DISPOSABLE FORMWORKS
FOR LIGHTWEIGHT FILLINGS

Discover the potential

LIGHT  FAST  EASY  ECONOMICAL

FIXED  ADJUSTABLE

ABS LEVEL  ABS PLUS

Innovative Structural Solutions
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 300 cm (118.11 in) 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 100 cm (39.31 in), 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.

REDUCED CONSTRUCTION TIME
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 59 cm (23.23 in).

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

RAMP CONSTRUCTION
PVC pipes can be cut at any size needed to create a ramp.

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

HEAT AND SOUND INSULATION
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 LEVEL | FIXED-HEIGHT DISPOSABLE FORMWORKS FOR LIGHTWEIGHT FILLINGS (5, 10, 15 cm / 1.97, 3.94, 5.90 in)

The 'Level' series of ABS Disposable Formworks offers fixed-heights of 5, 10 and 15 cm / 1.97, 3.94, 5.90 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 8-10 cm 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 (2 pcs = 1 m² / 10.76 ft²)
2) ABS Level - H10 (2 pcs = 1 m² 10.76 ft²)
3) ABS Level - H15 (2 pcs = 1 m² 10.76 ft²)
ABS PLUS | ADJUSTABLE-HEIGHT DISPOSABLE FORMWORK SYSTEM FOR LIGHTWEIGHT FILLINGS (20 cm - 300 cm / 7.90 - 118.11 in)

ABS Plus is an adjustable-height disposable concrete formwork system made of recycled plastic. The system creates reinforced concrete raised floors up to 300 cm, thus providing a light, fast, easy and economical filling in any structure.

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

Unlike similar systems, the ABS Plus system consists of 2 legs per m², 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 (min. 2 max. 4 pcs per m², depending on the project)
2) ABS Plus - Base (2 pcs = 1 m², Ø125 mm, H 2,5 cm / 1.076 ft², Ø5 in, 0.98 in))
3) PVC Pipe Ø125 / Ø5 in (cut to the heights required by the project, 2 pcs = 1 m² / 10.76 ft²)
4) ABS Plus - H15 Dome (2 pcs = 1 m² / 10.76 ft²)
USAGE AREAS

- Sunken Slab Filling
- Landscape Filling
- Inverted Beam Filling
- Filling Between Foundation Footings
- Carpark Ramp
- Pool Deck Slab Filling
- Elevator/Staircase Hallway Filling
- Crawl Space Construction
- Reinforced Concrete Raised Floor
REFERENCE APPLICATION

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
REFERENCE APPLICATION

LIGHTWEIGHT FILLING ON FLOOR

PROJECT : Şaskinbakkal Residence
LOCATION : Istanbul, Turkey
PRODUCT : ABS Plus H235 cm / 92.51 in
APPLICATION : Lightweight filling application above the carpark slab to construct a concrete surface
REFERENCE APPLICATION

LIGHTWEIGHT FILLING ON FLOOR

PROJECT : Feneryolu Residence
LOCATION : Istanbul, Turkey
PRODUCT : ABS Plus H50 cm / 19.7 in
APPLICATION : Lightweight filling application above the car park slab to construct a concrete surface
REFERENCE APPLICATION

**LIGHTWEIGHT FILLING ON FLOOR**

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>IstanbulPark Izmir</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOCATION</td>
<td>Izmir, Turkey</td>
</tr>
<tr>
<td>PRODUCT</td>
<td>ABS Plus various and graded heights</td>
</tr>
<tr>
<td>APPLICATION</td>
<td>Lightweight filling application on the main arcade and podium areas of the shopping mall</td>
</tr>
</tbody>
</table>
REFERENCE APPLICATION

INVERTED BEAM FILLING

PROJECT : İÇTAŞ Head Quarters
LOCATION : Istanbul, Turkey
PRODUCT : Disposable Formwork H50 / 19.7 in
APPLICATION : Inverted beam filling on terrace floor
REFERENCE APPLICATION

SUNKEN SLAB FILLING

PROJECT: Gateway Visa Center
LOCATION: Çankaya, Turkey
PRODUCT: ABS Plus H35 cm / 11.78 in
APPLICATION: 35 cm sunken slab filling application on floor
# REFERENCE APPLICATION

## SUNKEN SLAB FILLING

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>Antik Dantel Headquarters</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOCATION</td>
<td>Istanbul, Turkey</td>
</tr>
<tr>
<td>PRODUCT</td>
<td>ABS Plus H65 cm, 13.78 in</td>
</tr>
<tr>
<td>APPLICATION</td>
<td>65 cm sunken slab filling application on ground floor</td>
</tr>
</tbody>
</table>

![Image of Antik Dantel Headquarters sunken slab filling project]
REFERENCE APPLICATION

LANDSCAPE FILLING

PROJECT : Emaar Square Shopping Mall
LOCATION : Istanbul, Turkey
PRODUCT : Disposable Formwork H15 / 5.60 in
APPLICATION : Lightweight landscape filling application above podium floor to construct a concrete surface
REFERENCE APPLICATION

LANDSCAPE FILLING

PROJECT : Gaziantep Iconova
LOCATION : Gaziantep, Turkey
PRODUCT : ABS Plus H50 cm / 19.70 in
APPLICATION : Lightweight landscape filling application above podium floor to construct a concrete surface.
REFERENCE APPLICATION

