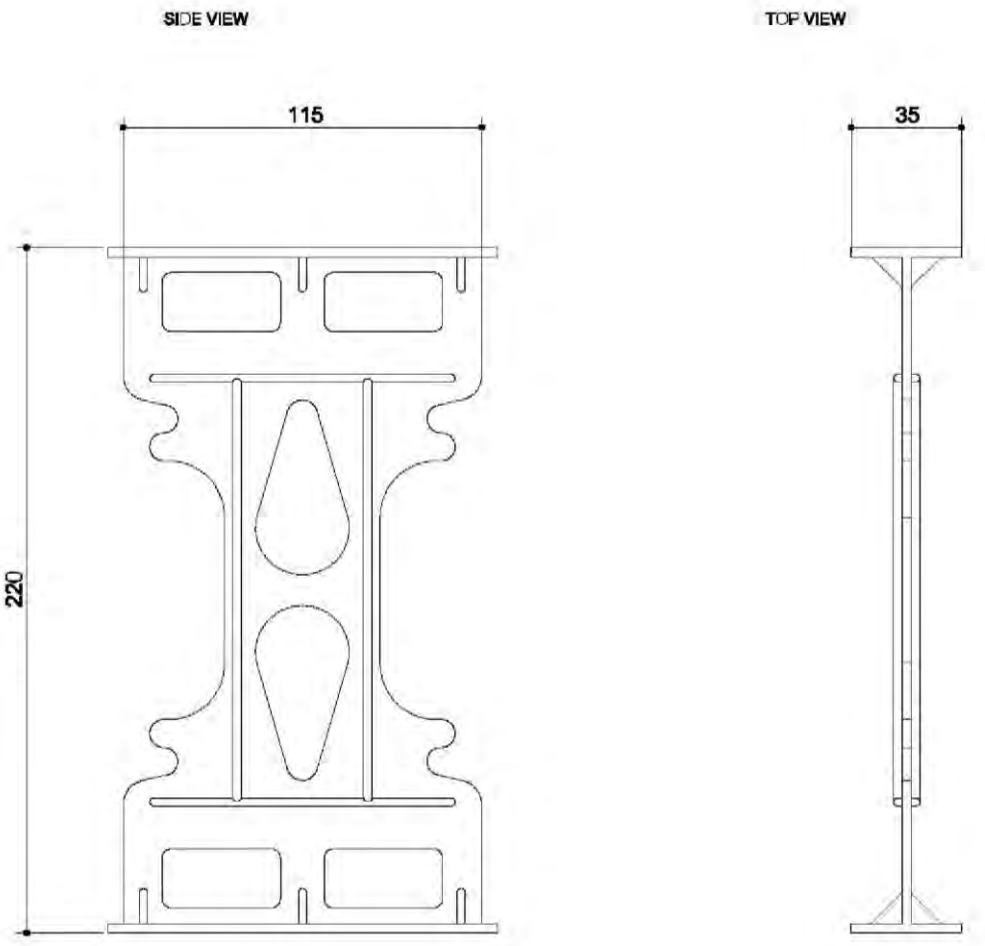


TOP VIEW



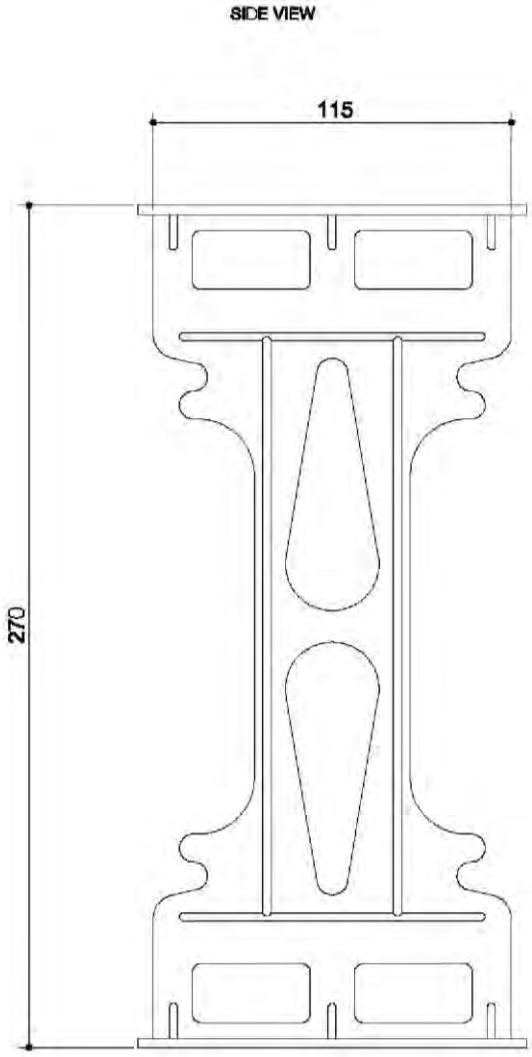
All dimensions are given in mm

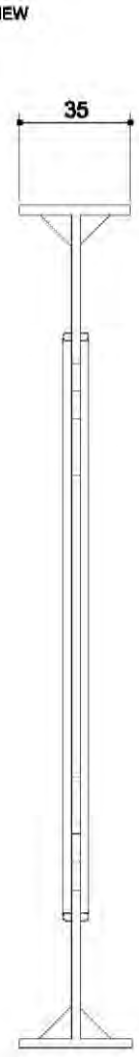
Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A112
Wall type "UNIVERSAL" Tie for elements on Annex A6 13.9 cm x 11.5 cm x 3.5 cm	



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A113
Wall type "UNIVERSAL" / "KING BLOCK" Tie for elements on Annex A4, A5, A12 and A13 22 cm x 11.5 cm x 3.5 cm	





All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A114
Wall type "SUPER KING BLOCK PLUS" Tie for elements on Annex A51 and A52 27 cm x 11.5 cm x 3.5 cm	

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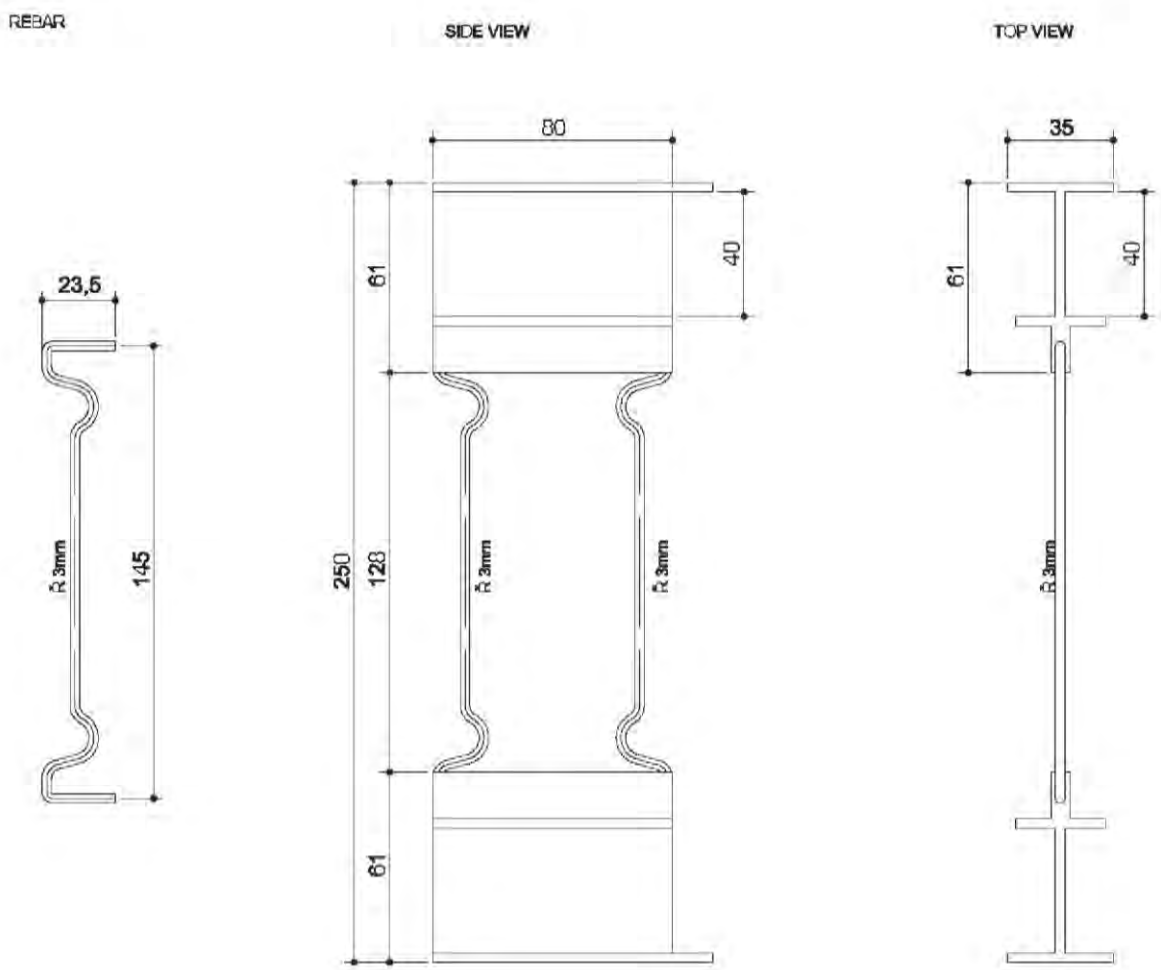
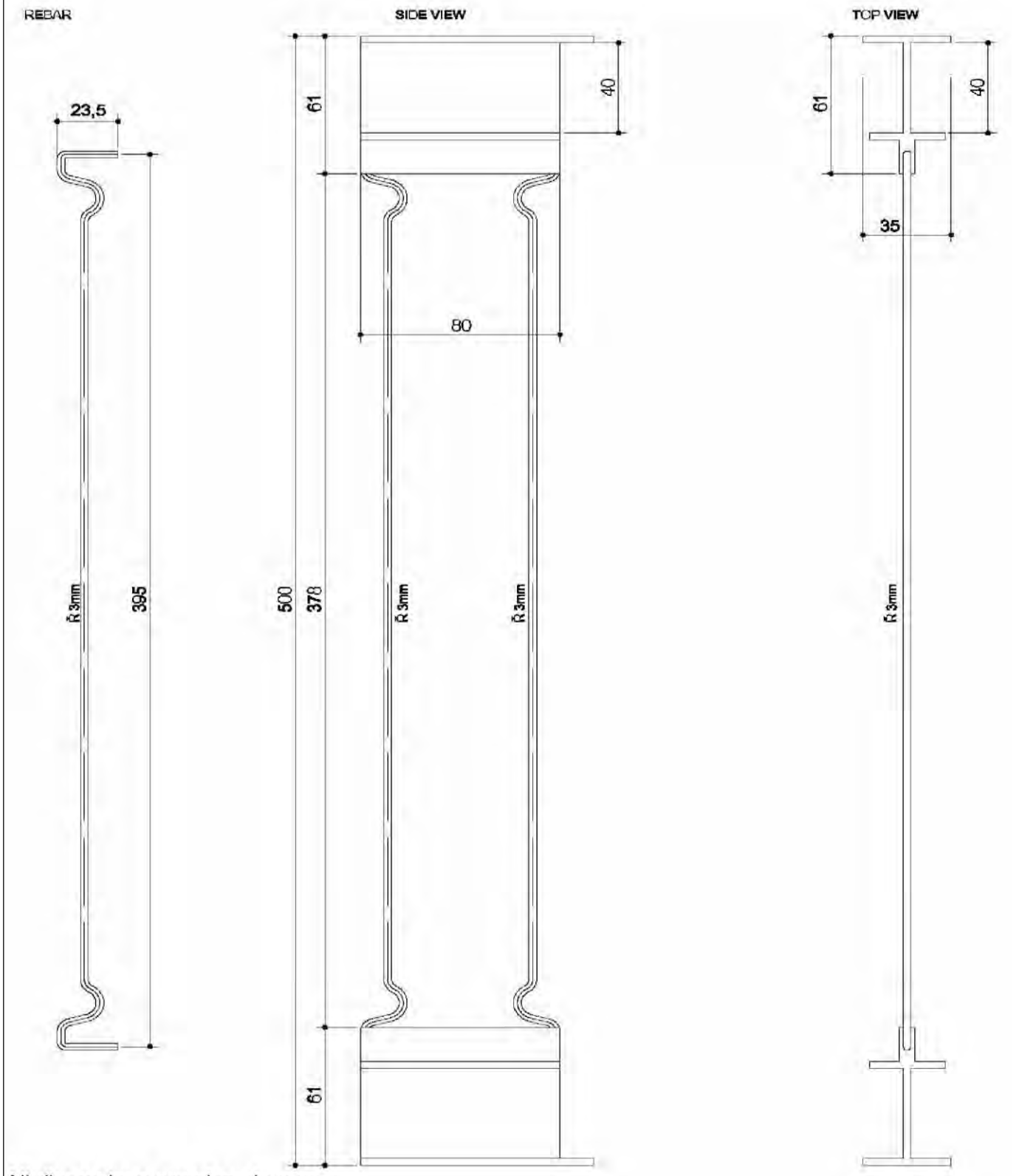


All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A115
Wall type "UNIVERSAL" Tie for elements on Annex A64 to A70 25 cm x 8 cm x 3.5 cm	



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A116
ADDITIONAL ELEMENT Tie for elements on Annex A71 and A72 50cm x 8cm x 3,4cm	

