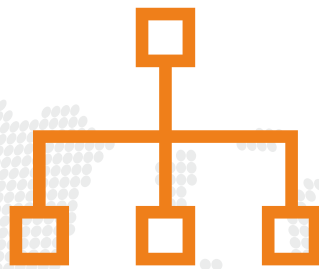




**ADVANCED DISPOSABLE
FORMWORK SYSTEMS FOR
LIGHTWEIGHT CONSTRUCTIONS**



True North

STRUCTURAL SYSTEMS



DISPOSABLE FORMWORK

www.truenorthstructural.com



We clean
4,000 tons plastic waste
from nature with our annual production
capacity every year.



We consume 80% recycled raw material for our production. The recycled raw materials used in our production and plastic waste collected from nature are transformed into products. These products are left in concrete for their use. Thus, its release to nature is prevented. With our annual production capacity, approximately 4,000 tons of plastic waste is cleaned from nature every year.

DISPOSABLE FORMWORK

DISPOSABLE FORMWORK, created for lightweight filling, beginning from 5 cm. up to 300 cm.
 It is a single-use raised floor system that gives minimum filling load to reinforced concrete.
 It fulfills the function of filling in reinforced concrete structures requiring high load capacity.
 Is a raised floor system that creates ventilation space and installation availability under the slab,
 which can be easily moved by hand and can be used for building foundations, floors, hard landscaping
 for having lighter filling load to reinforced concrete.



DISPOSABLE FORMWORK,
is produced from recycled Polypropylene (PP).



5 cm

8 cm

10 cm

12,5 cm

15 cm



20 cm

25 cm

30 cm

35 cm

40 cm

45 cm

50 cm



50 cm

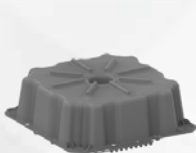
100 cm

150 cm

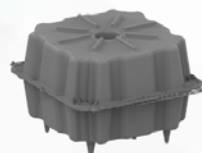
200 cm

250 cm

300 cm



SINGLE USE



DOUBLE USE

DISPOSABLE FORMWORK

It is the lightest solution compared to all its alternatives.

It has a high load-carrying capacity.

Heavy vehicles may pass over the system.

Compared to other systems, Provides 90% easier and faster application.

This system is the solution point in reverse beams.

Provides air, heat and sound insulation

It is very easy to install.

It saves labour and time.

All kinds of installations can be passed through the space formed.

No machine is required to place Disposable Formworks.

Application is made with manpower.

One staff can set up an area which is 30 square meters per hour.

When construction continues on upper floors it allows making an application at the same time.

In ramp applications, legs can be cut at any size necessary.

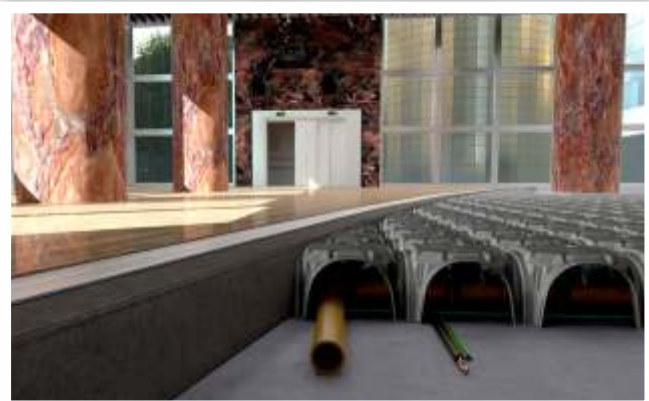
Stackability enables saving on logistics and storage: 1 Truck load of Disposable formwork with 50cm height can replace 32 trucks of other filling materials for the same area.



AUTOPARKS



FLOORS



UPSTANDING BEAMS

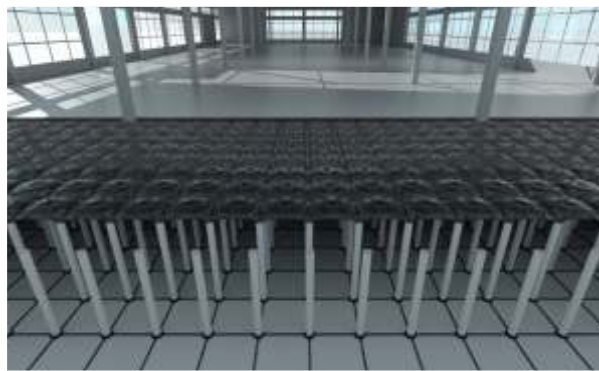


HOLLOW-TILE FLOOR SLABS

DISPOSABLE FORMWORK APPLICATION AREAS

DISPOSABLE FORMWORK APPLICATION AREAS

DISPOSABLE FORMWORK can be used in all areas like parking garage ramps, areas where light filling is required, filling on foundations, on stepped surfaces, upstanding beams, in places that require reinforced concrete raised floor, requiring filling in landscape fills, tree details and around the pool.



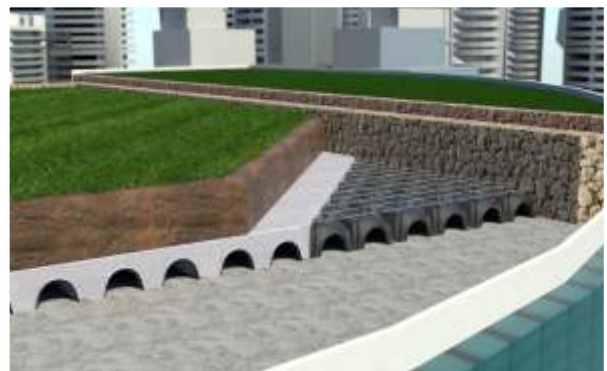
LARGE AREA FLOOR FILLINGS



FILLING BETWEEN FOUNDATIONS LUGS



REVERSE BEAM FILLINGS



LANDSCAPE FILLINGS



COLD STORAGE WAREHOUSES



FILLING AROUND POOL AREAS



WHAT IS RADON GAS?

Radon, is a radioactive gas which released from stone and soil by decomposition of uranium, radium and thorium elements.

Radon in Periodic table in group VIIIA the symbol of this noble gas is Rn, atom its number is 86, and its atomic weight is 222. Radon is an invisible, odorless, tasteless gas which leaks from ground and spreads into the air.

Regionally Radon gas is mixed into ground wather and it is released into air when the wather being used.

Most of the radiation which is exposed to natural sources it is caused by Radon.

Most of the radiation which is being exposed from natural sources it is caused by Radon gas leakage.

Radon gas is usually exists in the air very low level. Radon gas is mostly seen underground mines where it is poorly ventilated and it significantly boosts the risk of lung cancer.

According to the International Cancer Research Agency (IARC) radon gas is group-1 carcinogenic.

WHAT IS THE REASON OF HUMIDITY?

Soil is a heterogeneous combination of solids, air and water. Serious problems may occur in the contact of groundwater with traditional structures. Such as the decay of the elements used in the building due to wet, cold, damp and unsanitary conditions, condensation, fungus and mold. Dampness is one of the most common problems of both old and new buildings.



World Health Organization considers Radon gas is second major reason of lung cancer after cigarette consumption.

AND WHAT ARE THE RESULTS?

STATIC DAMAGES: Salt in building materials and soil dissolves in water. This salt climbs to the top of the wall and increases the volume by up to 12 times. As a result, the plaster begins to fall off and loses its quality in the entire structure.

AESTHETIC DAMAGES: Moisture stains, mold, plaster detached from the wall, deterioration of the structure and wooden materials.

DAMAGES FOR HEALTH: Mold feeds on moisture and harmful spores come out. For this reason, spaces turn into unhealthy and cold environments that invite diseases and physical ailments.

WHAT IS MINI?

MINI (5 cm - 15 cm)

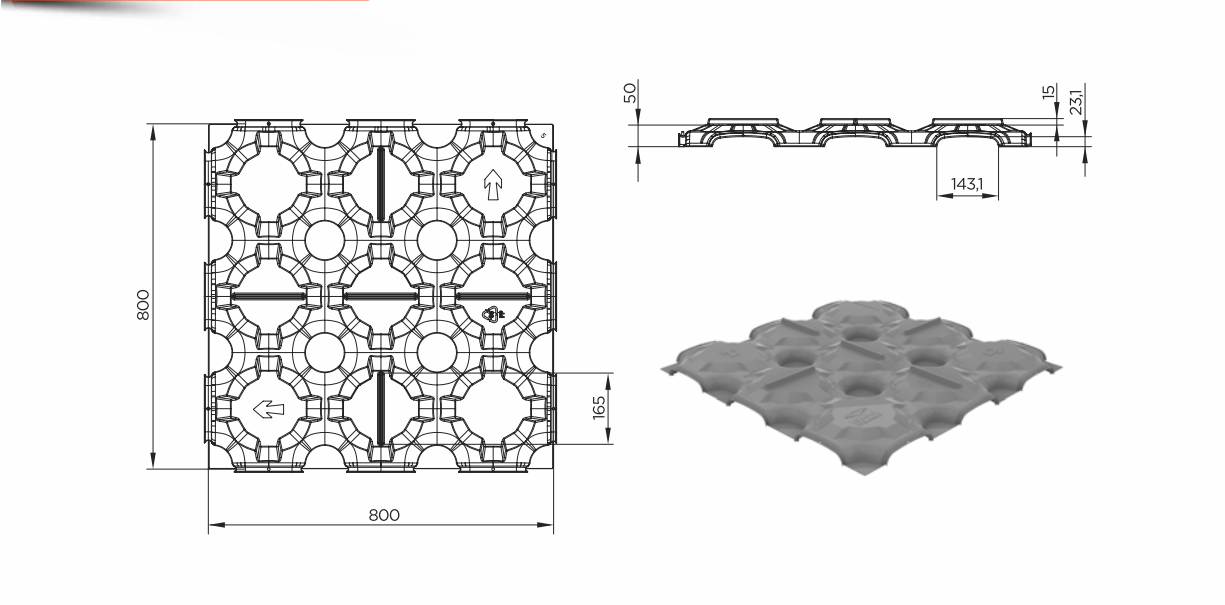
MINI is a height-fixed disposable formwork system. All kinds of qualified fillings can be made at heights varying from 5 cm to 15 cm. It provides light filling in application areas with its interlocking system. It creates ventilation gaps in all kinds of installations. very commercial area where modular raised floor construction is not possible or economically logical is 8-10 cm. Instead of filling it with dry screed, it can be turned into reinforced concrete raised floor by using MINI. In this way, the volume to be lost under the screed can be included in the usage area of the building and can be used especially in electrical and other installation passages.

There are 5 different types of products with 5-8-10-12.5-15 cm. heights.

