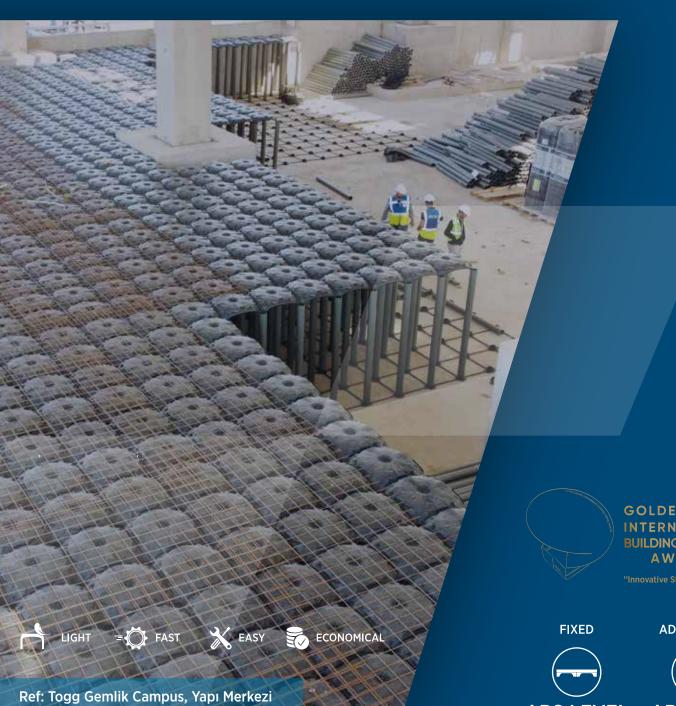


DISPOSABLE FORMWORKS FOR LIGHTWEIGHT FILLINGS







ADJUSTABLE



ABS PLUS

ABS DISPOSABLE FORMWORKS FOR LIGHTWEIGHT FILLINGS



ABS Disposable Formworks are concrete shaping structures made of recycled plastic that are used only once. They are also called void formers, permanent formworks or single-use formworks. They create reinforced concrete raised floors up to 9 feet thus providing a light, fast, easy and economical filling in any structure. Reinforced concrete raised floors are constructed faster and easier, are lighter weight and are more economical than conventional filling applications.

ABS Disposable Formworks can be used for any sort of lightweight filling application. Uses include sunken slab fillings, landscape fillings to create a hard surface, inverted beam fillings, fillings between foundation footings, carpark ramps, pool decks, elevator/staircase hallway fillings and crawlspace construction. In addition, reinforced concrete raised floors created with disposable formworks can be used instead of modular raised floors by adding a grid of simple junction boxes to the system.





ADVANTAGES



THE LIGHTEST SOLUTION

Regardless of the height, only the weight of the topping concrete is added to the structure.



EASE OF LOGISTICS

Unmatched logistical advantage; products are designed to be stackable, nesting in each other. At a sample height of 3′ 3″ (≈100 cm), 1 truck of disposable formwork equivalents 50 trucks of alternative filling material!



HIGH LOAD BEARING

Through the creation of hundreds of columns, arches and domes, the reinforced concrete raised floor has a very high load bearing capacity.



Construction activities on upper floors can proceed without having to wait for the filling application on lower floors, as the filling application can be done anytime, saving very valuable construction time.



VOID SPACE CREATION

The void space that gets created can be used for installations (electrical, mechanical, etc.) to pass through; columns have a net opening of ≈2' (59 cm)



The installation does not require any skilled labor; it can be done very fast and easy.



The legs can be cut at any size needed to create a ramp.



CONTINUOUS CONRETE SURFACE

Any sort of covering application can be applied on the concrete surface very easily.



The void space that gets created provides heat and sound insulation.



RADON AND DAMP BARRIER

If used above foundations and properly ventilated, it is the most economical and safest way to removing radon gas, humidity and dampness from living quarters.



SEPARATOR WALL CONSTRUCTION

Separator walls can be installed directly on the newly created concrete surface.