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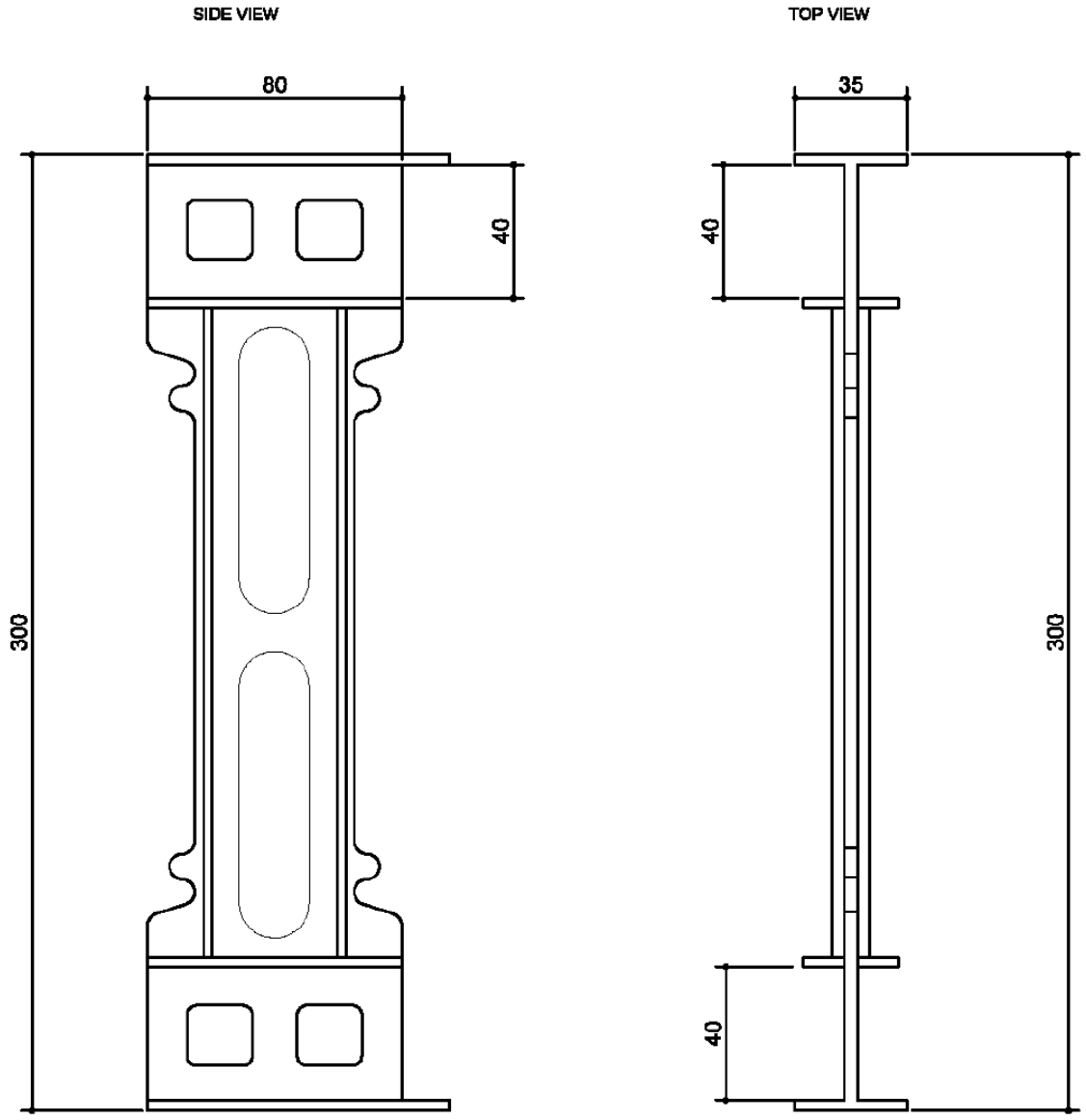
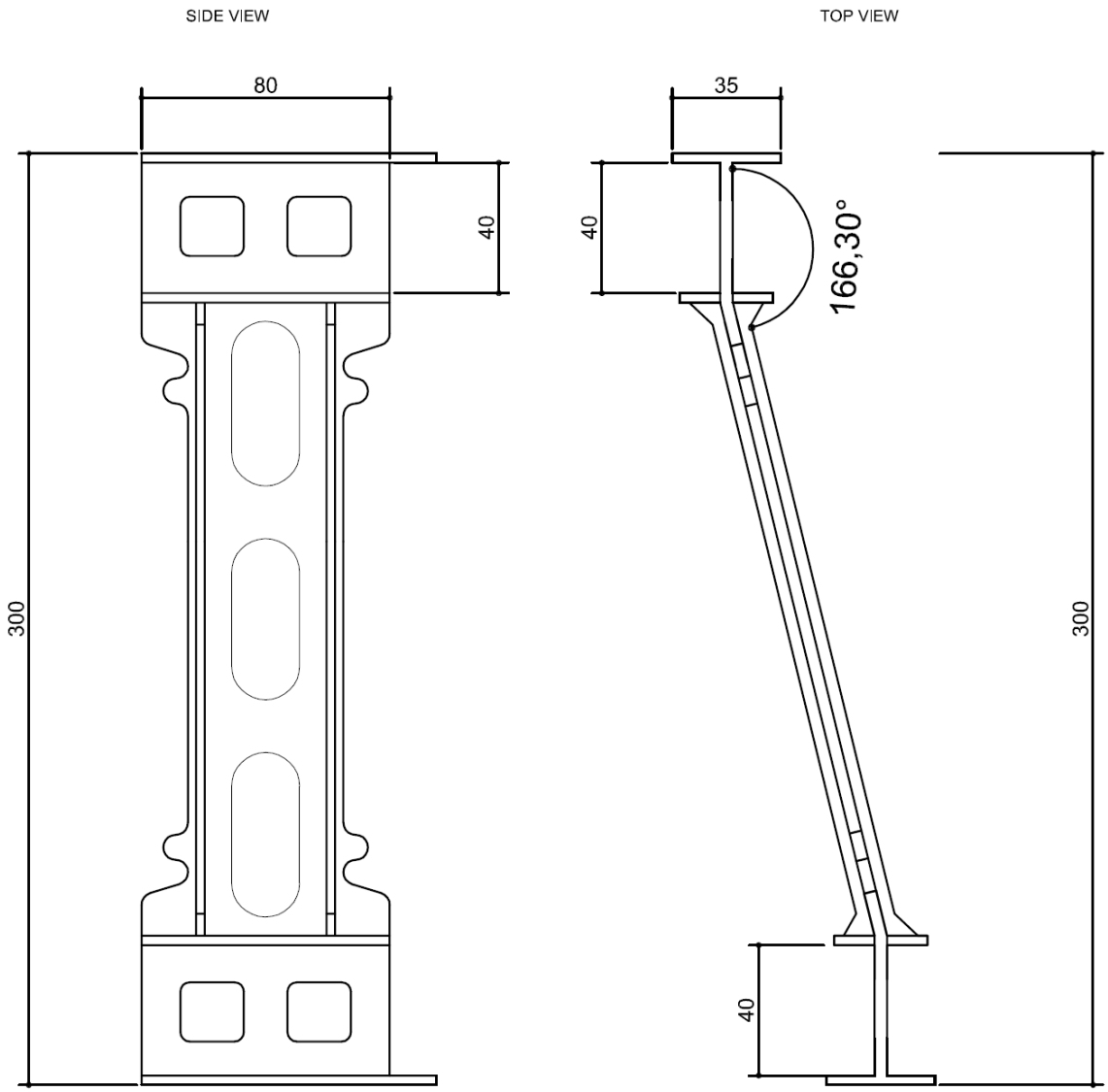


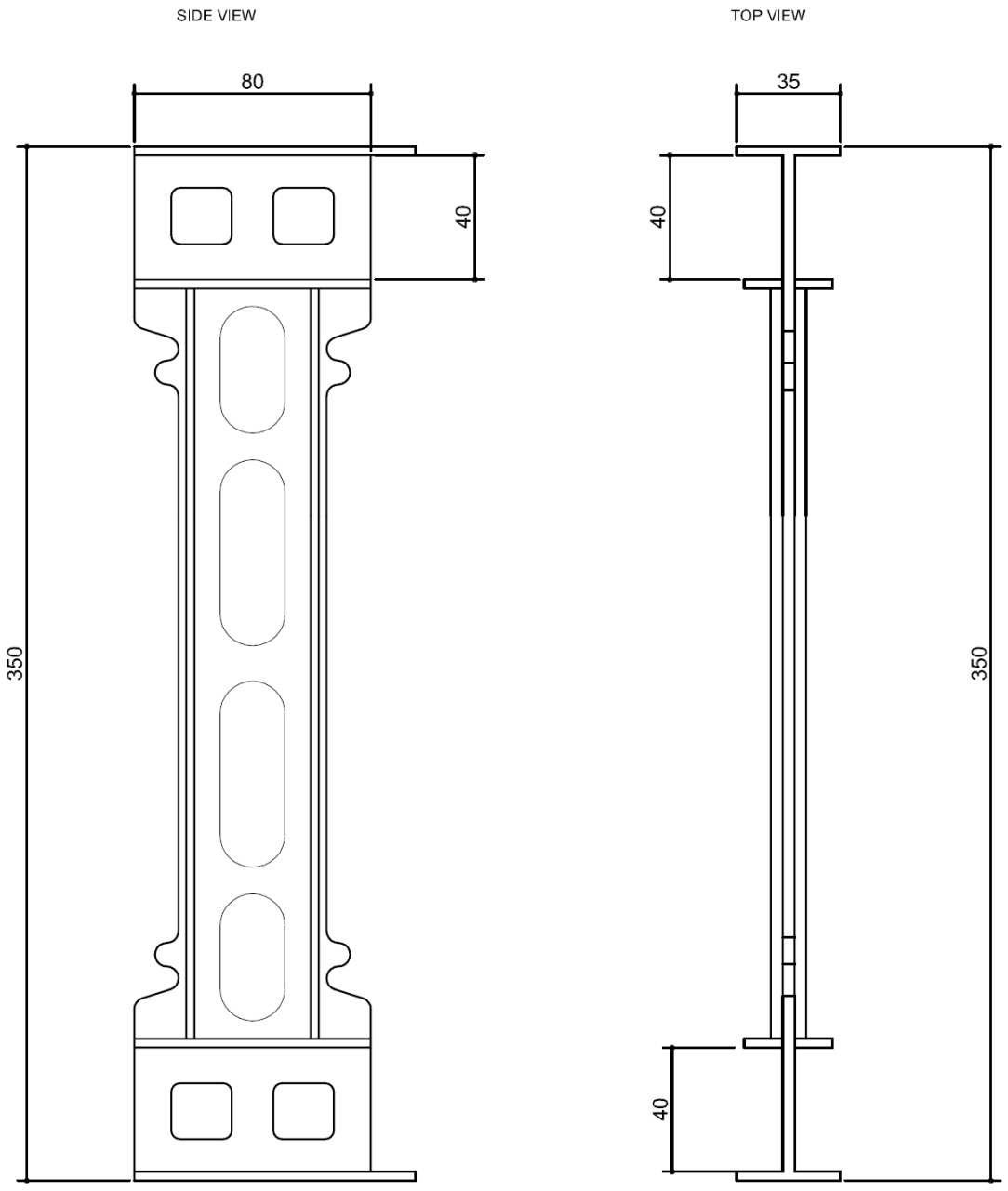
All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A117
ADDITIONAL ELEMENT Tie for elements on Annex A73 to A76 30cm x 8,5cm x 3,5cm	



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A118
ADDITIONAL ELEMENT Tie for elements on Annex A77 to A90 30cm x 8cm x 3,5cm	



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex A119
ADDITIONAL ELEMENT Tie for elements on Annex A91 to A94 35cm x 8cm x 3,5cm	

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Installation

1 General

The manufacturer shall ensure that the requirements in accordance with sections 1, 2, and 4 are made known to those involved in planning and execution. The installation guide is deposited at DIBt and shall be present at every construction site. If the manufacturer's instructions contain provisions which differ from those stated here, the specifications of the ETA shall apply.

After installation of the shuttering elements (see 2) the site-mixed or ready mixed concrete is brought in and compacted.

In end use conditions concrete walls of grid (MC) and continuous type[1] (MCF, MCFU and MCFU-St) of plain or reinforced concrete according to EN 1992-1-1 or corresponding national rules will be formed.

In end use conditions the EPS-shuttering leaves are the main part of the thermal insulation of the walls.

2 Installation of the shuttering elements

The shuttering elements are put together on site in layers without mortar or adhesive. To receive stable floor high formworks the vertical joints between two elements of one layer have to be shifted of at least a quarter of the element length to the vertical joints of the previous layer.

First of all two layers of the entire floor plan are to be interlocked according to the installation guide of the manufacturer.

Afterwards leveling to the subsoil is performed (foundation, bottom plate, ceiling). Voids between the shuttering leaves and the uneven subsoil are to be sealed with PU foam before concreting.

Subsequently, according to the installation guide of the manufacturer, the walls are to be interlocked to floor height, leveled and fastened to the scaffolding supports.

The scaffolding supports are to be arranged at a distance of 1.20 m to 1.50 m at the most, to be connected over the entire wall height with the shuttering elements and to be fastened to the floor.

The necessary reinforcement according to static calculation also shall be installed in an appropriate way. Rectangular wall corners are to be formed according to Annex B16 to B19. Further information is given in the installation guide.

3 Concreting

For the production of normal concrete EN 206 shall apply. The consistency of concrete on compacting by shaking shall be within the lower consistency range F3 and on compacting by poking within the upper consistency range F3. The maximum aggregate size shall be at least 8 mm and shall not exceed 16 mm. The concrete shall have rapid or middle strength development according to EN 206-1, Table 16.

Placing the concrete shall be performed only by persons who were instructed in the works and in the proper handling of the shuttering system.

The maximum filling height amounts to 0.6 m at a concreting velocity of 1 m/h.