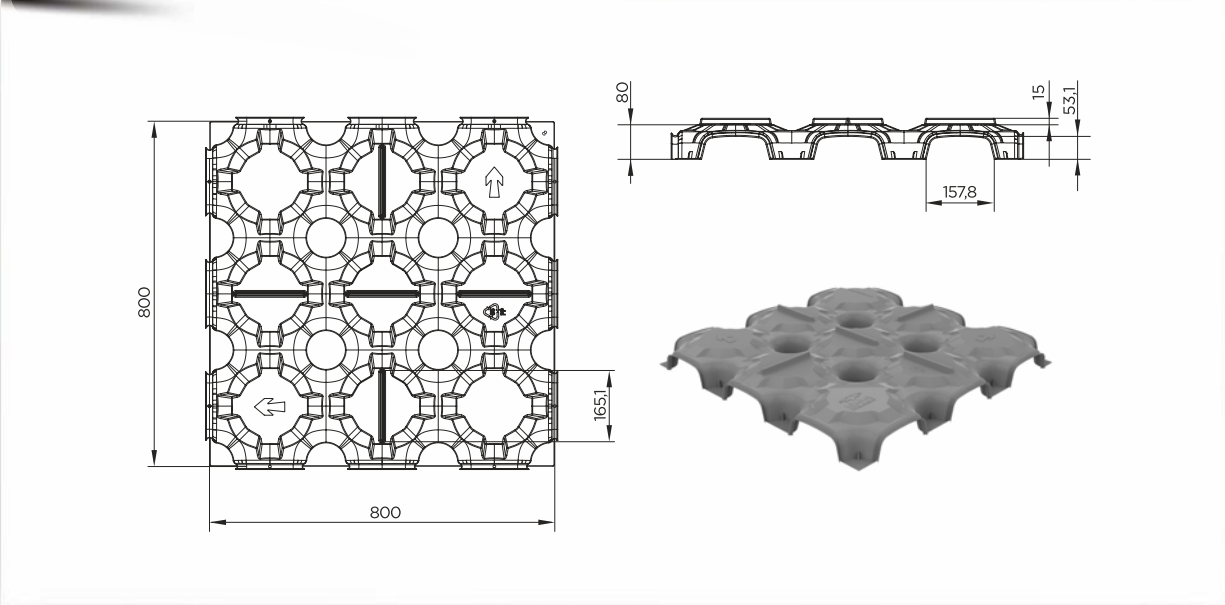


MINI TECHNICAL DRAWINGS

Mini / 80x80x5

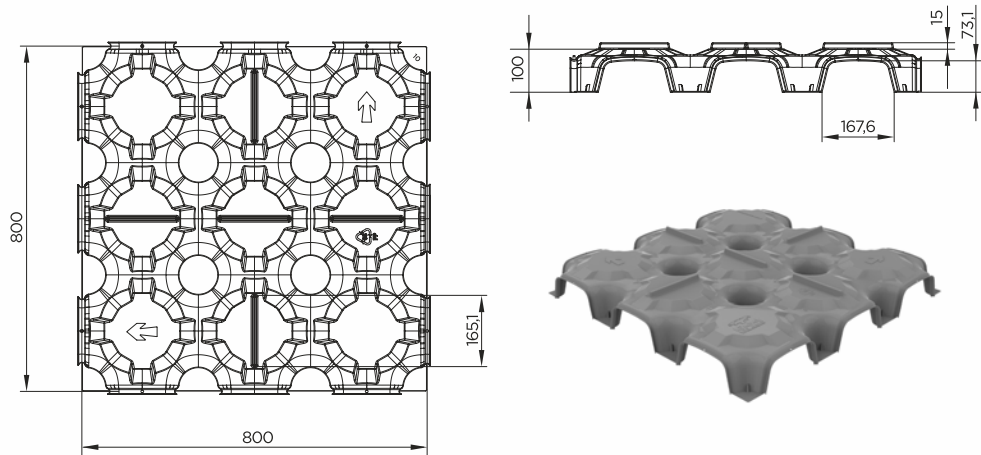


Mini / 80x80x8

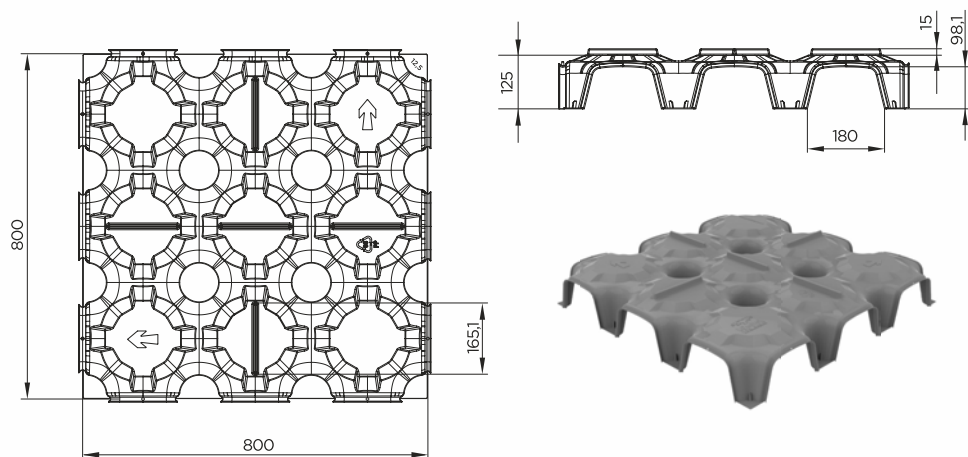


MINI TECHNICAL DRAWINGS

MiNi / 80x80x10

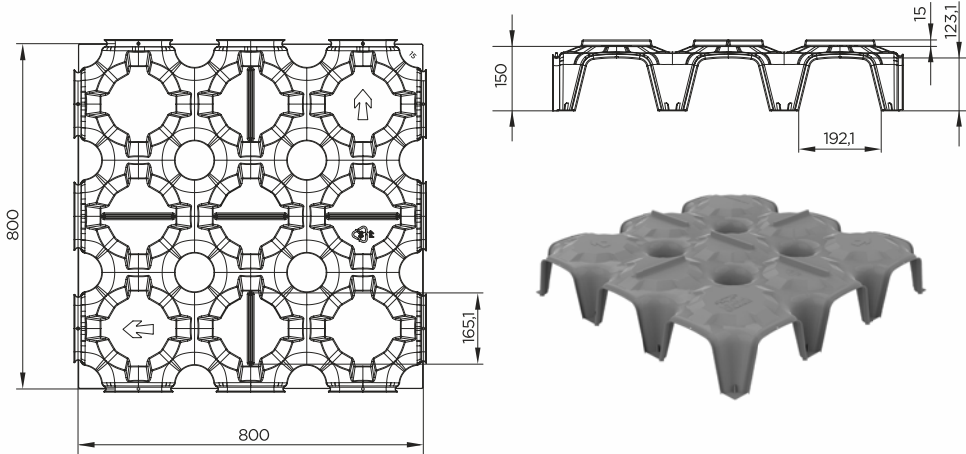


MiNi / 80x80x12,5

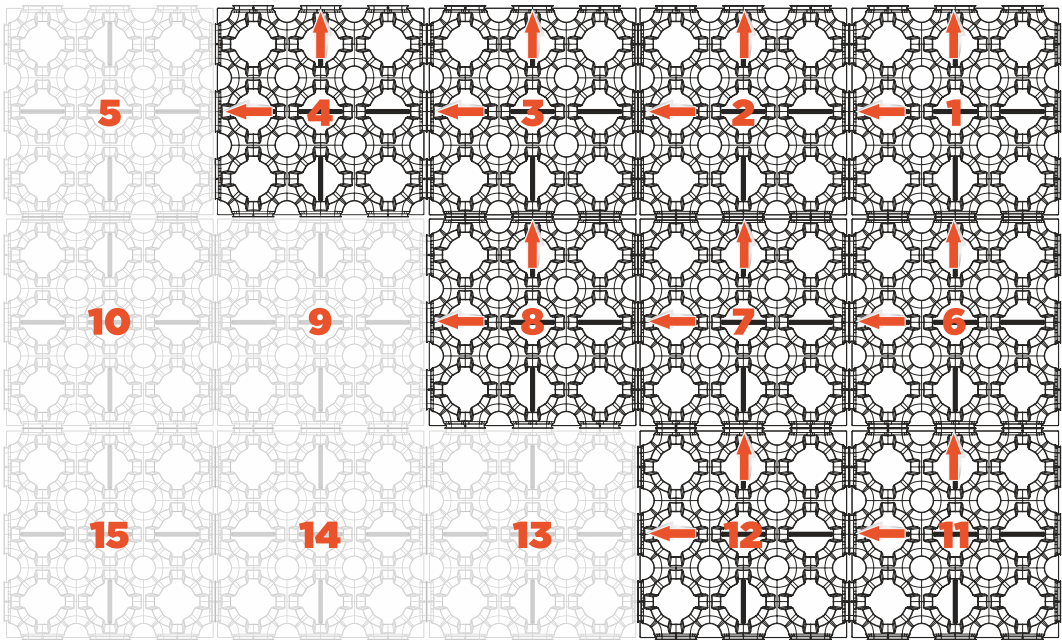


MINI TECHNICAL DRAWINGS

Mini / 80x80x15