ENVIRONMENTAL VALUE

Because the disposable formworks are made of recycled PP, they help to gain considerable LEED certificate points.

ABS Disposable Formwork System for lightweigth fillings is the first domestic product group in its field with National Technical Approval and G marking.

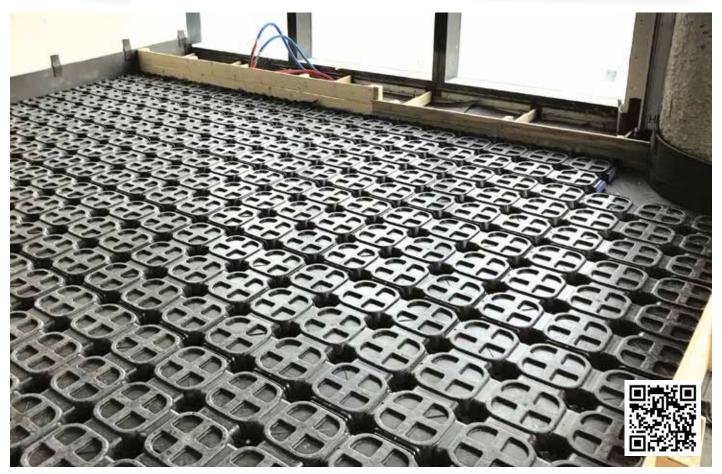






ABS LEVEL

FIXED-HEIGHT ≈2", ≈4", ≈6" (5, 10, 15 cm)

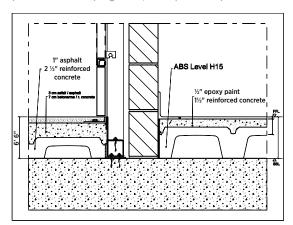


ABS LEVEL | FIXED-HEIGHT DISPOSABLE FORMWORKS FOR LIGHTWEIGHT FILLINGS ≈2", ≈4", ≈6" (5, 10, 15 cm)

The 'Level' series of ABS Disposable Formworks offers fixed-heights of \approx 2", \approx 4", \approx 6" (5, 10, 15 cm) in to create reinforced concrete raised floors in commercial or industrial structures quickly, easily and extremely economically. The formworks are made of recycled plastic and are specifically designed to enable cable trays and/or plumbing pipes to pass through.

The products can be used alternatively to modular raised floor applications with metal pedestals. Moreover, commercial areas there are conventionally filled with 3"-4" dry screed to obtain as smooth concrete finish can be constructed as a reinforced concrete raised floor using ABS Level disposable formworks and junction boxes, which allows electrical and mechanical installations to pass through them. The space that normally would have been lost, can now be added to the usage area of the building.

- 1) ABS Level H5 (height \approx 2", area 1 pcs \approx 5 ft²)
- 2) ABS Level H10 (height \approx 4", area 1 pcs \approx 5 ft²)
- 3) ABS Level H15 (height ≈6", area 1 pcs ≈5 ft²)







ADJUSTABLE-HEIGHT 6" - 9' (20 - 300 cm)



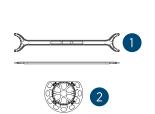
ABS PLUS | ADJUSTABLE-HEIGHT DISPOSABLE FORMWORK SYSTEM FOR LIGHTWEIGHT FILLINGS 6" - 9' (20 - 300 cm)

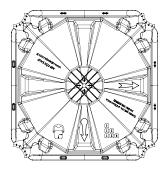
ABS Plus is an adjustable-height disposable concrete formwork system made of recycled plastic. The system creates reinforced concrete raised floors up to 9 feet, thus providing a light, fast, easy and economical filling in any structure.

To accommodate project-specific heights, the legs are cut to specification at the factory before delivery. Alternatively, standard-length legs can be cut on-site by the customer fitting exact heights.

Unlike similar systems, the ABS Plus system consists of 2 legs per \approx 10 ft², which, in addition to all of its advantages, providing additional ease of application and significant cost saving on concrete and steel.