If equivalent national rules are not available the following instructions shall be considered:

Horizontal day joints are to be arranged preferably at the height of the floor. If day joints cannot be avoided before reaching the floor height vertical composite reinforcement bars has to be installed. The composite reinforcement shall comply with the following requirements:

[1] see ETAG 009 chapter 2.2

- two adjacent composite reinforcement bars shall not be situated in the same plane parallel to the surface of the wall,
- the distance between two composite reinforcement bars in wall direction shall be at least 10 cm and not larger than 50 cm,
- the total section area of the composite reinforcement bars shall not be minor than 1/2000 of the section area of the concrete,
- anchorage length of the composite reinforcement bars on both sides of the day joint at least shall be 20 cm

Before the further placing of concrete, cement laitance and detached / loose concrete shall be removed and the day joints shall be sufficiently pre-wetted. At the time of concreting the surface of the older concrete shall be slightly moist, so that the cement paste of the newly brought in concrete can combine well with the older concrete.

If no day joint is planned, placing of concrete in layers may only be interrupted if the concrete layer brought in last has not yet solidified so that a good and even bond is still possible between the two concrete layers. When using internal vibrators the vibrating cylinder shall still penetrate into the already compacted lower concrete layer.

The concrete may fall freely only up to a height of 2 m, beyond that the concrete shall be cohered by discharge pipes or concreting tubes with a diameter of 100 mm at the most and shall be led shortly before the place of installation.

Cones from pouring are to be avoided by short distances of the places of fill in.

Planning shall allow for sufficient spaces in the reinforcement for discharge pipes or concreting tubes.

After concreting the walls shall not deviate from the plumb line more than 5 mm per running meter wall height.

The ceiling shall only be placed on walls made of shuttering elements if a sufficient strength of the concrete core exists.

4 Ducts crossing and situated inside the wall

Horizontally passing ducts are to be installed according to the installation guide of the ETA applicant and are to be taken into account when designing the wall.

Horizontal ducts situated inside the wall cores and running parallel to the wall surfaces are to be avoided. If absolutely necessary, these are to be taken into account when designing the wall.

Also vertical ducts in the concrete core shall be considered, if their diameter exceeds 1/6 of the thickness of the concrete core and the distance of the pipes is less than 2 m.

5 Reworking and finishes

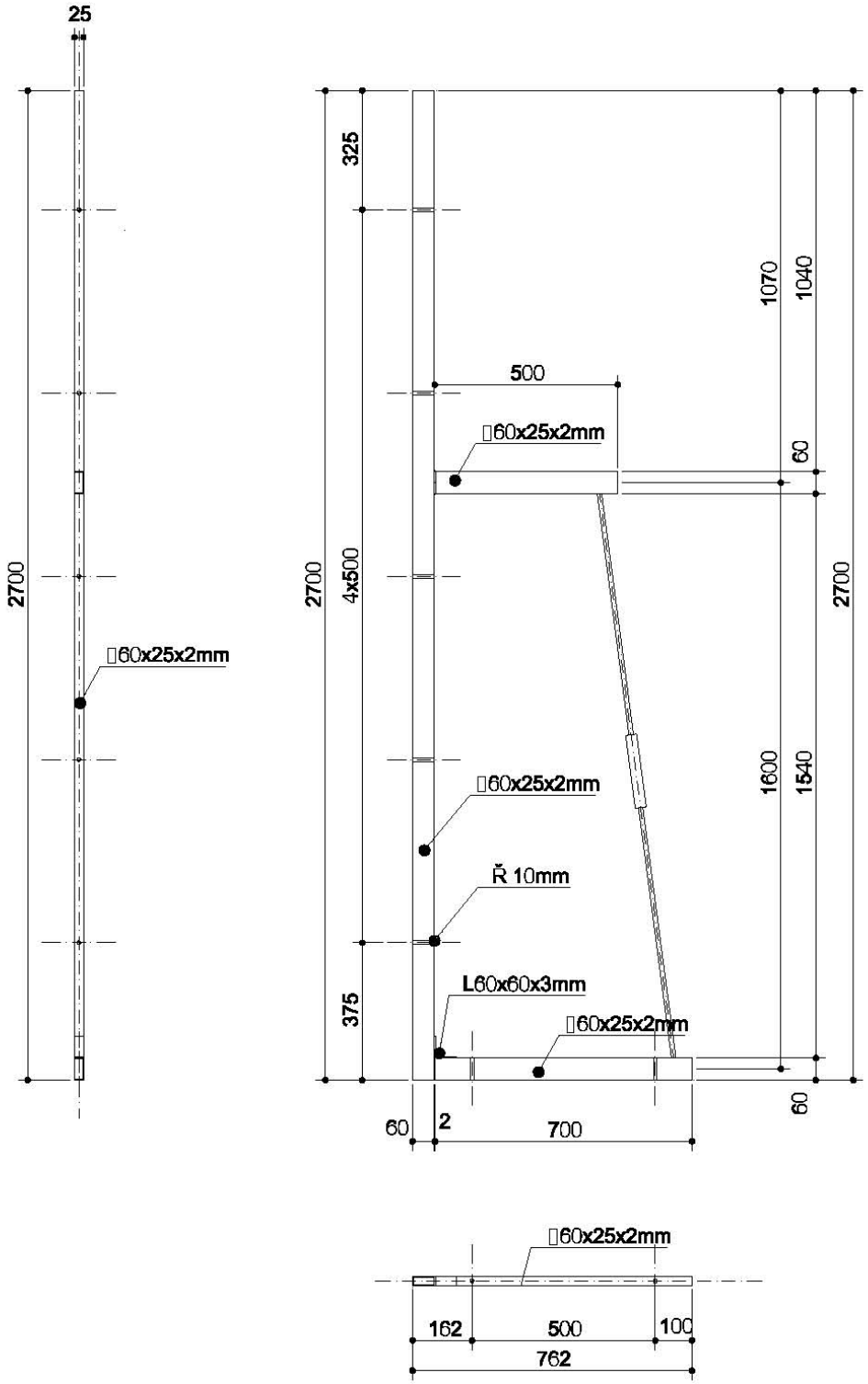
Walls of the type "IZODOM 2000 POLSKA" are to be protected by finishes. Finishes are not part of the kit and therefore not considered in this ETA. Preferably for external surfaces the used rendering systems should meet the requirement of ETAG 004. Execution of the rendering shall be performed according to applicable national rules.

6 Fixing of objects

Fixing of objects in the shuttering leaves is not possible, the part of fixings which is significant for the mechanical resistance shall be in the concrete. The influence of the fixing to the reduction of the thermal resistance has to be considered according to EN ISO 6946.

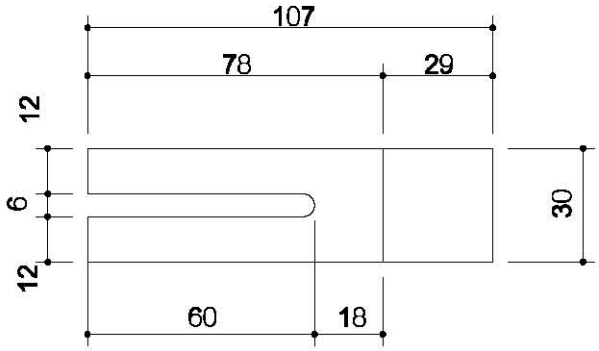
standards and guidelines		issue	title
EN	206	2013+A1:2016	Concrete – Specification, performance, production and conformity
EN	1992-1-1	2004+AC:2010+A1:2014	Eurocode 2: Design of concrete structures – Part 1-1: General rules and rules for buildings;
EN	13163	2012 +A1:2015	Thermal insulation products for buildings – Factory made expanded polystyrene (EPS) products – Specification
EN	13501-1	2007 +A1:2009	Fire classification of construction products and building elements – Part 1: Classification using data from reaction to fire tests;
EN	13501-2	2016	Fire classification of construction products and building elements – Part 2: Classification using data from fire resistance tests, excluding ventilation services;
EN ISO	6946	2007	Building components and building elements – Thermal resistance and thermal transmittance – Calculation method (ISO 6946:2007);
EN ISO	10456	2007 +AC:2009	Building materials and products – Hygrothermal properties – Tabulated design values and procedures for determining declared and design thermal values (ISO 10456:2007 + Cor. 1:2009);
EN ISO	13788	2001	Hygrothermal performance of building components and building elements . Internal surface temperature to avoid critical surface humidity and interstitial condensation. Calculation methods (ISO 13788:2001);
ETAG	004	2013-06	Guideline for European technical approval of "External thermal insulation composite systems with rendering"
ETAG	009	2002-06	Guideline for European technical approval of "Non load bearing permanent shuttering kits/systems based on hollow blocks or panels of insulating materials and sometimes concrete"

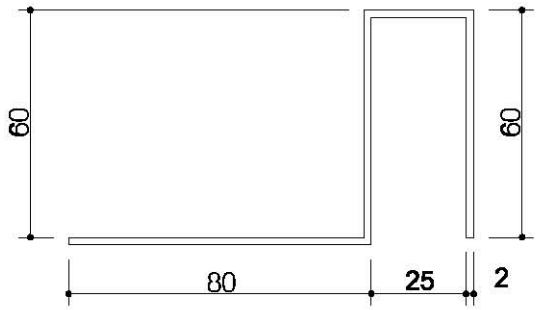
Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex B2
List of standards and guidelines	



All dimensions in mm

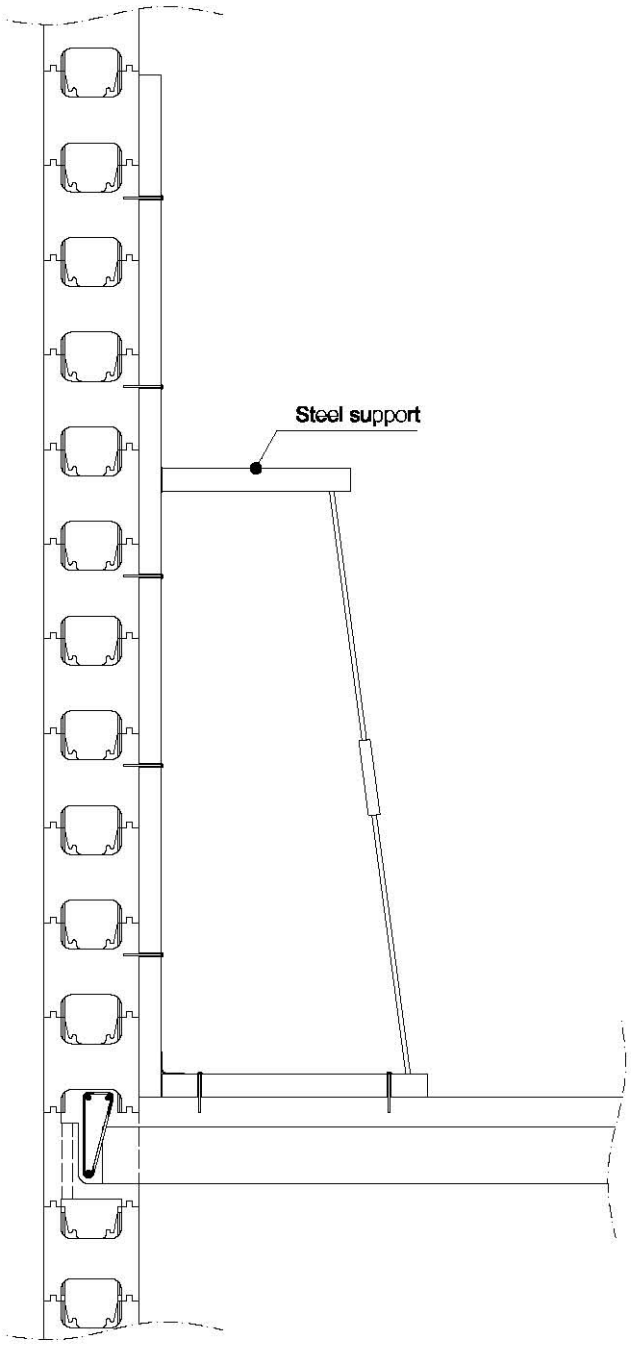
Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex B3
AUXILIARY STRUCTURES Wall support element for placing the concrete	