MINI INSTALLATION



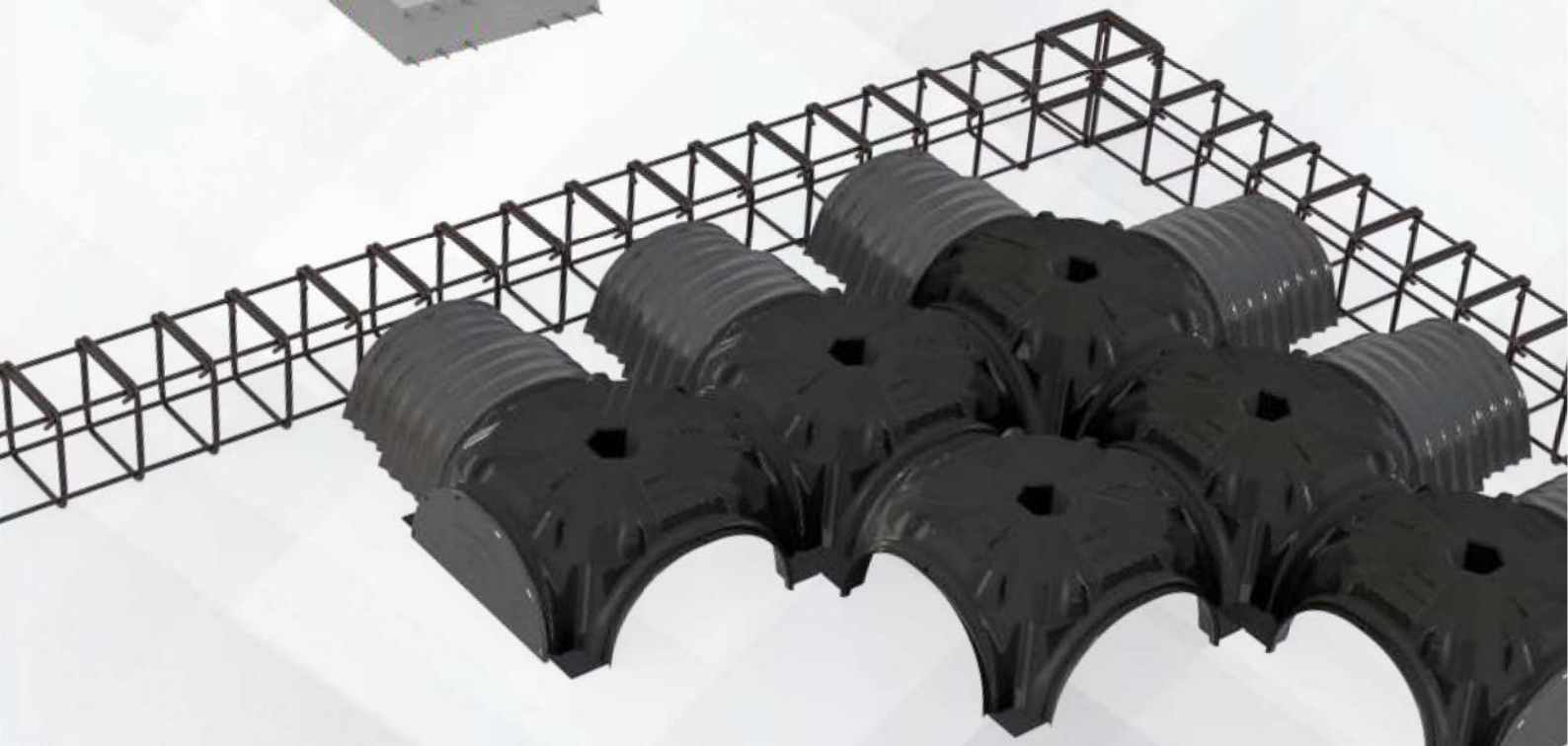
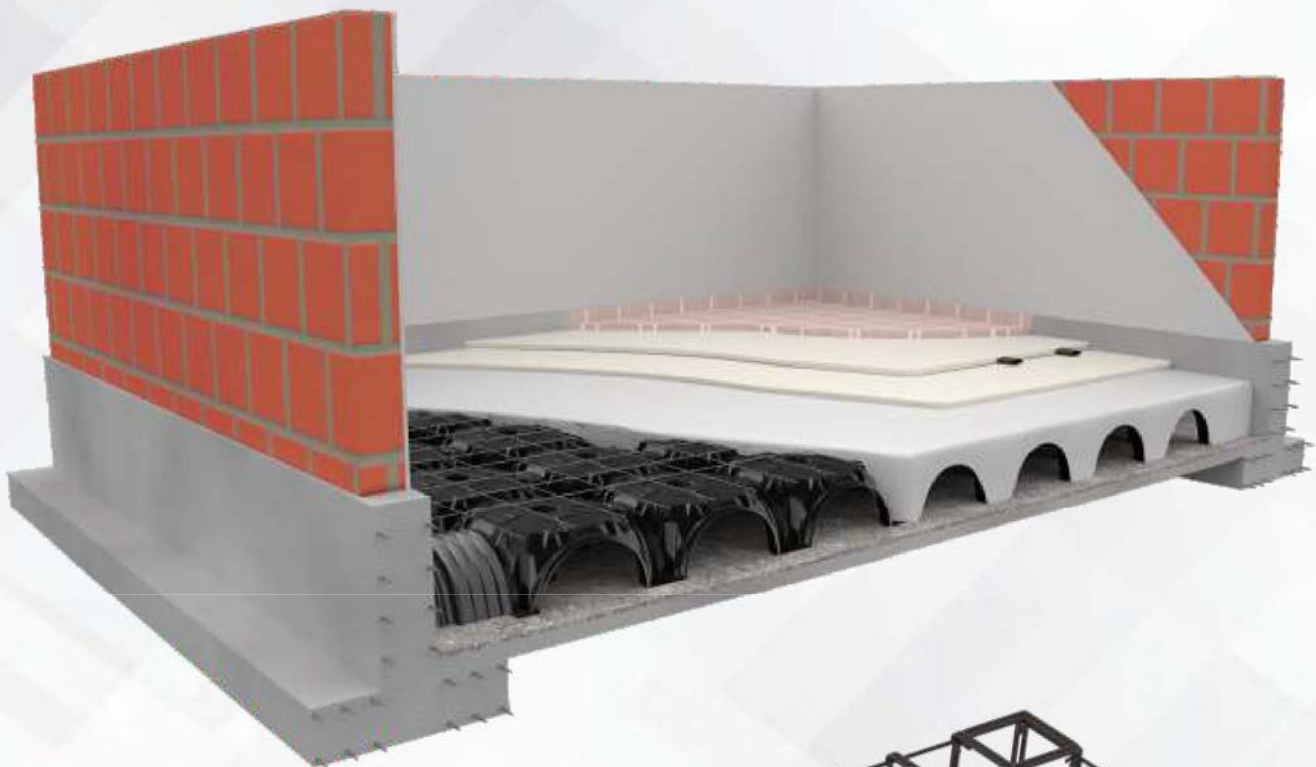
During the installation, please carefully follow the above-mentioned arrow signs, directions and numbers.

WHAT IS MIDI?

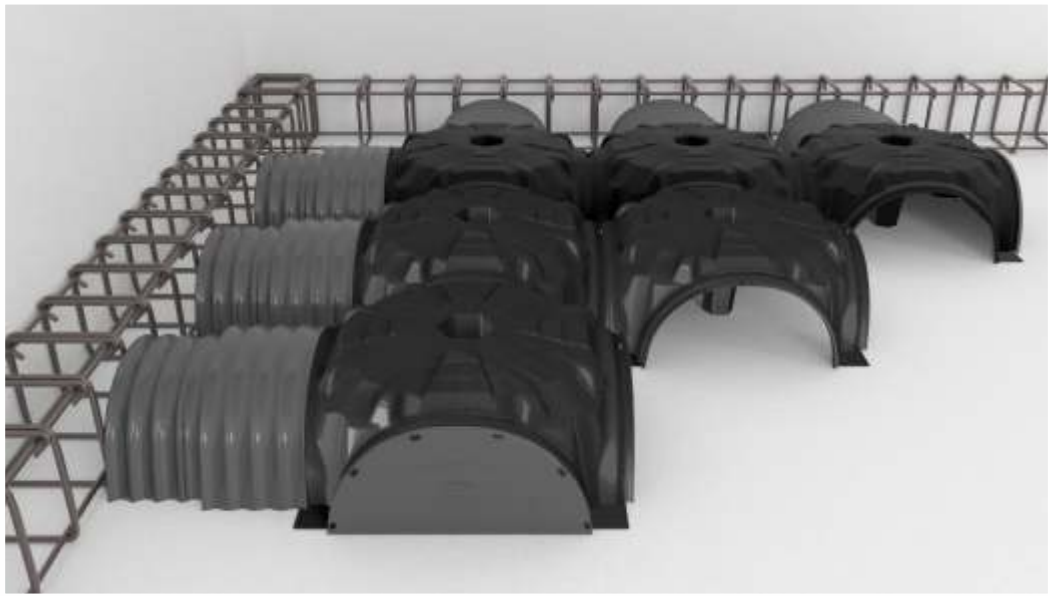
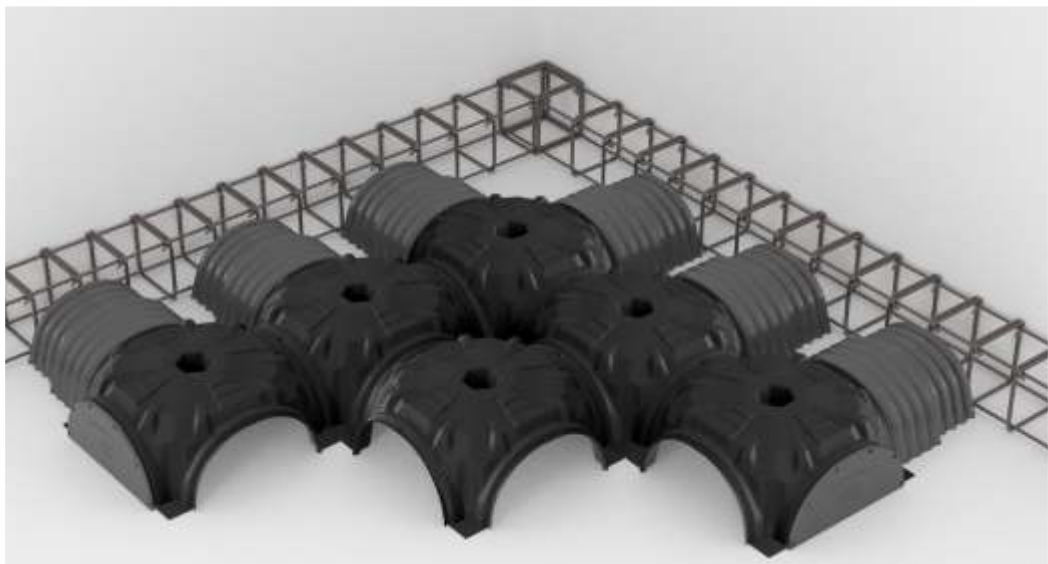
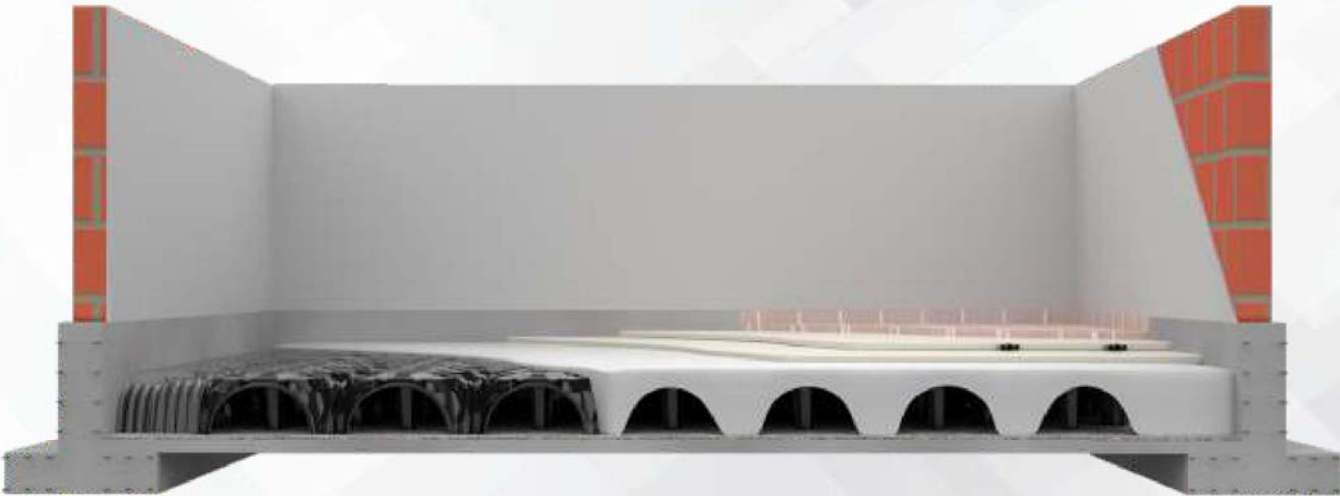
MIDI (20 cm. - 50 cm.)