- 1) ABS Plus Spacer
- 2) ABS Plus Base
- 3) ABS Plus Leg (cut to size required by the project)
- 4) ABS Plus H15 Dome (height ≈6", area 1 pcs ≈5 ft²)









USAGE AREAS





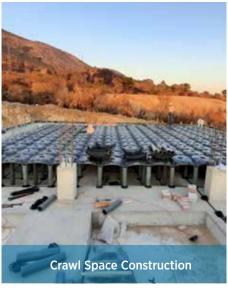














LIGHTWEIGHT FILLING ON FLOOR

PROJECT : AND Pastel
LOCATION : Istanbul, Turkey

PRODUCT : ABS Plus, variable heights

APPLICATION : Lightweight filling application above

the carpark slab to construct a concrete

surface











LIGHTWEIGHT FILLING ON FLOOR

PROJECT : Şaşkınbakkal Residence

LOCATION : Istanbul, Turkey
PRODUCT : ABS Plus H 7' 8½"

APPLICATION : Lightweight filling application above

the carpark slab to construct a concrete

surface











LIGHTWEIGHT FILLING ON FLOOR

PROJECT : IstinyePark Izmir LOCATION : Izmir, Turkey

PRODUCT : ABS Plus various and graded heights

APPLICATION : Lightweight filling application on the main

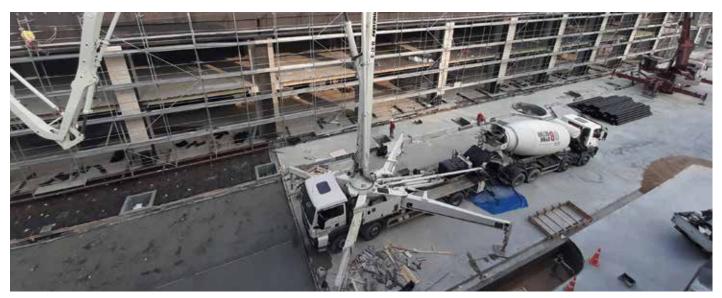
arcade and podium areas of the shopping

mall











SUNKEN SLAB FILLING

PROJECT : Multistory Residential Project

LOCATION : Far East

PRODUCT : ABS Plus H ≈12"

APPLICATION : ≈12" sunken slab filling application for

wet areas on each floor, dense installation

passages











PEYZAJ DOLGUSULANDSCAPE FILLING

PROJECT : Istanbul Financial Center

LOCATION : Istanbul, Turkey

PRODUCT : ABS Plus Disposable Formwork H ≈1'

APPLICATION : 2" Construction of hardscape surfaces

between building blocks on the podium

area











LANDSCAPE FILLING

PROJECT : Galataport

LOCATION : Istanbul, Turkey

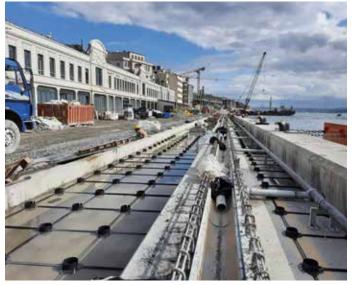
PRODUCT : ABS Plus H ≈2'

APPLICATION : Landscape filling application on the

seaside of the Galataport project











LANDSCAPE FILLING

PROJECT : Gaziantep Iconova LOCATION : Gaziantep, Turkey PRODUCT : ABS Plus H ≈1' 8"

APPLICATION : Lightweight landscape filling application

above podium floor to construct a

concrete surface











FILLING BETWEEN FOUNDATION FOOTINGS

PROJECT : İzmir Hilltown
LOCATION : Izmir, Turkey

PRODUCT : ABS Disposable Formwork H 2' 7½"

APPLICATION : Filling application between the foundation

footings above the raft foundation











FILLING BETWEEN FOUNDATION FOOTINGS

PROJECT : Portonovi Hotel

LOCATION : Herseg Novi, Montenegro

PRODUCT : ABS Plus H ≈4' 5"