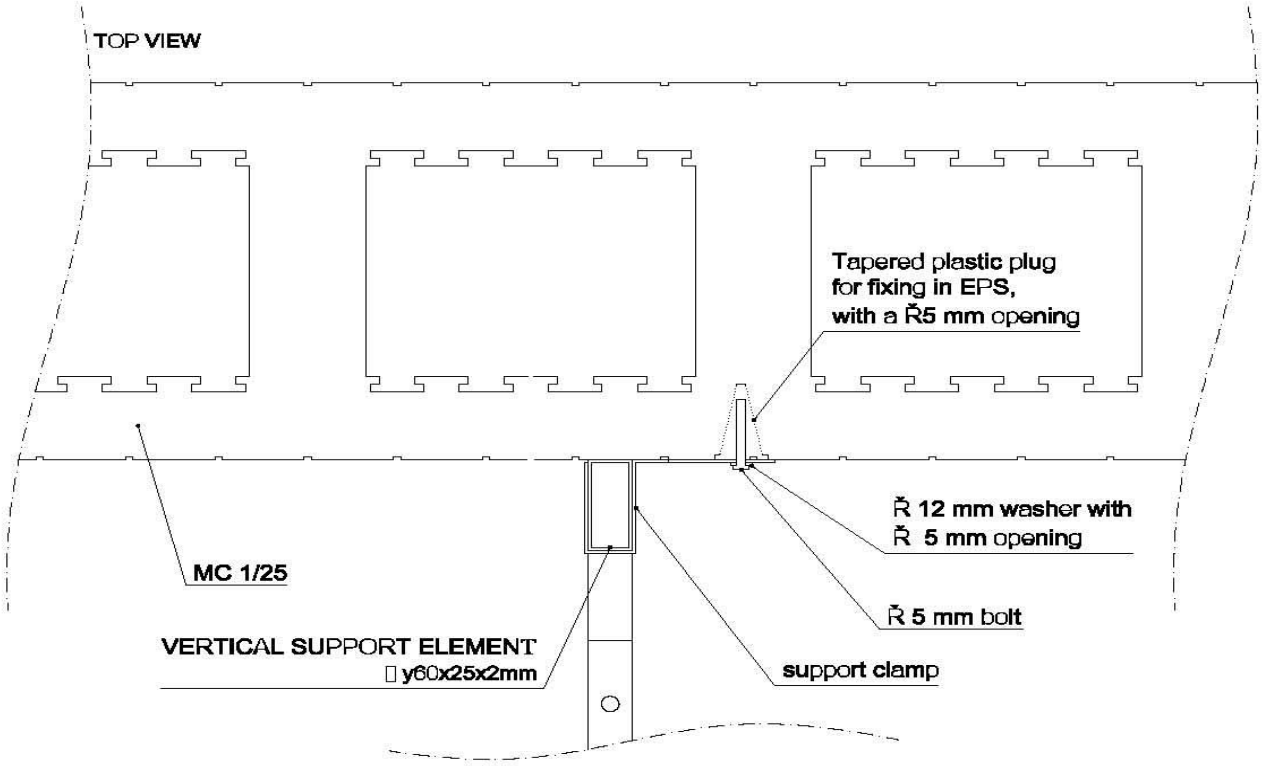
All dimensions in mm

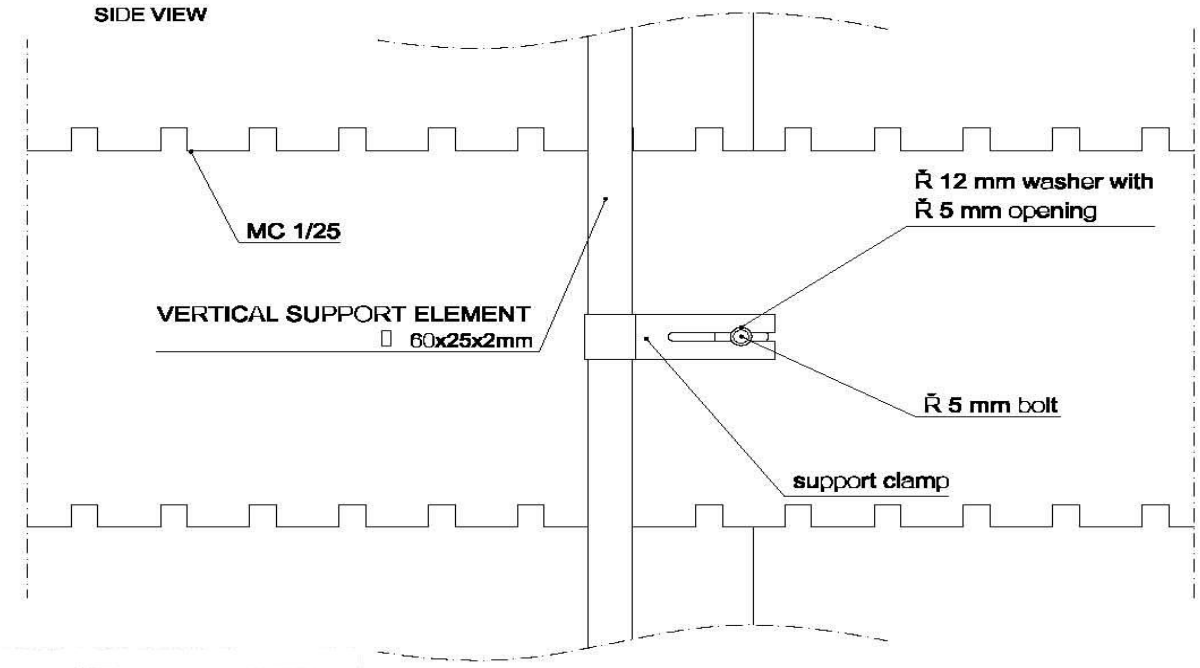
Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex B4
AUXILIARY STRUCTURES Clamp for steel support	



All dimensions are given in mm

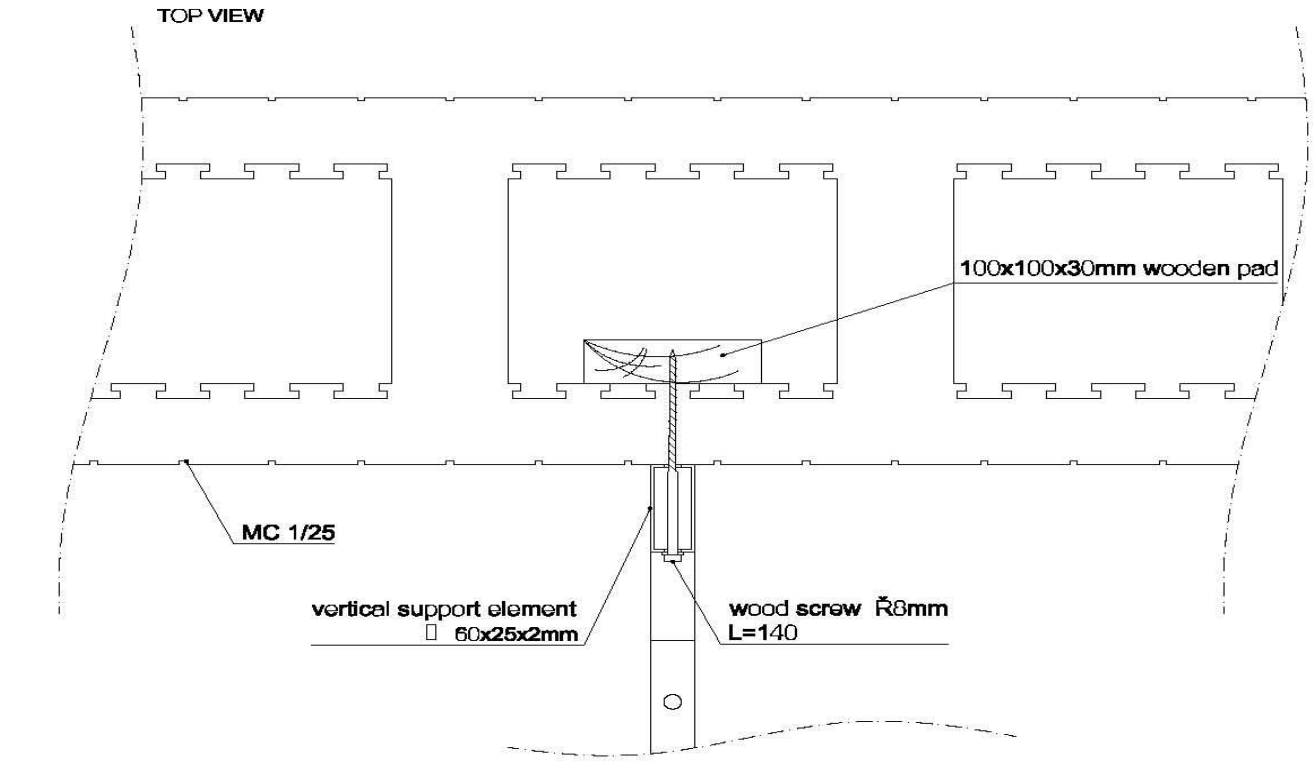
Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex B5
AUXILIARY STRUCTURES Installation of steel support for concrete pump	

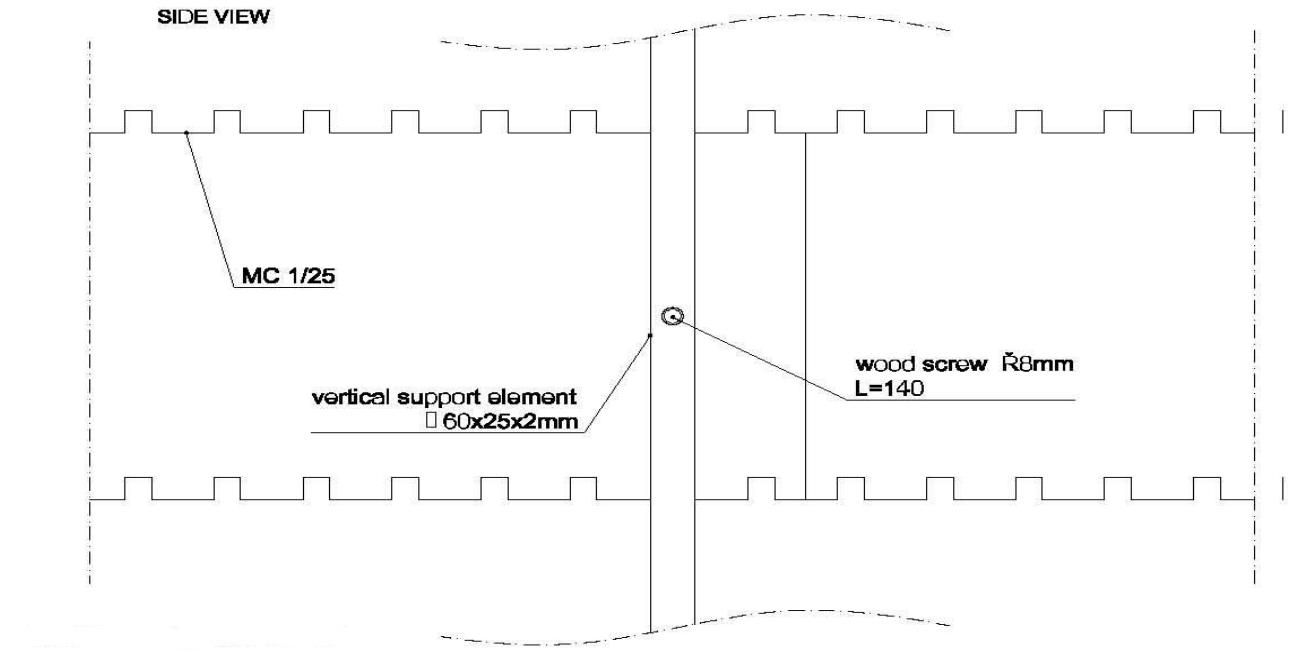




All dimensions are given in mm

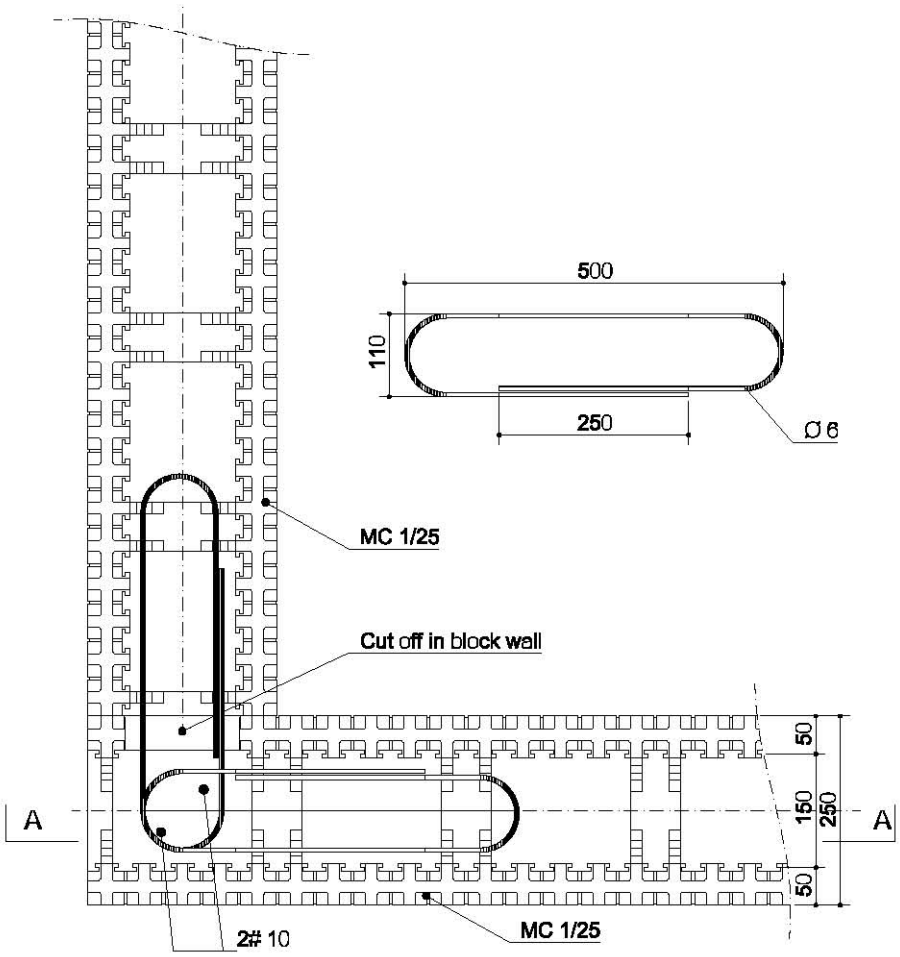
Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex B6
AUXILIARY STRUCTURES Shuttering wall fixing to steel support – version I	