MIDI is a height-fixed disposable formwork system. All kinds of qualified fillings can be made at heights varying from 20 cm to 50 cm. The products are used as single-use "Disposable formwork" and forms the concrete hundreds of reinforced concrete arches, domes and supporting pillars that carry the floor. It provides light filling in application areas with its interlocking system. It creates ventilation gaps and all kinds of installations can be made.

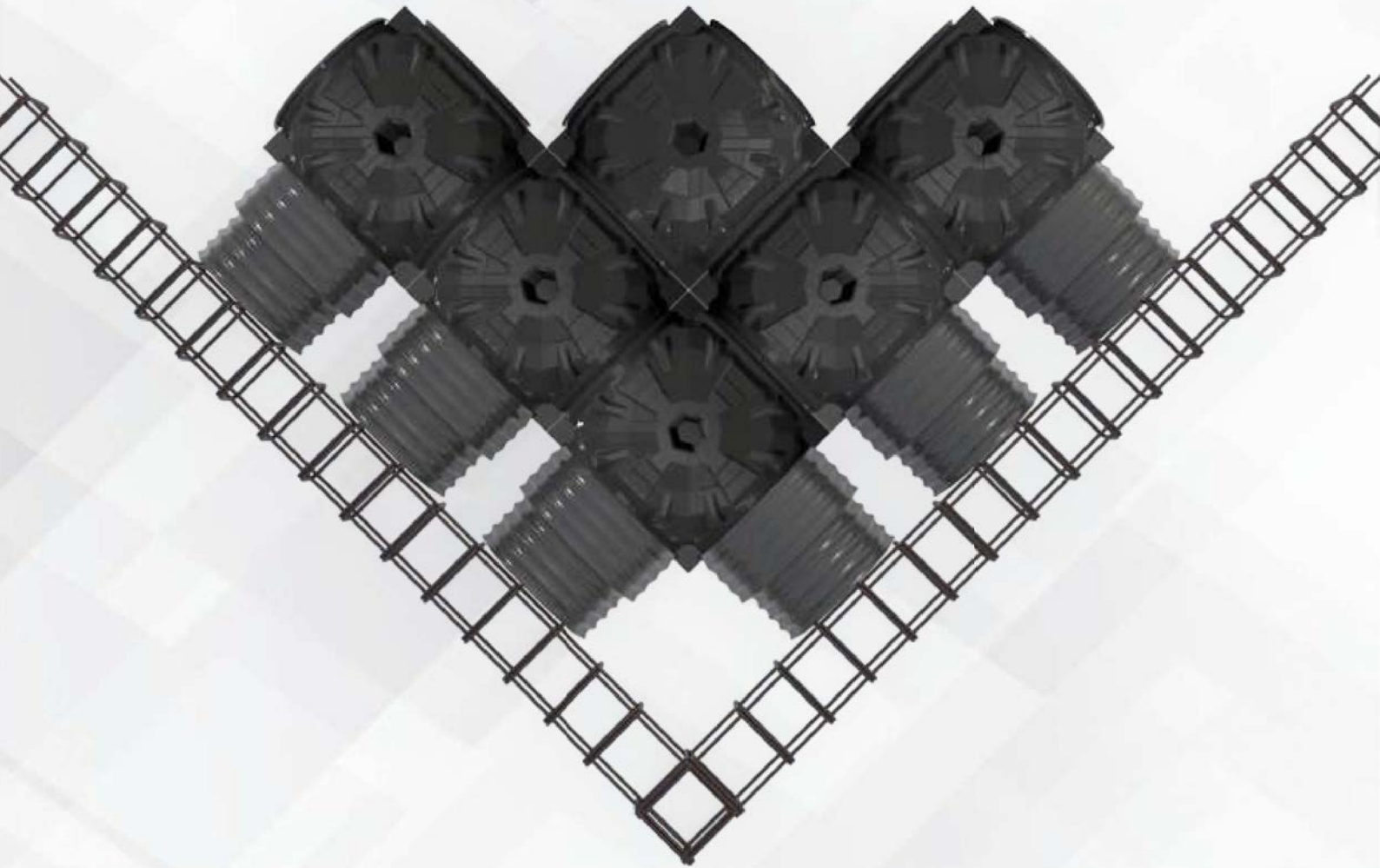
20-25-30-35-40-45-50 cm. There are 7 different types of products with fixed heights.