APPLICATION : Filling application between the foundation

footings above the raft foundation with

many installation passages











FILLING BETWEEN FOUNDATIONS FOOTINGS

PROJECT : TOGG Gemlik Campus

LOCATION : Bursa, Turkey

PRODUCT : ABS Disposable Formwork H 8' 21/2"

APPLICATION : Filling application between the foundation

footings above the raft foundation





















FILLING BETWEEN FOUNDATION FOOTINGS

PROJECT : Kurkcuoglu Factory

LOCATION : Izmit, Turkey

PRODUCT : ABS Plus H ≈3' 3"

APPLICATION : Filling application between the foundation

footings above the raft foundation











RAMP CONSTRUCTION

PROJECT : Sabah Al-Salem University

LOCATION : Kuwait City, Kuwait

PRODUCT : ABS Plus, variable heights

APPLICATION : Ramp construction so that steps can be

constructed later on between the floors of

the stadium











CAR PARK RAMP

PROJECT : Emaar Square Shopping Mall

LOCATION : Istanbul, Turkey

PRODUCT : Disposable Formwork, variable heights
APPLICATION : Car park ramp construction above cas-

caded floor slab











POOL DECK SLAB FILLING

PROJECT : Tekinalp Residence LOCATION : Istanbul, Turkey PRODUCT : ABS Plus $H \approx 1'$ 7"

APPLICATION : Lightweight filling application above the

car park slab and around the swimming pool to construct a concrete surface











POOL DECK SLAB FILLING

PROJECT : IstinyePark Izmir : Izmir, Turkey LOCATION

PRODUCT : ABS Plus various and graded heights : Lightweight filling application on the main APPLICATION

arcade and podium areas of the shopping

mall











POOL DECK SLAB FILLING

PROJECT : Rumeli Villas

LOCATION : Istanbul, Turkey

PRODUCT : ABS Plus H ≈5' 10"

APPLICATION : Lightweight filling application and

construction of a concrete surface around a swimming pool that was constructed

above an indoor floor.











POOL FILLING

PROJECT : Marsa Arabia LOCATION : Qatar City, Qatar

PRODUCT : ABS Disposable Formwork H ≈3' 1"

APPLICATION : Outdoor swimming pool filling











CRAWL SPACE CONSTRUCTION

PROJECT : Manavgat Villas LOCATION : Antalya, Turkey

PRODUCT : ABS Plus Disposable Formwork H ≈2' 5"

APPLICATION : Construction of crawl space above house

foundation











REINFORCED CONCRETE RAISED FLOORS

PROJECT : Emaar Square Shopping Mall

LOCATION : Istanbul, Turkey

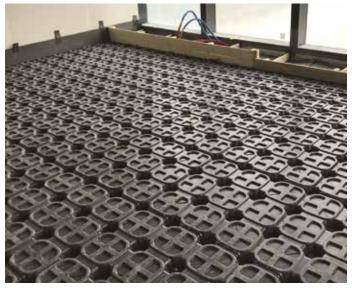
PRODUCT : ABS Level Disposable Formwork H
APPLICATION : ≈2" Reinforced concrete raised floor

application on the high floors of the building, which allows cable trays to pass

under it











REINFORCED CONCRETE RAISED FLOORS

PROJECT : Ankara Space and Aviation Organized

Industrial Zone

LOCATION : Ankara, Turkey
PRODUCT : ABS Plus H 2' 7½"

APPLICATION : Construction of reinforced concrete raised

floor on top of the raft foundation







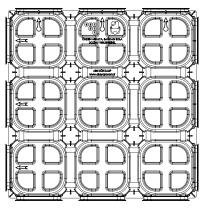




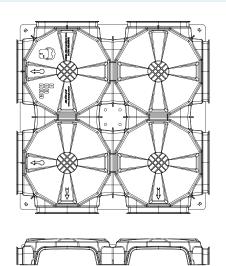
ABS LEVEL

TECHNICAL DATA SHEET

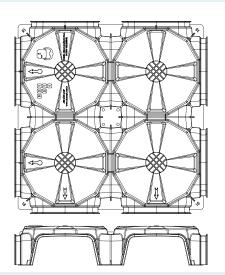
ABS Level - H ≈2" (5 cm)