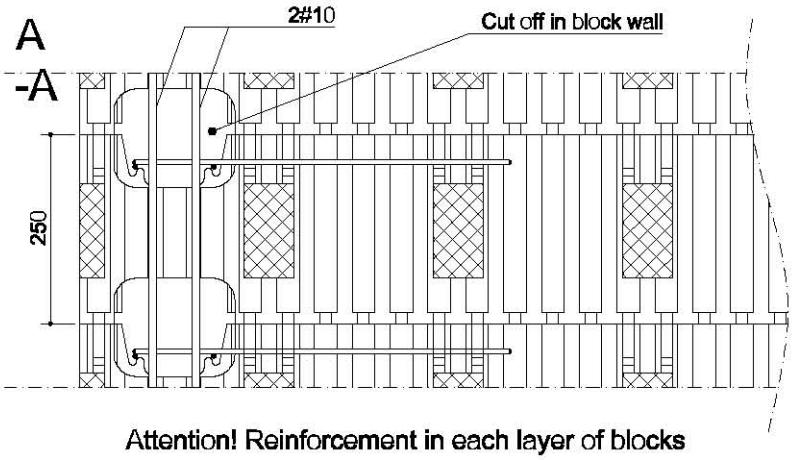




All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex B7
AUXILIARY STRUCTURES Shuttering wall fixing to steel support – version II	

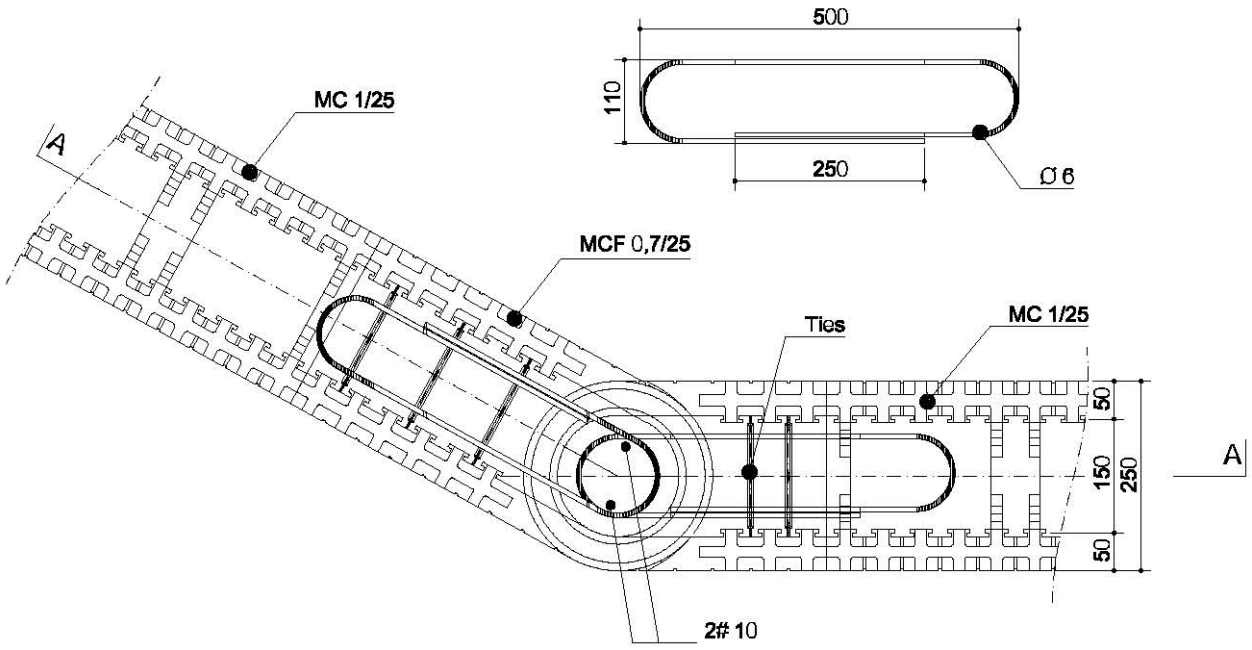


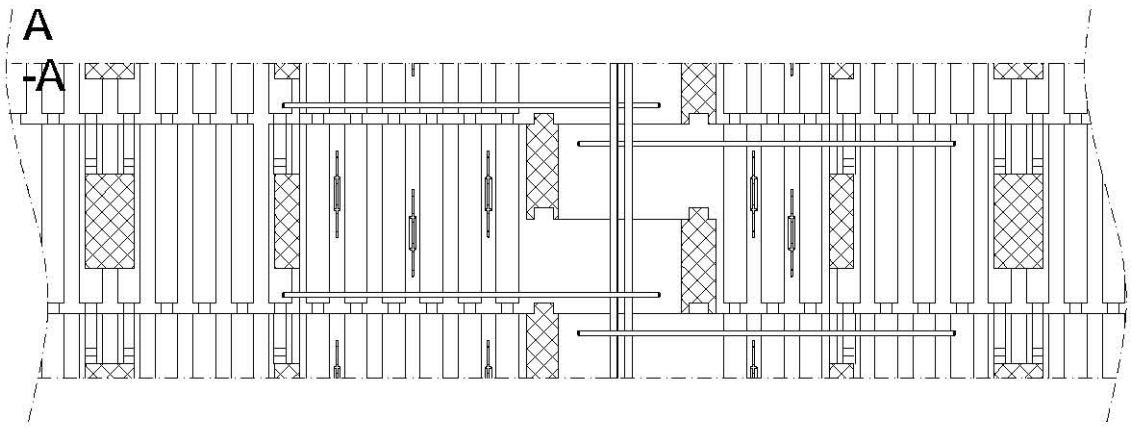


Attention! Reinforcement in each layer of blocks

All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex B8
DETAIL – SYSTEM: "STANDARD" Corner joint of outer walls	

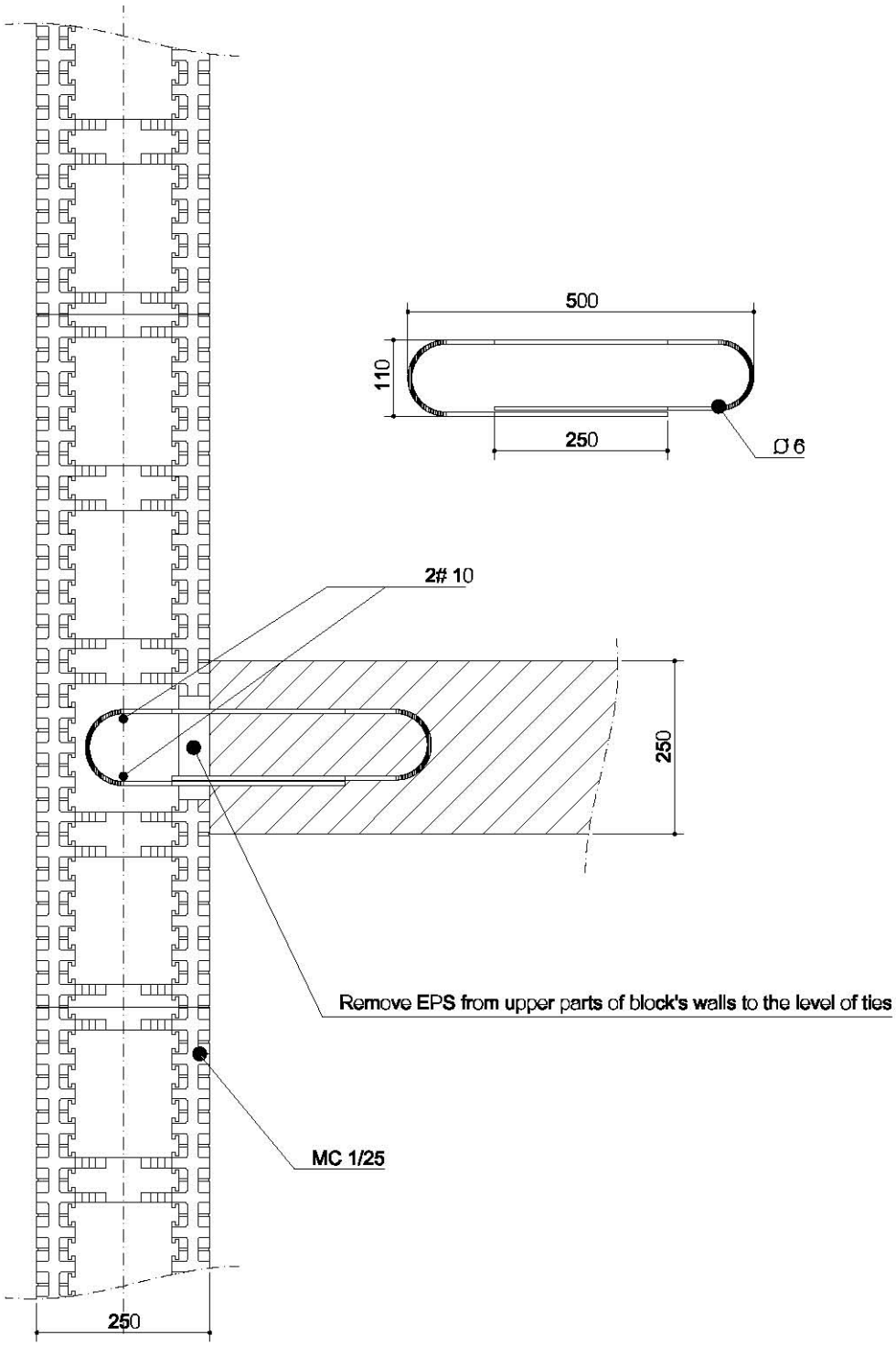




Attention! Reinforcement in each layer of blocks

All dimensions are given in mm

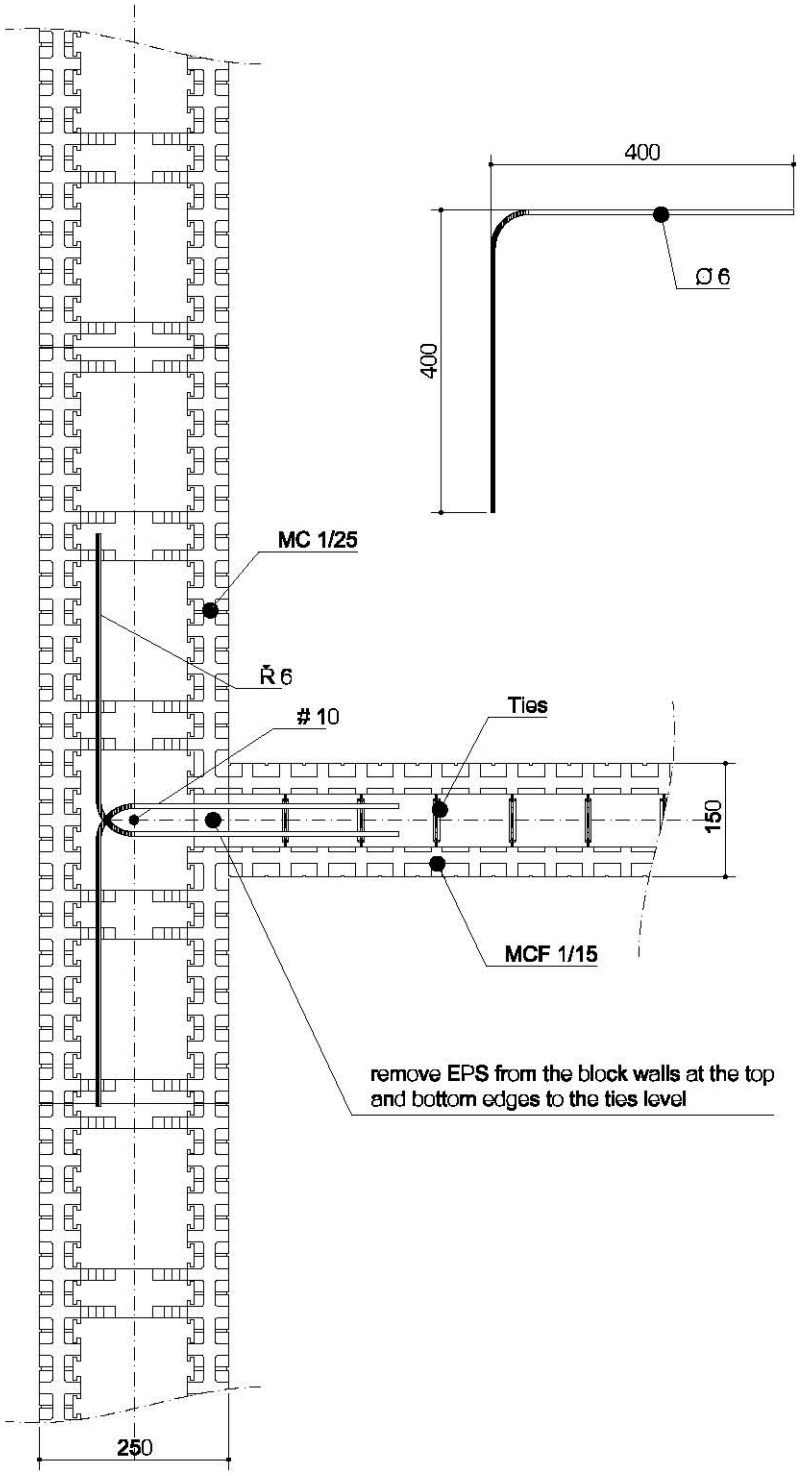
Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex B9
DETAIL – SYSTEM: "STANDARD" Outside wall corner joint at any angle	