MIDI TECHNICAL DRAWINGS

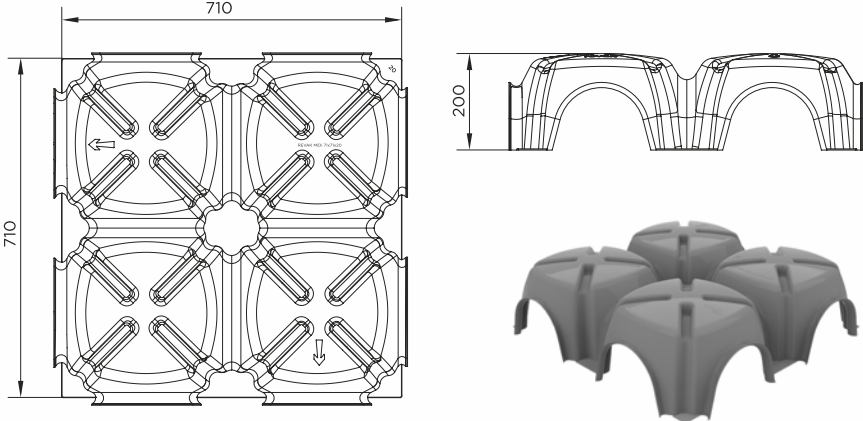


MIDI TECHNICAL DRAWINGS

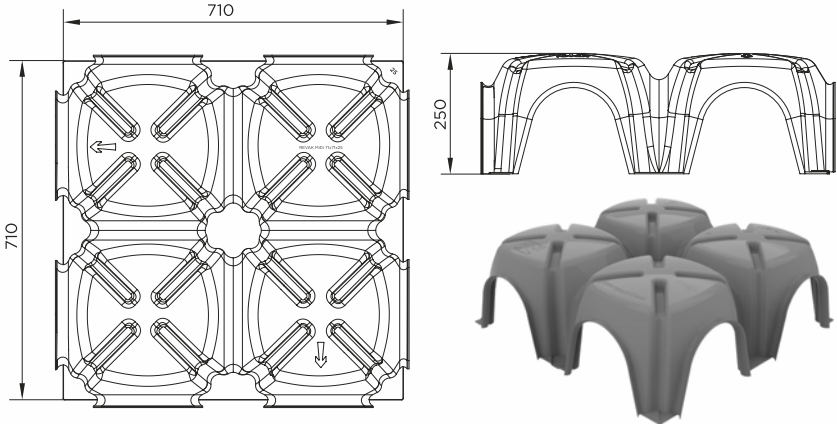


MIDI TECHNICAL DRAWINGS

MiDi / 71x71x20

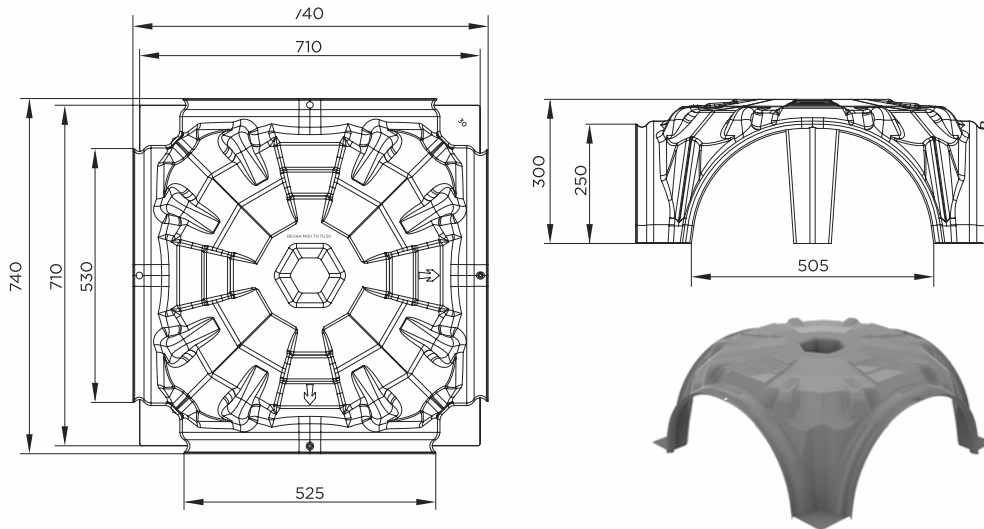


MiDi / 71x71x25

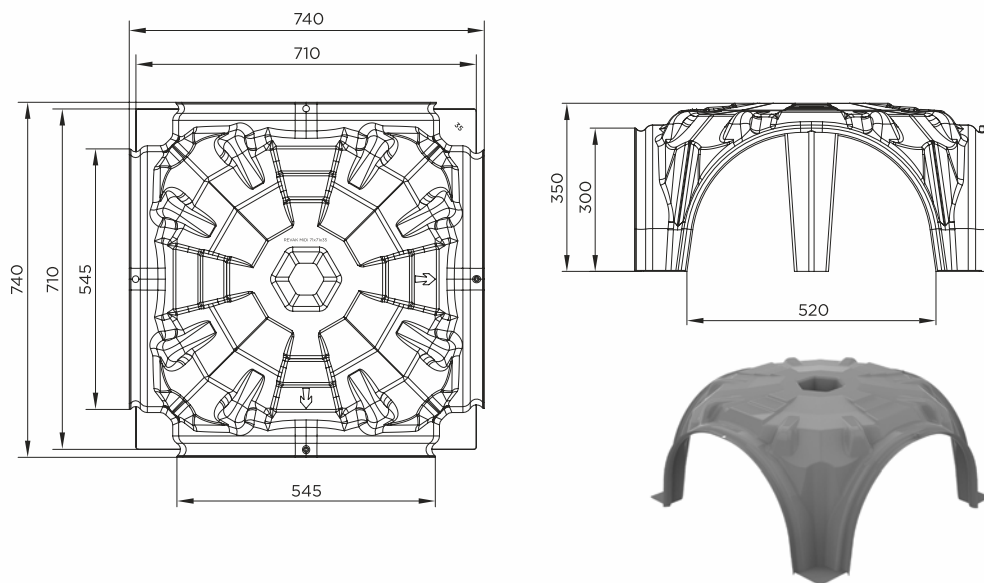


MIDI TECHNICAL DRAWINGS

MiDi / 71x71x30

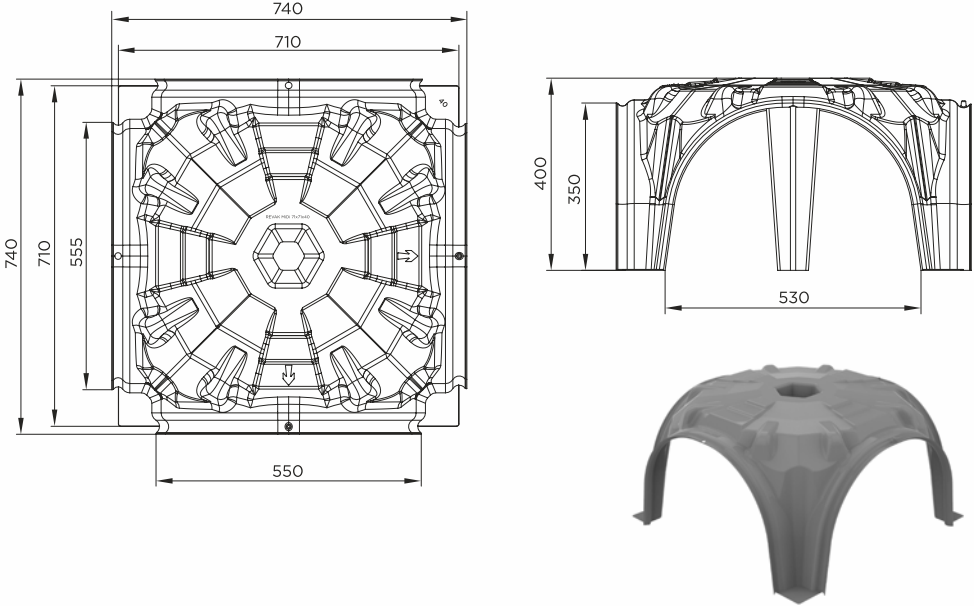


MiDi / 71x71x35

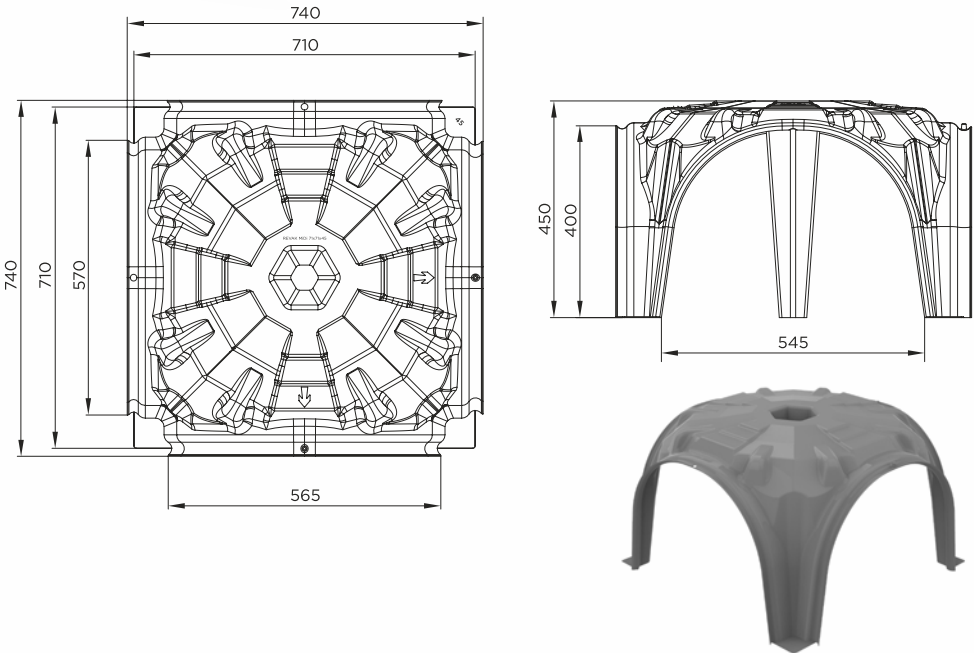


MIDI TECHNICAL DRAWINGS

MiDi / 71x71x40

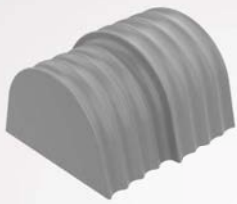
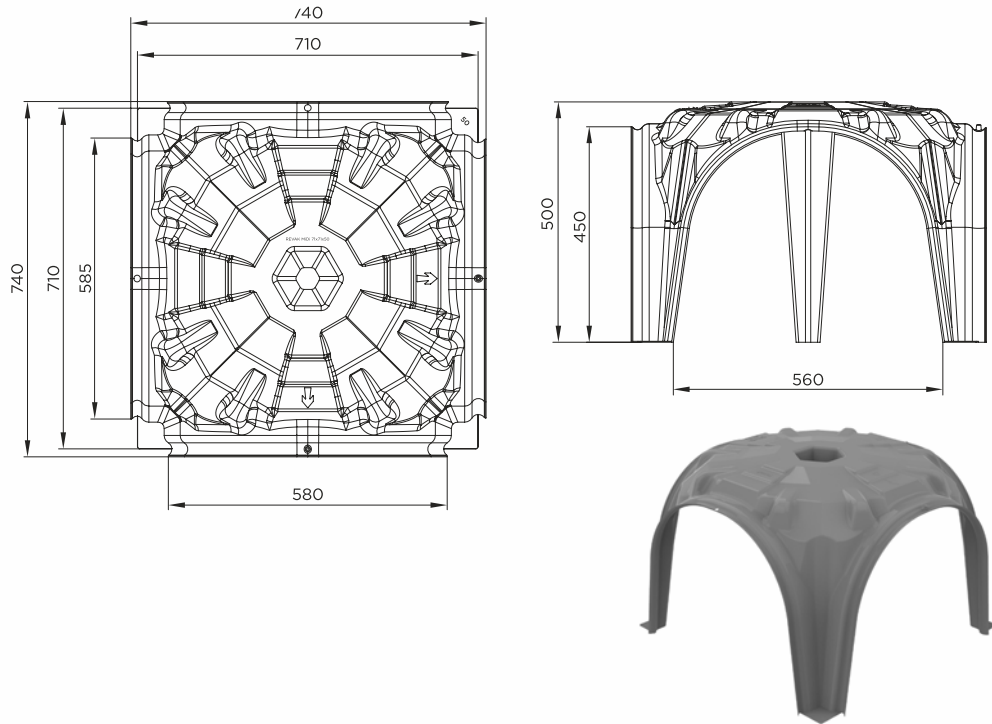


MiDi / 71x71x45



MIDI TECHNICAL DRAWINGS

MiDi / 71x71x50

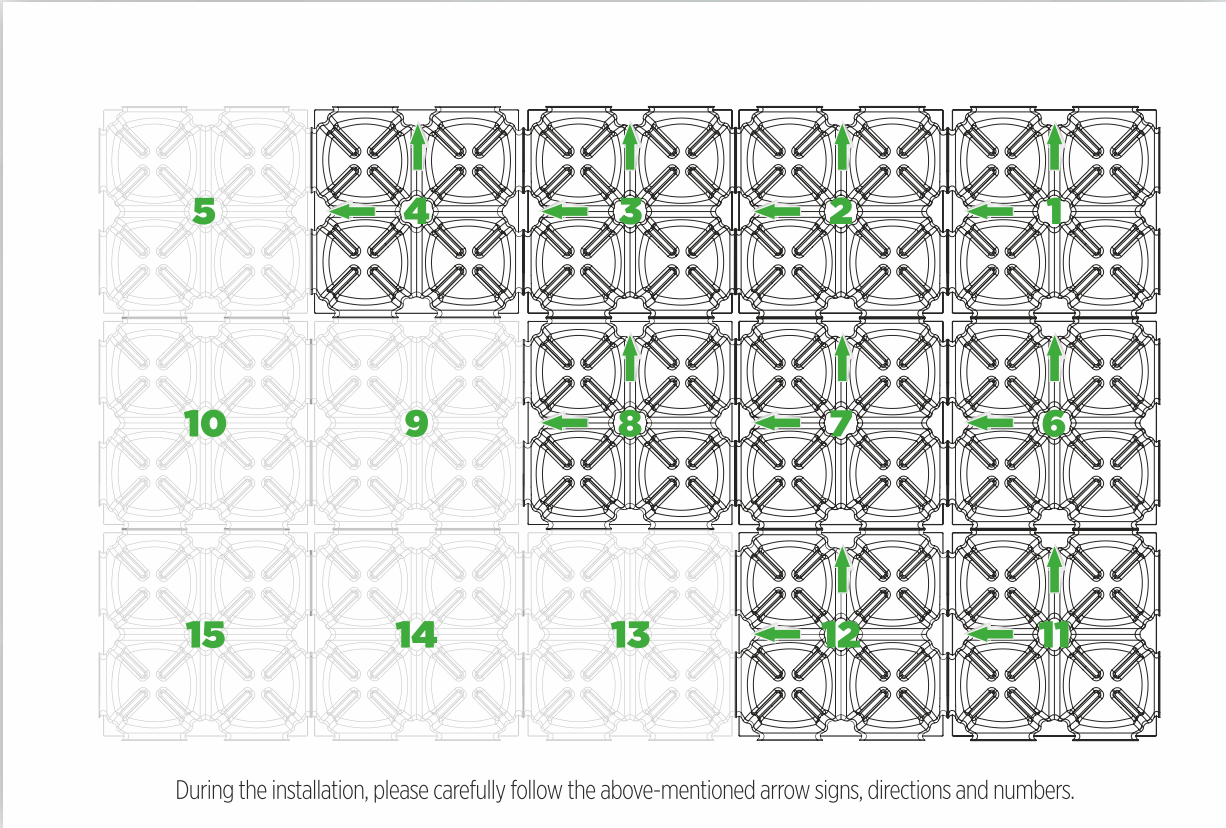
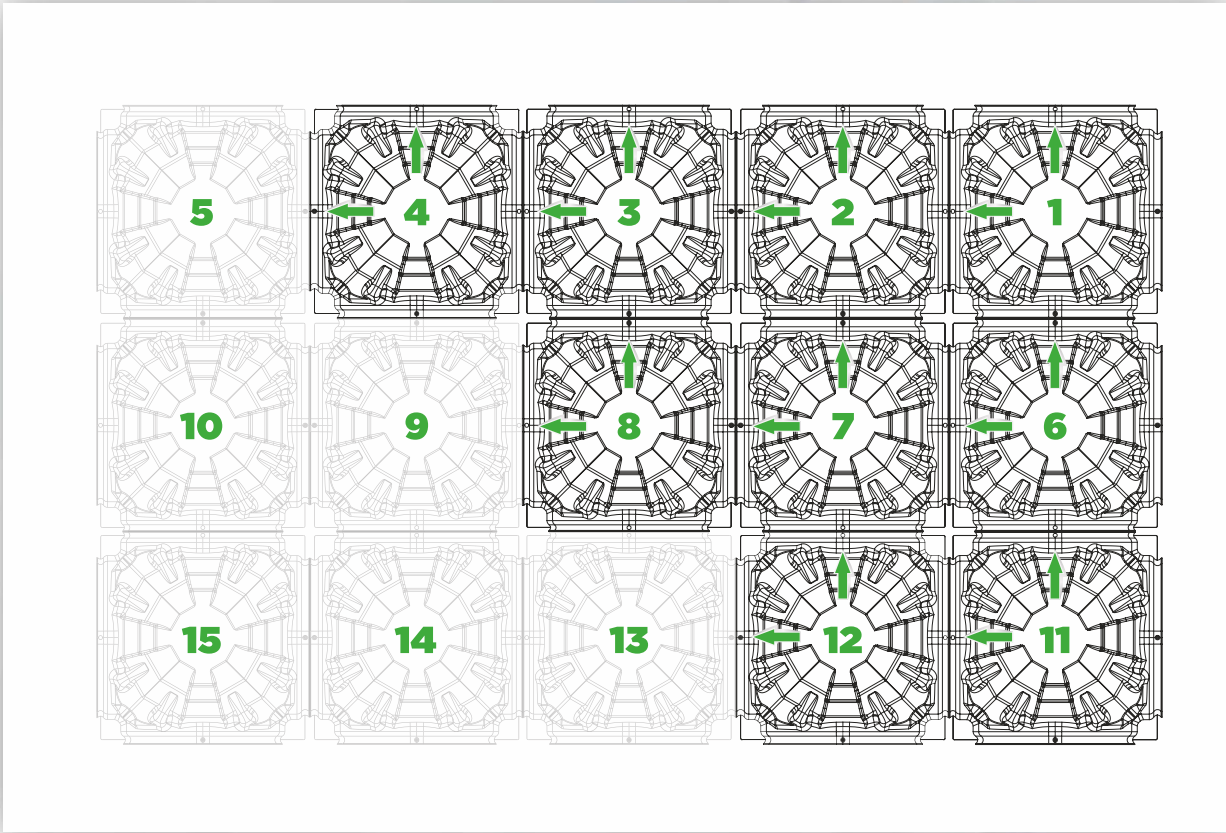