ABS Level - H ≈4" (10 cm)



ABS Level - H ≈6" (15 cm)





Dimensions

Height \approx 2", area 1 pcs \approx 5 ft² \approx 2' 4" x \approx 2' 4" x \approx 2 3.92 lbs/pcs

9 domes per formwork

(5 cm, 2 pcs 1 m2) (71 x 71 x 5 cm) (1.78 kg/pcs)

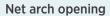
Height \approx 4", area 1 pcs \approx 5 ft² \approx 2' 4" x \approx 2' 4" x \approx 2 4.32 lbs/pcs

4 domes per formwork

(10 cm, 2 pcs 1 m2) | Height \approx 6", area 1 pcs \approx 5 ft² | \approx 2' 4" x \approx 2' 4" x \approx 2 4.76 lbs/pcs

4 domes per formwork

(15 cm, 2 pcs 1 m2) (71 x 71 x 15 cm) (2.16 kg/pcs)



Width ≈6" Height ≈1½" (16 cm) (4 cm) Width ≈9" Height ≈2½" (23 cm) (6 cm) Width ≈10" Height ≈4½" (25 cm)

(11 cm)

Concrete consumption

0.032 ft³/ft²



(0.010 m³/m²) 0.071 ft³/ft²



(0.022 m³/m²) 0.083 ft³/ft²



(0.025 m³/m²)

Pallet dimensions

 $2'\ 5\%''\ x\ 4'\ 11''\ x\ 8'\ 6\%''$

(75 x 150 x 260 cm)

2' 5½" x 4' 11" x 8' 6½"

½" (75 x 150 x 260 cm)

2' 5½" x 4' 11" x 8' 6½"

(75 x 150 x 260 cm)

Pieces per pallet and area covered

300 pcs ≈1600 ft²

Pallet weight

(150 m²)

(545 kg)

250 pcs ≈1350 ft²

1102 lbs

(125 m²)

(500 kg)

250 pcs ≈1350 ft²

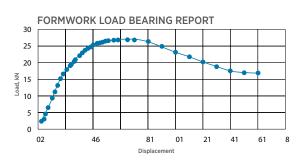
1213 lbs

(125 m²)

(550 kg)

1202 lbs

Material: recycled PP Application speed: ≈1000 ft² (100 m²) man-hour on a rectangular area



Sample No	Sample Type	Sample Size	Plate Size	(lbs)	(lbs/ft²)	
1	ABS Level H ≈2"	=2' 4" x =2' 4" x =2"x =1'	≈l' 6" x ≈l' 6"	6059 lbs	2780 lbs/ft²	
1	ABS Level H5	710x710x50 mm	450x450 mm	26.950 kN	133.1 kN/m ²	

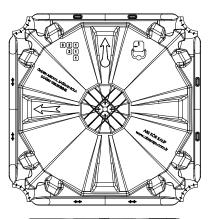






TECHNICAL DATA SHEET

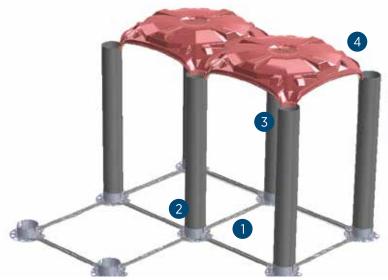
ABS Plus H ≈8" - H ≈120" (20 cm - 300 cm)











- 1) ABS Plus Spacer
- 2) ABS Plus Base
- 3) ABS Plus Leg (cut to size required by the project)
- 4) ABS Plus H15 Dome (height ≈6", area 1 pcs ≈5 ft²)

Dimensions

≈2½" net arch height Dome size (6.1 cm) Dome height ≈6" dome height w/o leg connections (15 cm) ≈2½" net arch height (6.1 cm) Base height (2.5 cm) Ø ≈5″ Leg diameter (Ø 12.5 cm) Leg height Variable heights, depending on requirement Number of spacers needed Max 4; lower than 20" heights may not require use of spacers, however all spacers are need for (≈50 cm) heights more than 4' (≈120 cm)