All dimensions are given in mm

Attention! Reinforcement in each layer of blocks

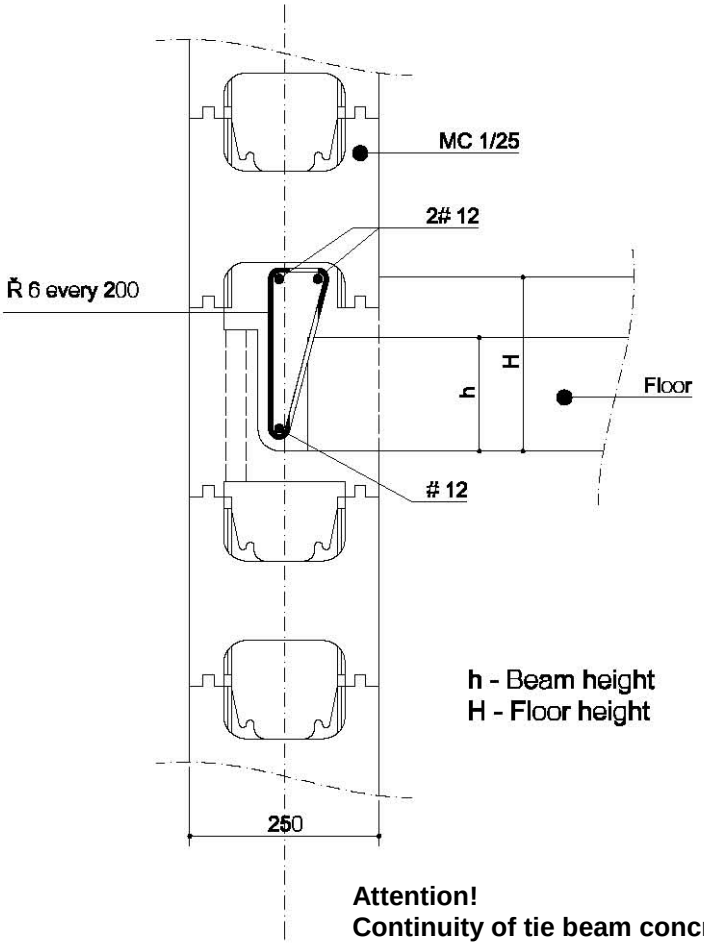
Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex B10
DETAIL – SYSTEM: "STANDARD" Joint of outer wall with inner load-bearing wall	



All dimensions are given in mm

Attention! Reinforcement in each layer of blocks

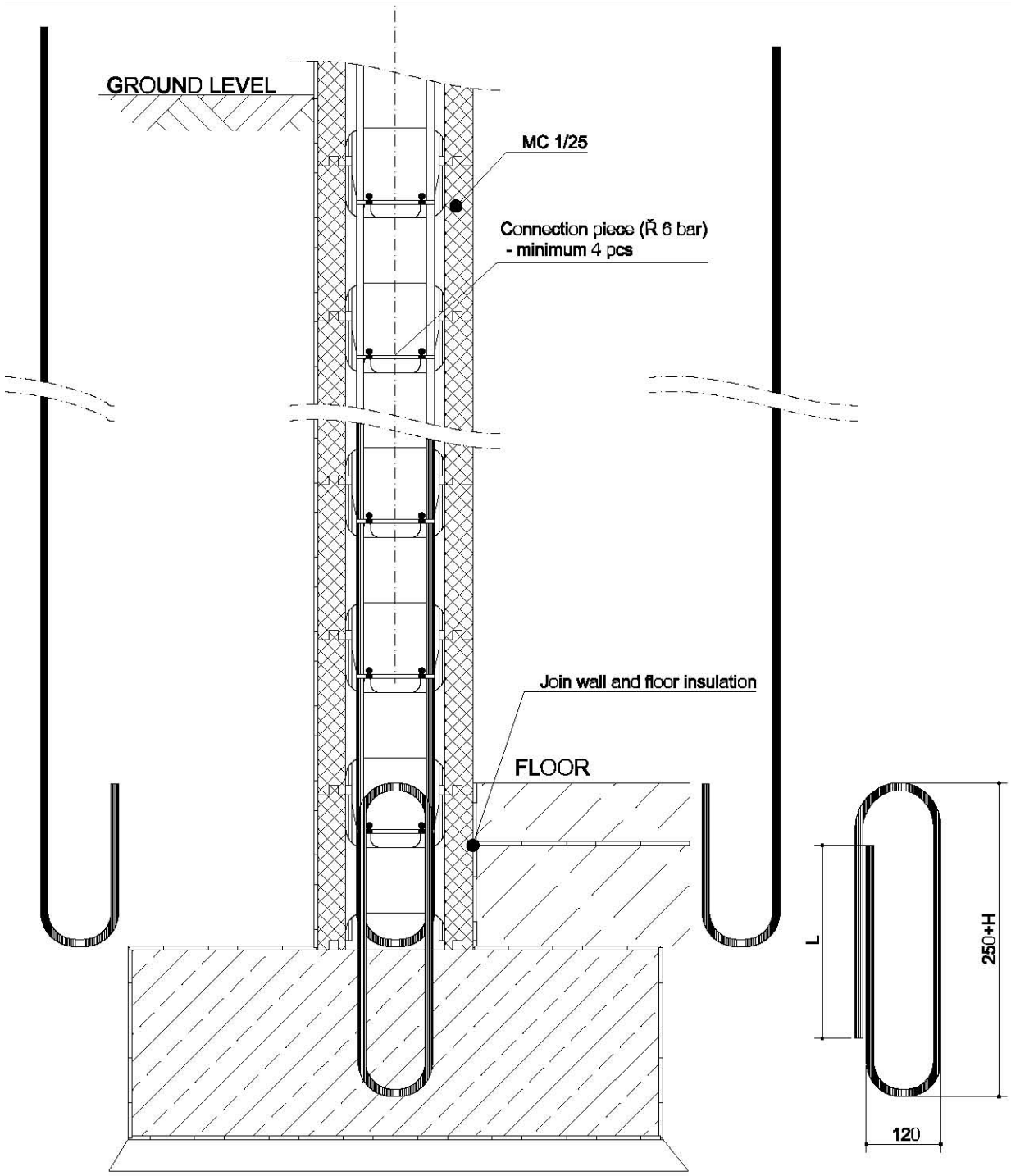
Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex B11
DETAIL – SYSTEM: "STANDARD" Joint of outer wall with inner partition wall	



Attention!
Continuity of tie beam concrete and longitudinal reinforcement must be ensured

All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex B12
DETAIL – SYSTEM: "STANDARD" Tie beam reinforcement	



All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex B13
DETAIL – SYSTEM: "STANDARD" Connection of reinforced concrete wall with strip footing (must be in accordance with static design calculations)	

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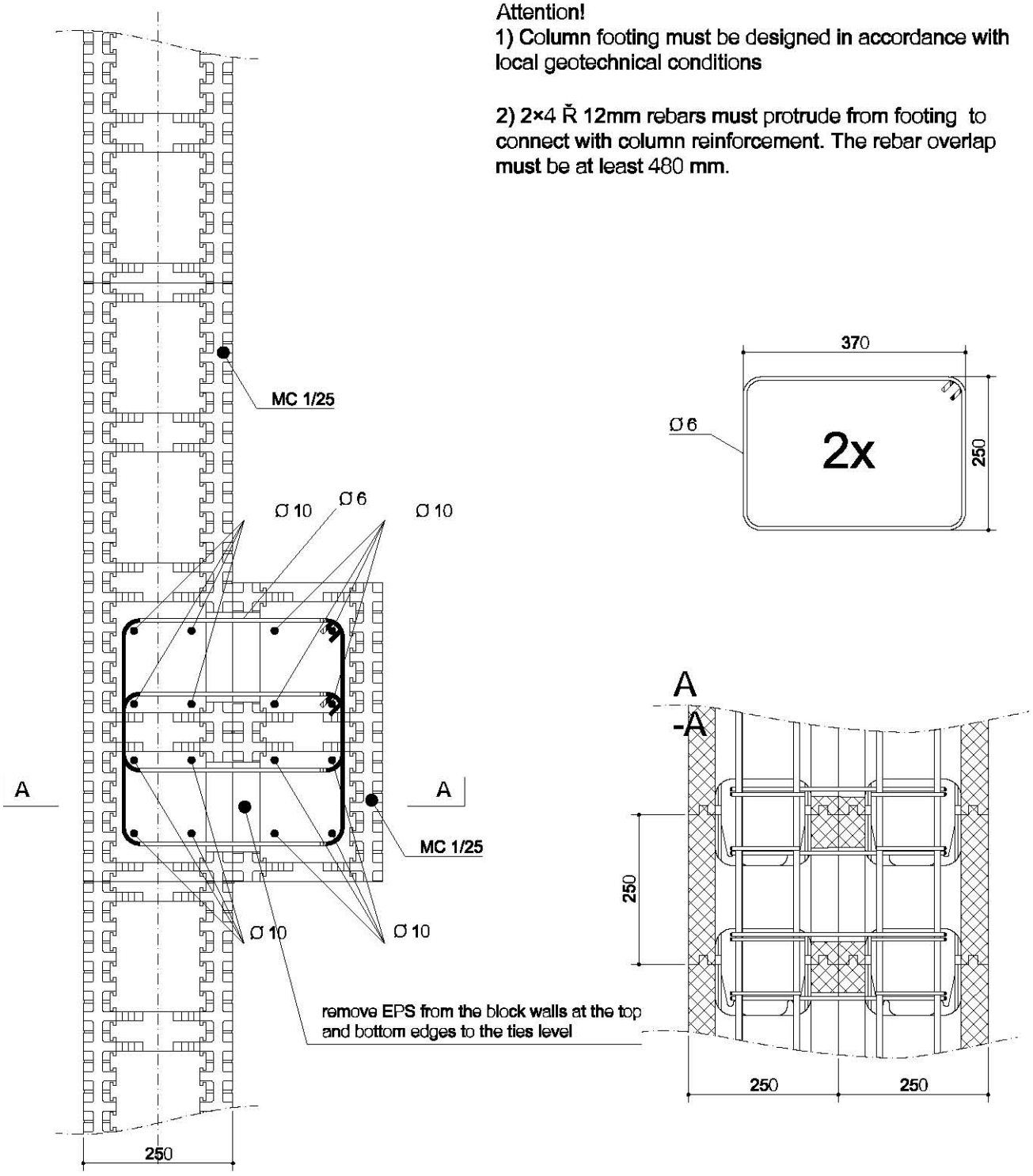
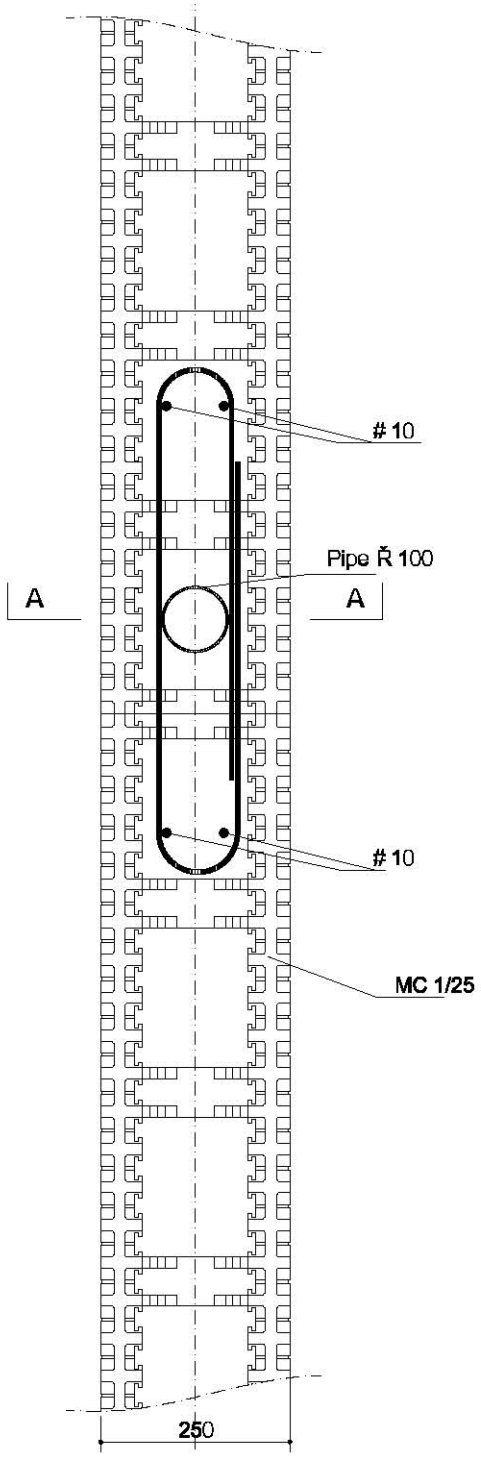
Attention!
1) Column footing must be designed in accordance with local geotechnical conditions

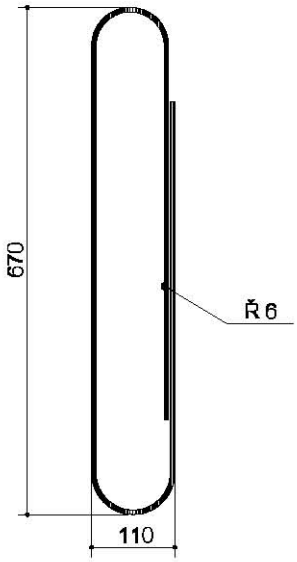
2) 2×4 Ř 12mm rebars must protrude from footing to connect with column reinforcement. The rebar overlap must be at least 480 mm.