MIDI BELLOW STYLE BLIND FLANGE FOR

MIDI STANDARD BLIND FLANGE FOR
h: 30-35-40-45-50 cm.



MIDI APPLICATION MANUAL



During the installation, please carefully follow the above-mentioned arrow signs, directions and numbers.

WHAT IS MAXI?

MAXI (50 cm. - 300 cm.)

MAXI is a height adjustable disposable concrete formwork system. All kinds of qualified fillings can be made at heights varying from 50 cm to 300 cm. The products are used as single-use "Disposable formwork" and shape the concrete to form hundreds of reinforced concrete arches, domes and supporting pillars that carry the floor.

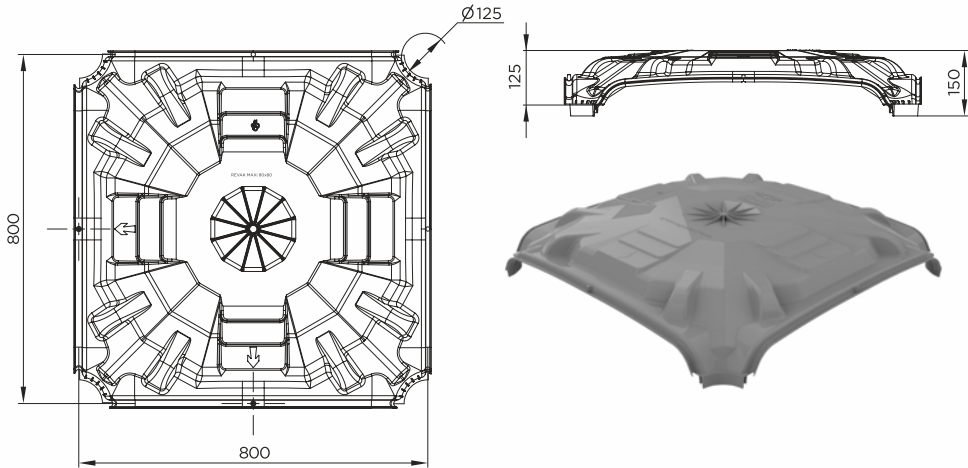
In large open areas, a reinforced concrete structure that carries the floor is created with minimum fabrication. The system provides unique transportation, horizontal-vertical transport and space saving compared to alternative fillings. Savings are provided from concrete, iron and all other filling materials used in the manufacture of flooring, and the whole structure becomes light. The spaces created by the disposable formworks can be ventilated and all kinds of mechanical / electrical installation passages can be made.

Thanks to the PVC columns that can be adjusted by cutting, all kinds of steps and ramps can be made. At the same time, high load capacity is guaranteed with low concrete consumption. The load is actually supported by concrete columns formed in pipes placed on top of the MAXI element and discharged to the lower surface. Providing an economical and sustainable design, MAXI allows a ventilated floor covering at high heights. The vacuum under the floor provides a naturally ventilated screening space or a mechanically ventilated screening space to remove ground-escaping moisture and harmful gases such as radon gas, saving expensive and bulky fill materials, and facilitating transition and maintenance.



TECHNICAL DRAWINGS OF MAXI

MAXi / 80x80



MAXI APPLICATION INFORMATION



First of all where disposable formwork system will be applied
Foot base of pipes and guides are centered and locked together by means of pins.

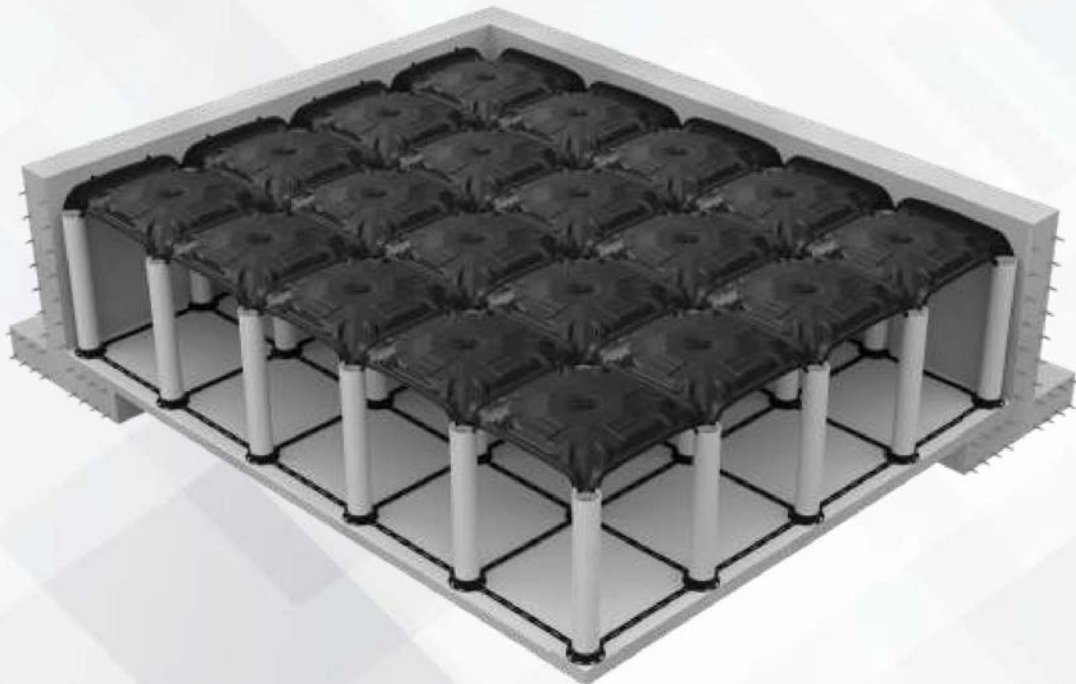


Ø125 PVC pipes are placed on the base of the pipes.

MAXI APPLICATION INFORMATION

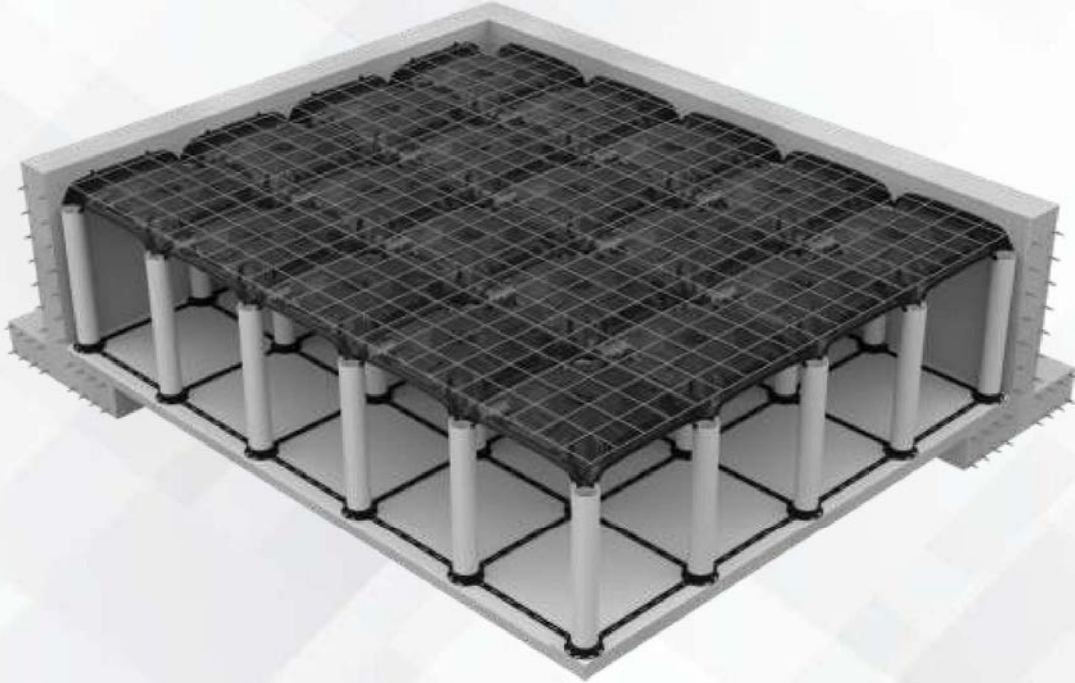


80x80 cm are arranged on the pipes.