Pallet dimensions

Pallet dimensions (dome)2' 5½" x 4' 11" x 8' 4½"(75 x 150 x 255)Pieces per pallet (dome)170 pcs(85 m²)Area covered per pallet (dome)915 ft²(85 m²)Pallet weight (dome)772 lbs(350 kg)

Material: dome, base and spacer recycled PP, leg recycled PVC Application speed: 200 ft² (~20 m2)/man-hour on a rectangular area

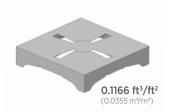
Formulas

h = height in inches of the topping concrete calculated separately depending on the live loads needed H = total height of the ABS Plus system in inches before concrete casting

Leg height in inches= H - 6" - 1" (m = H - 0.15 - 0.025)

Total concrete consumption in $ft^3/ft^2 = h + 0.1166 + [(H - 6") \times (0.0805)]$

 $(m^3/m^2 = h + 0.03554 + [(H - 0.15) \times (0.02453)])$



Dome Concrete Consumption

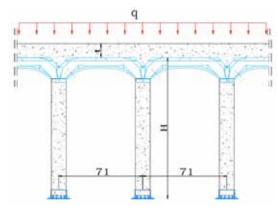


DESIGN DATA SHEET

The design calculation of reinforced concrete raised floors is made based on a simple structure consisting of columns and a slab, as in other reinforced concrete structures.

The configuration is just like the column-beam-floor structure of any building. The intended use of the structure is considered when determining the live and dead (fixed) design loads.

The transfer of loads from the slab to the columns takes place through the arches of the domes. However, to stay on the safe side, the load design of the domes and arches is not considered, only the slab and column calculations are made.



Typical Section

Table: Maximum Allowable Live Load - rounded q_{max} (lbs/ft²)

İstanbul Technical University, Product Report 2018

					1	1				1		1			
			4 x #4	-	-	-	-	-	-	-	-	-	1100	-	1100
			4 x #3	-	-	-	-	-	-	-	-	-	1100	-	1100
	100		2 x #4	-	-	-	-	-	-	-	-	-	1100	-	1100
	1		2 x #3	-	-	-	-	-	-	-	-	-	1100	-	1100
			#4	-	-	-	-	-	-	-	-	-	1100	-	1100
<u></u>			#3	-	-	-	-	-	-	-	-	-	1100	-	1100
→ (inch			2 x #4	600	1100	1600	1600	1600	1600	1600	1600	1550	1550	1550	1550
	8		2 x #3	600	1100	1600	1600	1600	1600	1600	1600	1550	1550	1550	1550
其	∞	ent	#4	600	1100	1550	1550	1550	1550	1550	1550	1550	1550	1550	1550
Formwork Height H (inch)	E	Reinforcement	#3	600	1100	1550	1550	1550	1550	1550	1550	1550	1550	1550	1550
		یق	2 x #4	600	1100	1600	1700	1900	1900	1900	1900	1900	1900	1900	1900
١Ō	09	i i	2 x #3	600	1100	1600	1700	1900	1900	1900	1900	1900	1900	1900	1900
ΙÉ	9	ı Z	#4	600	1100	1600	1700	1700	1700	1700	1700	1700	1700	1700	1700
요		Column	#3	600	1100	1600	1700	1700	1700	1700	1700	1700	1700	1700	1700
Disposable		্র	2 x #4	600	1100	1600	1700	2100	2100	2100	2100	2100	2100	2100	2100
oss	04		2 x #3	600	1100	1600	1700	2100	2100	2100	2100	2100	2100	2100	2100
isb			#4	600	1100	1600	1700	2000	2000	2000	2000	2000	2000	2000	2000
			#3	600	1100	1600	1700	2000	2000	2000	2000	2000	2000	2000	2000
		ĺ	2 x #4	600	1100	1600	1700	2200	2200	2200	2200	2250	2250	2250	2250
			2 x #3	600	1100	1600	1700	2100	2100	2100	2100	2250	2250	2250	2250
	20		#4	600	1100	1600	1700	2000	2000	2000	2000	2100	2100	2100	2100
			#3	600	1100	1600	1700	2000	2000	2000	2000	2100	2100	2100	2100
			w/o rebar	400	400	400	400	400	400	400	400	400	400	400	400
Applies to both C25 and C30 concrete classes.			Slab Reinforcement	W3 - 4"x4"	W6 - 4"x4"	W3 - 4"x4"	2 x W3 - 4"x4"	W6 - 4"x4"	2 x W6 - 4"x4"	W10 - 4"x4"	2 x W10 - 4"x4"	W6 - 4"x4"	2 x W6 - 4"x4"	W10 - 4"x4"	2 x W10 - 4"x4"
	Applies C30 con	SI	ab Thickness t (inch)		2			4	1				(5	