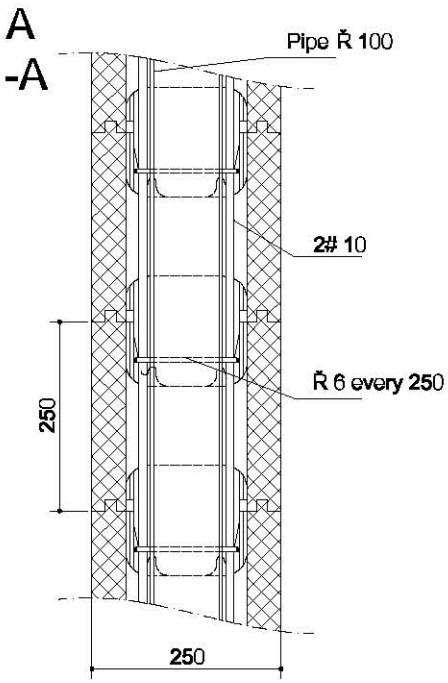


All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex B14
DETAIL – SYSTEM: "STANDARD" Reinforcement of a pilaster	



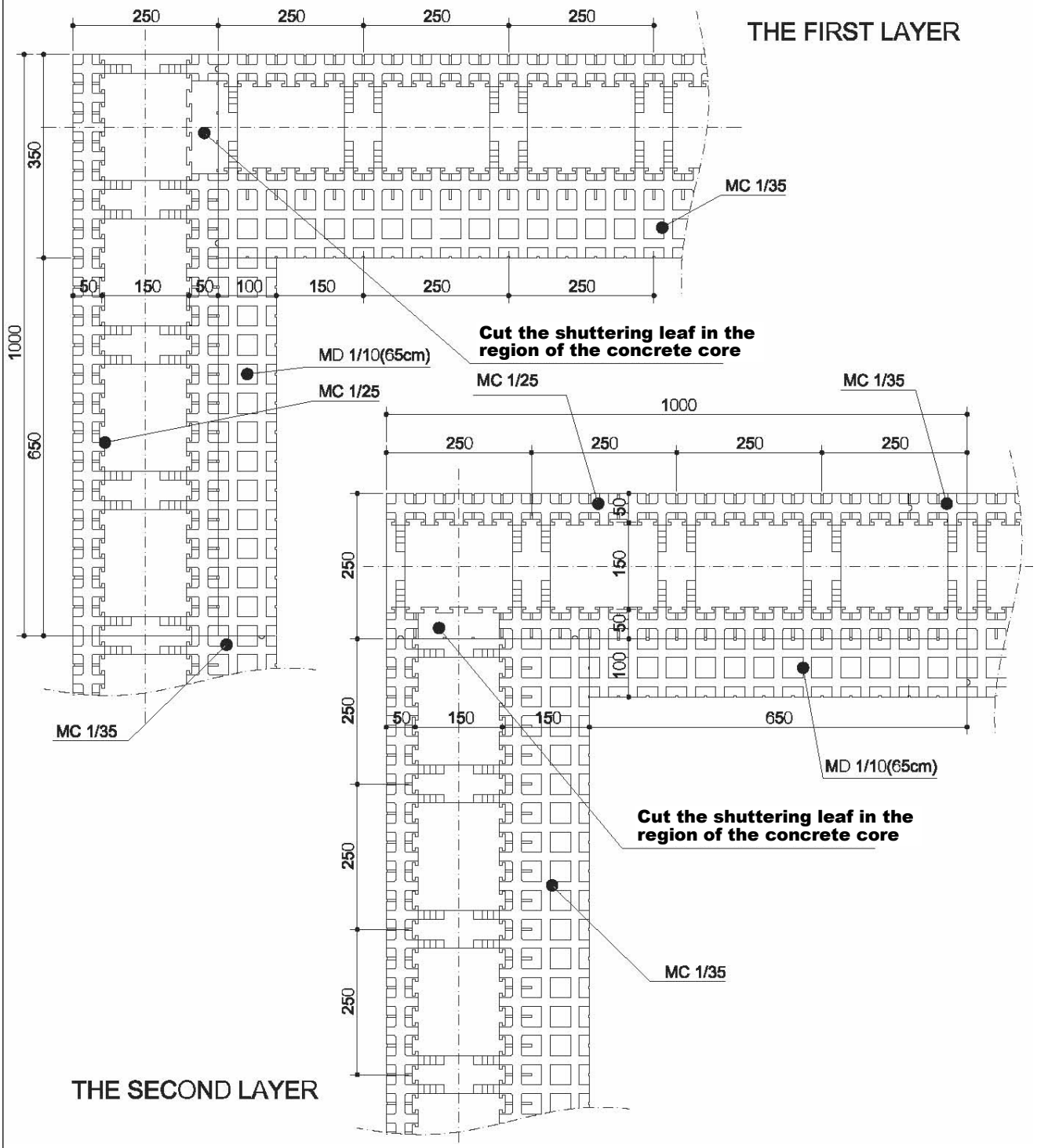




Attention! Reinforcement in each layer of blocks

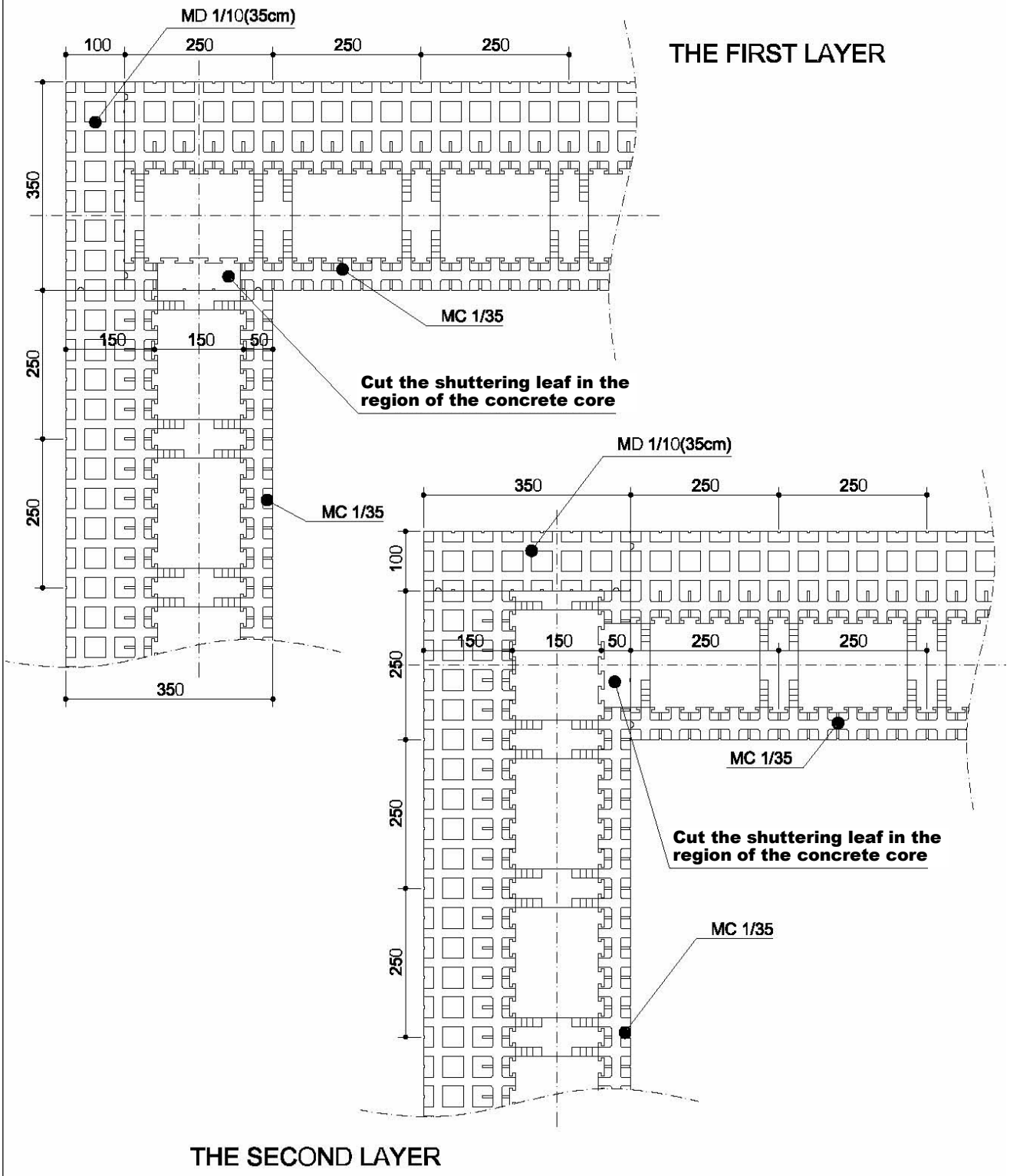
All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex B15
DETAIL – SYSTEM: "STANDARD" Reinforcement around installation conduit	



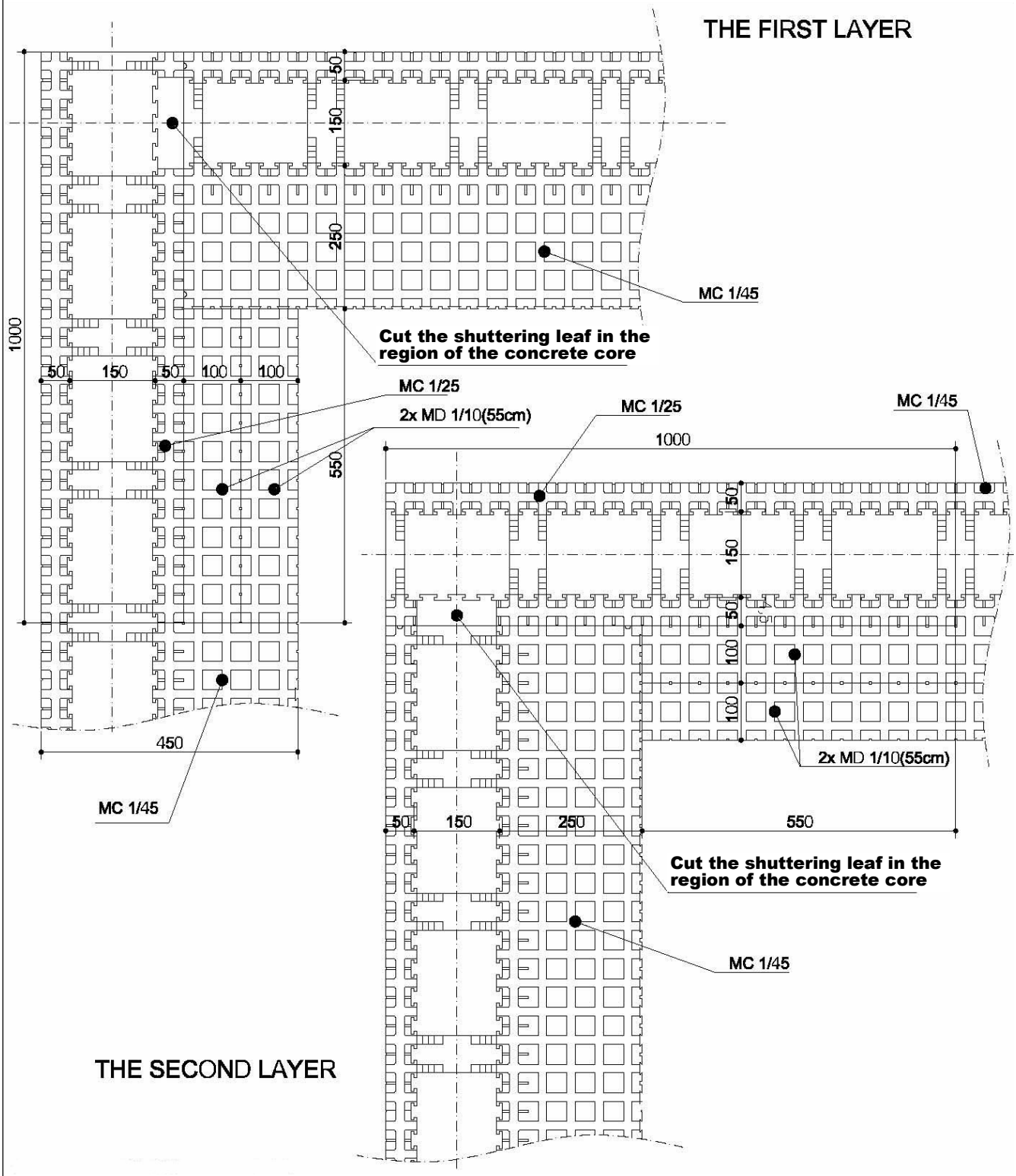
All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex B16
DETAIL – SYSTEM: "KING BLOCK" Inside corner for a 35cm wall	



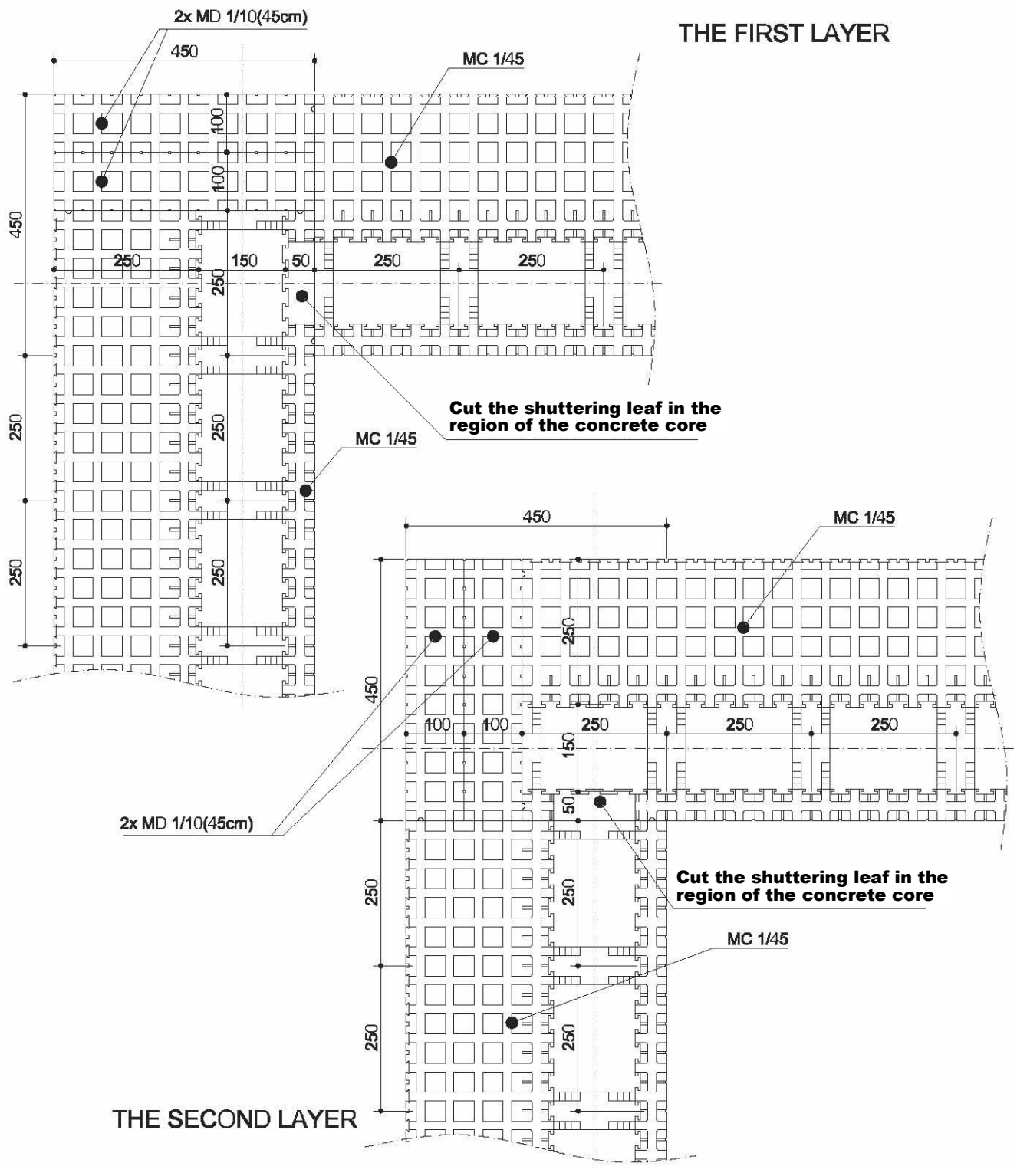
All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex B17
DETAIL – SYSTEM: "KING BLOCK" Outside corner for a 35cm wall	