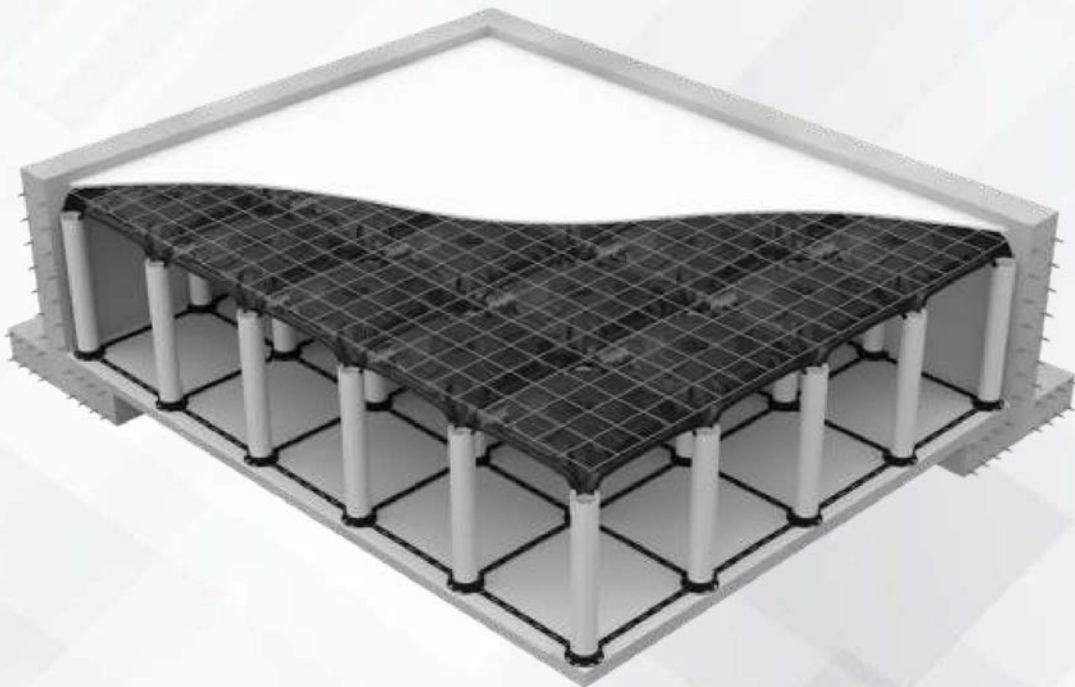
Starting Belt is designed to prevent concrete flow to the lower part of the system are installed on the edges of the portico to the wall / curtain / parapet / formwork facade.

MAXI APPLICATION INFORMATION



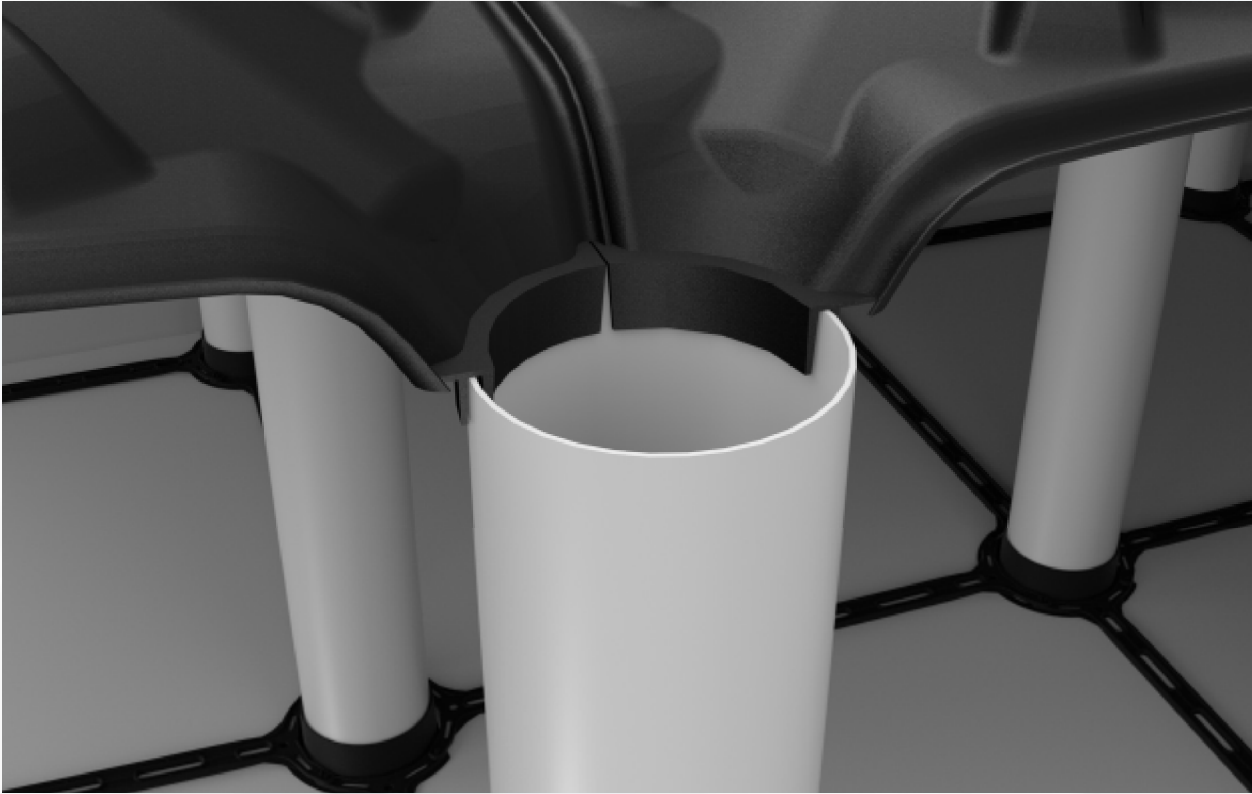
On the application, steel mesh reinforcement elements determined according to the concrete thickness and the load values that the area will be exposed to are applied.

At the same time, double-sided miter iron bars are placed inside the column formwork pipes.

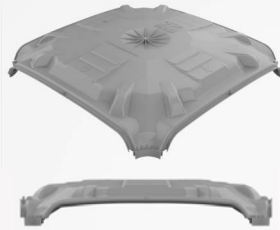


Finally, the application is completed by pouring concrete.

MAXI APPLICATION INFORMATION



MAXI TECHNICAL INFORMATION



MAXI - DOME / 80x80



MAXI - GUIDE



MAXI PIPE- BASE

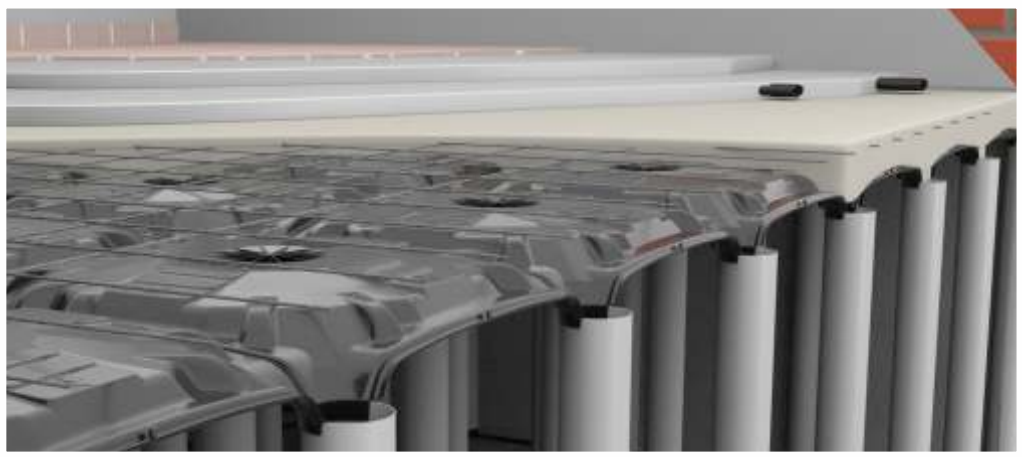
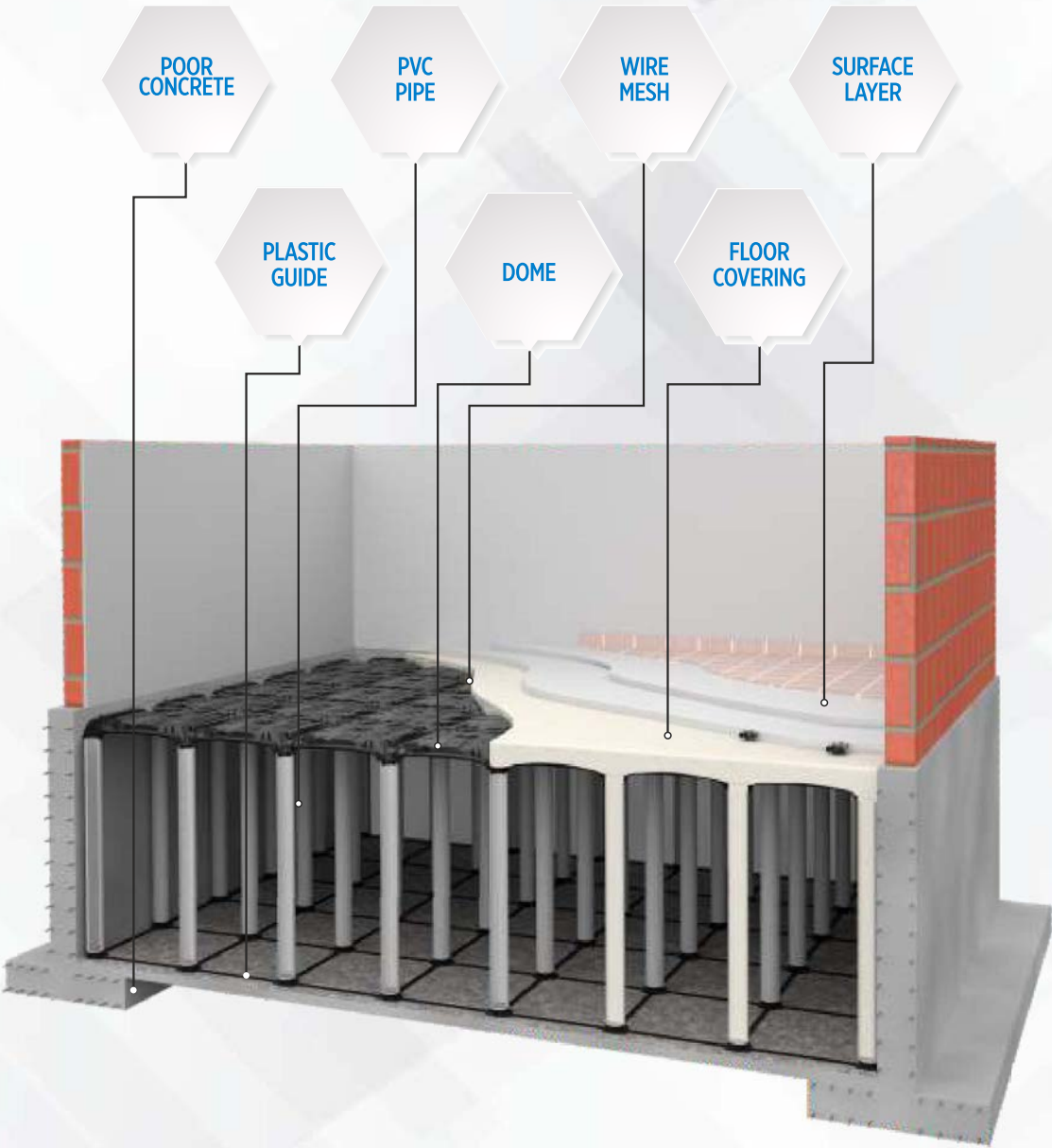


MAXI PVC PIPE / ϕ 125 mm



MAXI - STARTING BELT

MAXI APPLICATION CUT



WHAT IS SPACE?