Laboratory Test Results



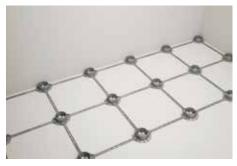
Туре	ABS Plus System Height (in)	Slab Concrete Thickness (in)	Rebar in Legs	Total Slab Thickness (in)	Maximum Load Record (lbs)
H 100"	≈100″	≈8″	4 x #4	≈108″	≈11,900
H 100"	≈100"	≈6"	4 x #4	≈106″	≈10,100
H 40"	≈40″	≈4"	2 x #4	≈44"	≈5,800
H 20"	≈20″	≈4"	2 x #4	≈24″	≈5,900
H 20"	≈20″	≈4"	n/a	≈24″	≈4,980
H 20"	≈20″	≈2"	n/a	≈22″	≈2,630

Sample No	Sample Type	Sample Size	Plate Size	Maximum Size		
				(lbs)	(lbs/ft²)	
1A	ABS PLUS	≈2' 4" x ≈2' 4" x ≈1'	Ø ≈10"	300	180	

Please visit our web site at ${f disposable formwork.com/documents}$ for all and more precise data tables



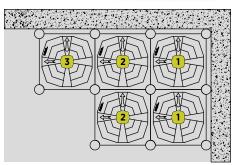
INSTALLATION GUIDE



base's flat side is adjacent to the wall. Cut the base creating a second edge so that it fits into a corner.



1. Place the bases using the spacers so that the 2. Press the legs that have been cut according to the project firmly into the base slots.



3. Place the domes on the legs, from right to left and from top to bottom, checking that the domes fit over each other and on the legs firmly. The arrows on the domes should always indicate the direction in which the installation operator looks.



4. Inserting the last row of ABS Plus domes: 5. Inserting the last row of ABS Plus domes: Example 1; full dome on the wooden console attached to the wall.



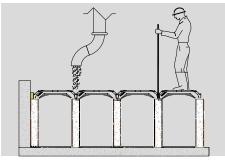
Example 2; Placing a cut dome on the wooden console attached to the wall.



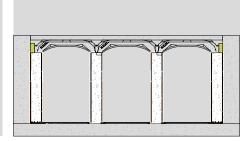
6. In the case of full-dome wall finishes where legs $% \left(1\right) =\left(1\right) \left(1\right)$ are adjacent to the walls, place ABS Plus dome side closer or 2" x 4" wooden wedges on the pipes and close the cavities against concrete leaks.



7. Place project specific welded steel mesh on the concrete-sealed disposable formworks and place vertical steel rebars into the legs.



8. First, fill the pipes with at least C25 class and at least S4 viscose concrete. The mouth of the pump hose should be kept up to ≈8" above the domes. Every leg should be stabbed with a steel rod to release the air trapped in the leg. Fill the domes and topping concrete after filling the legs.



9. Use a vibrator when pouring the concrete of the domes and topping slab. Depending on the ambient conditions, the concrete should be moistened sufficiently.

INSTALLATION VIDEO dipsosableformwork.com/videos



INSTALLATION GUIDE

dipsosableformwork.com/documents







disposableformwork.com