All dimensions are given in mm

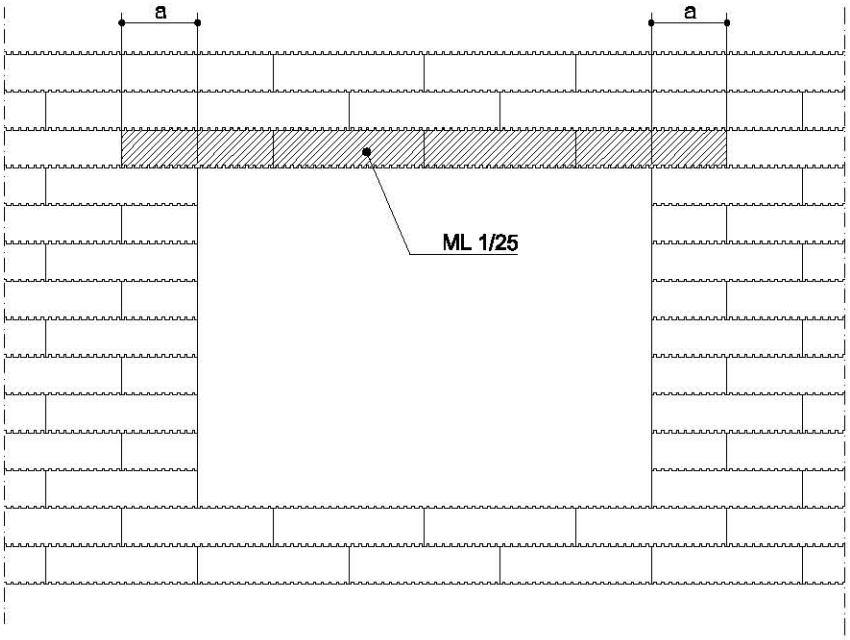
Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex B18
DETAIL – SYSTEM: "SUPER KING BLOCK" Inside corner for a 45cm wall	



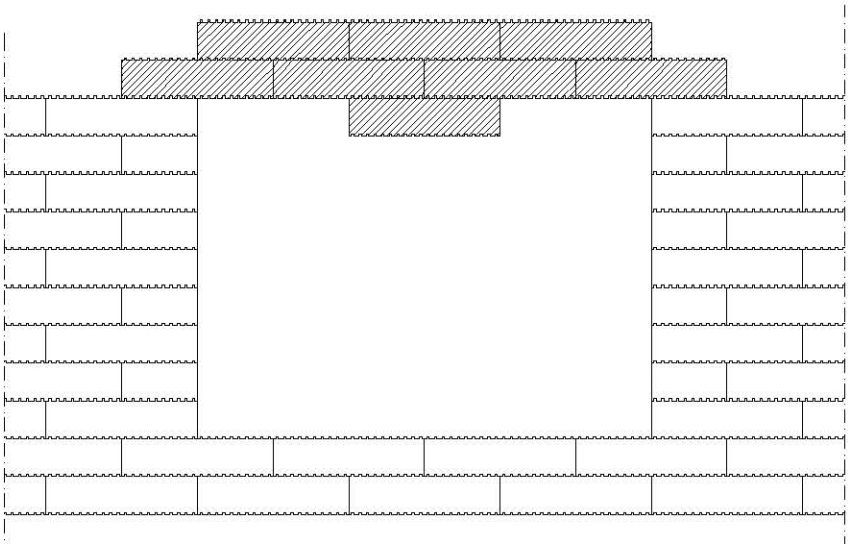
All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex B19
DETAIL – SYSTEM: "SUPER KING BLOCK" Outside corner for a 45cm wall	

HEADER BLOCK LOCATION DIAGRAM ML 1/25

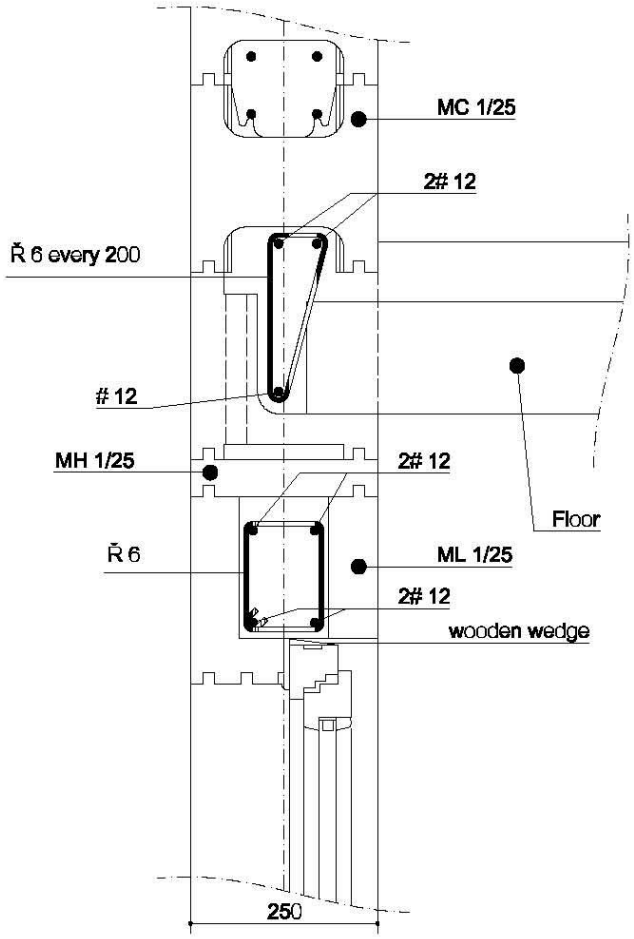


TEMPORARY (PROVISIONAL) PLACEMENT OF THE BLOCKS
FOR THE SAKE OF DIMENSIONAL ACCURACY IN THE WINDOWS WITHOUT HEADERS

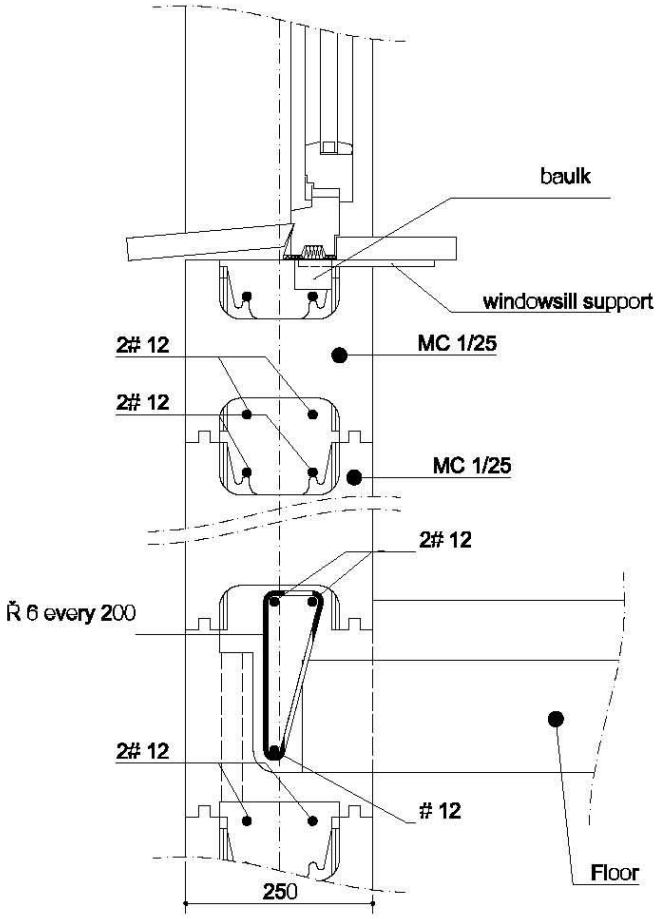


Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex B20
DETAIL Diagram of placing blocks in the wall and method of making door and window openings	

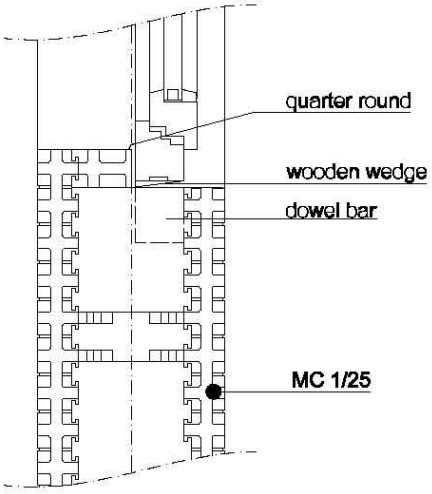
FASTENING OF UPPER WINDOW FRAME – DETAIL



FASTENING OF BOTTOM WINDOW FRAME – DETAIL



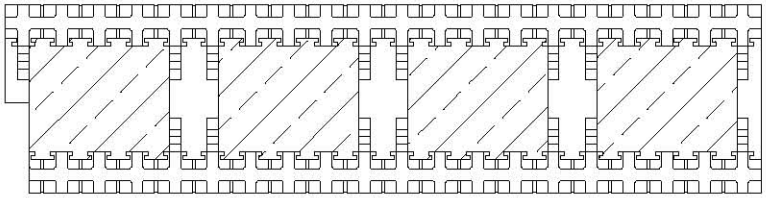
FASTENING OF SIDE WINDOW FRAME – DETAIL



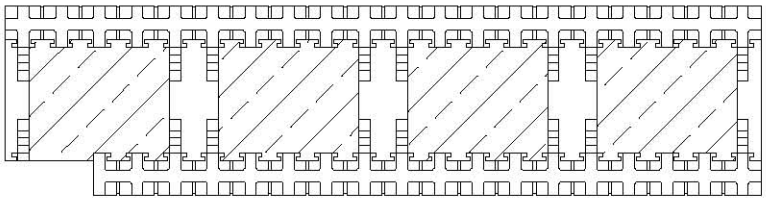
All dimensions are given in mm

Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex B21
DETAIL Fixing of windows	

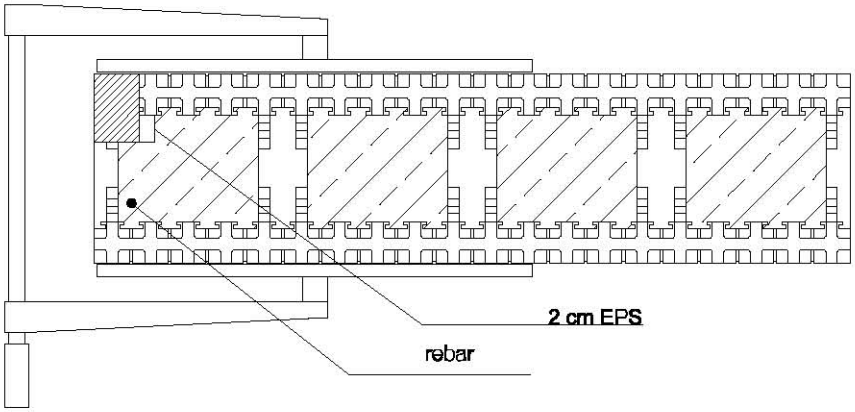
BY PARTIAL EPS REMOVAL



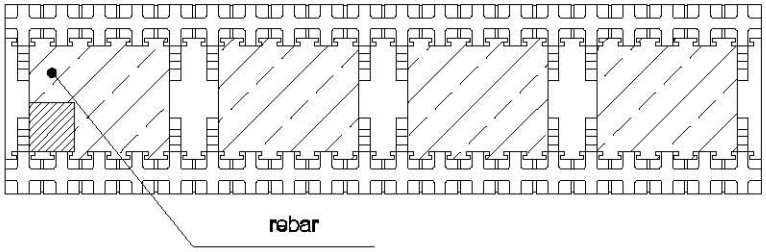
BY PARTIAL EPS REMOVAL



WITH A BAULK USED AS FORMWORK



WITH A BAULK USED AS FORMWORK



Permanent shuttering kit "IZODOM 2000 POLSKA"	Annex B22
DETAIL Possible methods of external reveal construction	