SPACE

SPACE is a hollow flooring system that works in two directions, which enables the design of wide openings by reducing the weight of the flooring. They are single-use void formwork systems developed to create hollows in reinforced concrete floors. Void formworks made of recycled polypropylene create air gaps in the floor slab and provide beamless flat ceiling with high load-bearing capacity in wide openings. In projects designed using SPACE, both the total cost is saved and the earthquake performance of the buildings is significantly increased thanks to low building weights in high inertia floors. The products are brought to the application area in a nested manner, they are extremely light, they are very easy and fast to be placed.

Single use 10, 13, 16 and 20 cm

Double use 10, 13, 16 and 20 cm combinations

- Central cone concrete observation hole
- 1.5 cm spacer for concrete cover integrated in the mold
- Conical foot heights varying between 5-10 cm

	PRODUCT TYPE	MOLD DIMENSION (cm)	MOLD HEIGHT (cm)	BOTTOM CONCRETE THICKNESS (cm)
 Single Use	H10	52,5 x 52,5	10	5-10
	H13	52,5 x 52,5	13	5-10
	H16	52,5 x 52,5	16	5-10
	H20	52,5 x 52,5	20	5-10
 Double Use	H23	52,5 x 52,5	10+13	5-10
	H26	52,5 x 52,5	10+16	5-10
	H29	52,5 x 52,5	13+16	5-10
	H30	52,5 x 52,5	10+20	5-10
	H32	52,5 x 52,5	16+16	5-10
	H33	52,5 x 52,5	13+20	5-10
	H36	52,5 x 52,5	16+20	5-10
	H40	52,5 x 52,5	20+20	5-10

SPACE APPLICATION AREAS





ADVANTAGES OF SPACE

It provides logistical advantage on the construction site, rebar and concrete saving.

It ensures a reduction up to 20% in concrete consumption.

It provides approximately less steel usage as 15%.

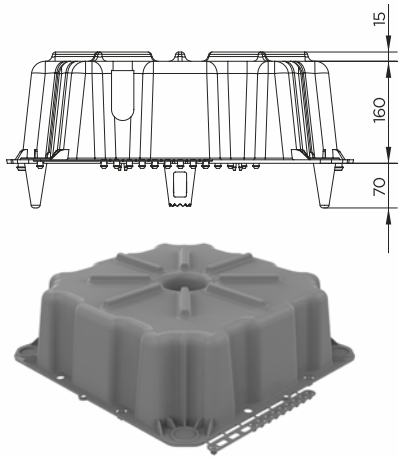
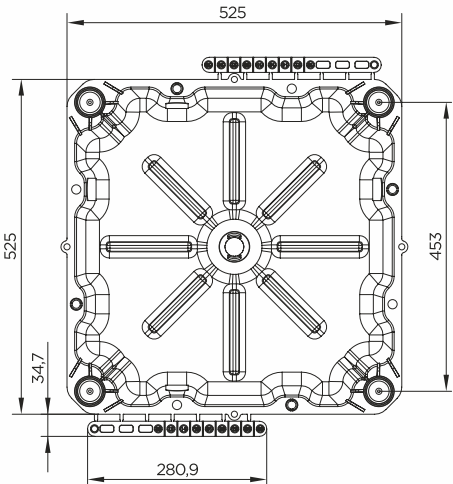
It enables wide spans up to 16 m to be crossed with the lowest slab thickness without the need for huge beam sections.

Hollow floor design working in two directions is maintaining high structural performance while lightens the floor at maximum level.

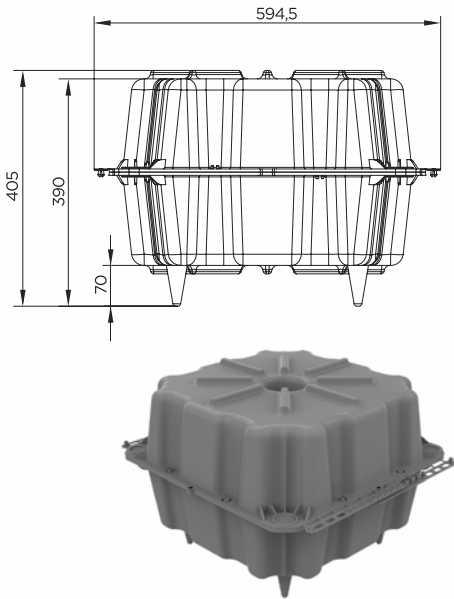
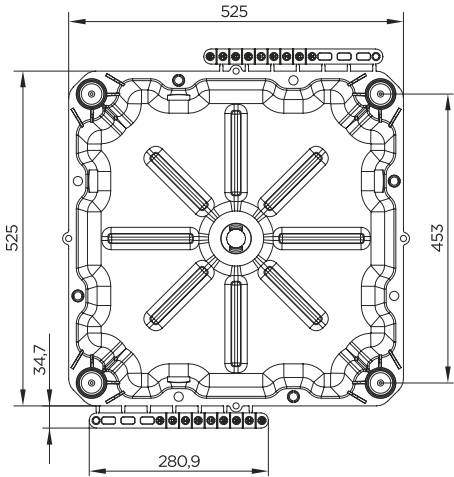
Lightening the floor can reduce the weight of the building by up to 30%, which directly affects the earthquake resistance of the structure positively

SPACE TECHNICAL DRAWINGS

SPACE / 525x525x160



SPACE / 525x525x320



PACKAGE INFORMATION



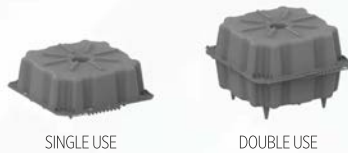
	DIMENSIONS WIDTH x LENGTH cm.	NET FOOT SPAN cm.	NET HEADWAY cm.	CONCRETE CONSUMPTION for 10 cm thickness - m ³ /m ²	PALLET SIZE cm.	AREA COVERED PER PALLET m ²	AQUANTITY IN PALLET/Piece
MINI 5	71 x 71	14,6	2,3	0,1147	82,5 x 82,5 x 250	118,4	185
MINI 8	71 x 71	16,4	5,3	0,1181	82,5 x 82,8 x 250	83,2	130
MINI 10	71 x 71	17,7	7,3	0,1184	82,5 x 82,1 x 250	83,2	130
MINI 12,5	71 x 71	19,2	9,8	0,1203	82,5 x 82 x 250	76,8	120
MINI 15	71 x 71	19,2	12,3	0,1216	82,5 x 82,15 x 250	73,6	115



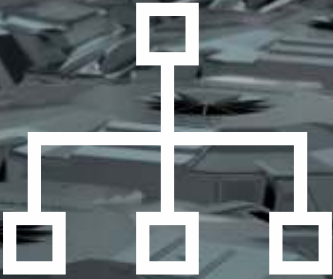
	DIMENSIONS WIDTH x LENGTH cm.	NET FOOT SPAN cm.	NET HEADWAY cm.	CONCRETE CONSUMPTION for 10 cm thickness - m ³ /m ²	PALLET SIZE cm.	AREA COVERED PER PALLET m ²	AQUANTITY IN PALLET/Piece
MIDI 20	71 x 71	20,5	13	0,166	74 x 74 x 280	50,41	100
MIDI 25	71 x 71	23,1	17,9	0,170	74 x 74 x 280	50,41	100
MIDI 30	71 x 71	50,5	24,8	0,186	74 x 74 x 280	30,25	60
MIDI 35	71 x 71	51,9	29,8	0,190	74 x 74 x 280	30,25	60
MIDI 40	71 x 71	55,2	34,8	0,193	74 x 74 x 280	30,25	60
MIDI 45	71 x 71	54,7	39,8	0,196	74 x 74 x 280	27,73	55
MIDI 50	71 x 71	56,1	44,8	0,198	74 x 74 x 280	27,73	55



	DIMENSIONS WIDTH x LENGTH cm.	NET FOOT SPAN cm.	NET HEADWAY cm.	CONCRETE CONSUMPTION for 10 cm thickness - m ³ /m ²	PALLET SIZE cm.	AREA COVERED PER PALLET m ²	AQUANTITY IN PALLET/Piece
MAXI	80 x 80	66	6	-	270	57,6	90



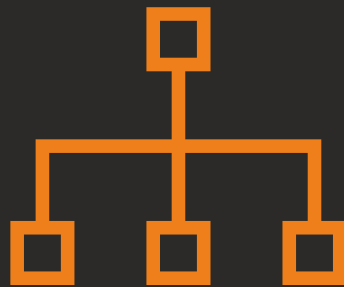
	DIMENSIONS WIDTH x LENGTH cm.	NET FOOT SPAN cm.	NET HEADWAY cm.	CONCRETE CONSUMPTION for 15 cm thickness beam- m ³ /m ²	PALLET SIZE cm.	AREA COVERED PER PALLET m ²	AQUANTITY IN PALLET/Piece
SPACE 10	71 x 71	45,3	5-10	0,0465	110 x 110 x 250	124,58	452
SPACE 13	71 x 71	45,3	5-10	0,0655	110 x 110 x 250	122,37	444
SPACE 16	71 x 71	45,3	5-10	0,0865	110 x 110 x 250	121,28	440
SPACE 20	71 x 71	45,3	5-10	0,110	110 x 110 x 250	119,07	432
SPACE 23	71 x 71	45,3	5-10	0,1120	110 x 110 x 250	61,18	222
SPACE 26	71 x 71	45,3	5-10	0,1310	110 x 110 x 250	61,18	222
SPACE 29	71 x 71	45,3	5-10	0,1520	110 x 110 x 250	60,14	220
SPACE 30	71 x 71	45,3	5-10	0,1575	110 x 110 x 250	59,53	216
SPACE 32	71 x 71	45,3	5-10	0,1730	110 x 110 x 250	60,14	220
SPACE 33	71 x 71	45,3	5-10	0,1765	110 x 110 x 250	59,53	216
SPACE 36	71 x 71	45,3	5-10	0,1975	110 x 110 x 250	59,53	216
SPACE 40	71 x 71	45,3	5-10	0,2220	110 x 110 x 250	59,53	216



True North

STRUCTURAL SYSTEMS





True North

STRUCTURAL SYSTEMS



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