FILLING BETWEEN FOUNDATION FOOTINGS

PROJECT : Portonovi Hotel
LOCATION : Herseg Novi, Montenegro
PRODUCT : ABS Plus H135 cm / 53.15 in
APPLICATION : Filling application between the foundation footings above raft the foundation with many installation passages
REFERENCE APPLICATION

FILLING BETWEEN FOUNDATION FOOTINGS

PROJECT: İstanbul Tower
LOCATION: İstanbul, Turkey
PRODUCT: Disposable Formwork H120 cm / 47.24 in
APPLICATION: Filling application between the foundation footings above raft foundation
REFERENCE APPLICATION

FILLING BETWEEN FOUNDATION FOOTINGS

PROJECT : Borusan Oto
LOCATION : Istanbul, Turkey
PRODUCT : Disposable Formwork H80 / 31.50 in
APPLICATION : Filling application between the foundation footings above raft foundation
REFERENCE APPLICATION

FILLING BETWEEN FOUNDATION FOOTINGS

PROJECT: Kurkcuoglu Factory
LOCATION: Izmit, Turkey
PRODUCT: ABS Plus H100 cm / 39.37 in
APPLICATION: Filling application between the foundation footings above raft foundation
REFERENCE APPLICATION

CAR PARK RAMP

PROJECT : Vadikoru Istanbul
LOCATION : Istanbul, Turkey
PRODUCT : ABS Plus, variable height
APPLICATION : Car park ramp construction above carpark floor slab
REFERENCE APPLICATION

CAR PARK RAMP

PROJECT : Emaar Square Shopping Mall
LOCATION : Istanbul, Turkey
PRODUCT : Disposable Formwork, variable heights
APPLICATION : Car park ramp construction above gradual carpark floor slab
REFERENCE APPLICATION

POOL DECK SLAB FILLING

PROJECT : Tekinalp Residence
LOCATION : Istanbul, Turkey
PRODUCT : ABS Plus H50 cm / 19.70 in
APPLICATION : Lightweight filling application above the car park slab and around the swimming pool to construct a concrete surface.
REFERENCE APPLICATION

POOL DECK SLAB FILLING

PROJECT: IstinyePark Izmir
LOCATION: Izmir, Turkey
PRODUCT: ABS Plus various heights
APPLICATION: Lightweight filling application above a regular floor slab and around the swimming pool to construct a concrete surface
REFERENCE APPLICATION

POOL DECK SLAB FILLING

PROJECT : Rumeli Villas
LOCATION : Istanbul, Turkey
PRODUCT : ABS Plus H180 / 70.87 in
APPLICATION : Lightweight filling application and construction of a concrete surface around a swimming pool that was constructed above an indoor floor.
REFERENCE APPLICATION

REINFORCED CONCRETE RAISED FLOORS

PROJECT : Centrum Kozyatağı
LOCATION : Istanbul, Turkey
PRODUCT : Disposable Formwork H5 cm / 1.97 in
APPLICATION : Reinforced concrete raised floor application that allows installations to pass underneath the surface via junction boxes
REFERENCE APPLICATION

REINFORCED CONCRETE RAISED FLOORS

PROJECT: Lapishan
LOCATION: Istanbul, Turkey
PRODUCT: Disposable Formwork H10 cm / 3.94 in
APPLICATION: Reinforced concrete raised floor application that allows installations to pass underneath the surface via junction boxes
REFERENCE APPLICATION

REINFORCED CONCRETE RAISED FLOORS

PROJECT: Newspaper Building
LOCATION: Ankara, Turkey
PRODUCT: Disposable Formwork H15 / 5.90 in
APPLICATION: Modular and reinforced concrete raised floor applications used together in order to allow busbar usage.
**ABS LEVEL**

### TECHNICAL DATA

<table>
<thead>
<tr>
<th>ABS Level - H5 / 1.97 in</th>
<th>ABS Level - H10 / 1.97 / 3.93 in</th>
<th>ABS Level - H15 / 5.90 in</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dimensions</strong></td>
<td><strong>Dimensions</strong></td>
<td><strong>Dimensions</strong></td>
</tr>
<tr>
<td>2 formworks per m² / 10.76. ft²</td>
<td>2 formworks per m² / per 10.76. ft²</td>
<td>2 formworks per m² / per 10.76. ft²</td>
</tr>
<tr>
<td>9 domes per formwork</td>
<td>4 domes per formwork</td>
<td>4 domes per formwork</td>
</tr>
<tr>
<td>71 x 71 x 5 cm / 27.95 x 27.95 x 1.97 in</td>
<td>71 x 71 x 1 cm / 27.95 x 27.95 x 3.94 in</td>
<td>71 x 71 x 15 cm / 27.80 x 27.80 x 5.60 in</td>
</tr>
<tr>
<td>pcs 1.78 kg / 3.924 lb</td>
<td>Pcs 1.96 kg / 4.321 lb</td>
<td>Pcs 2.16 kg / 4.761 lb</td>
</tr>
<tr>
<td><strong>Net arch opening</strong></td>
<td><strong>Net arch opening</strong></td>
<td><strong>Net arch opening</strong></td>
</tr>
<tr>
<td>Width 16 cm / 6.30 in</td>
<td>Width 23 / 9.06 in</td>
<td>Width 25 cm / 9.84 in</td>
</tr>
<tr>
<td>Height 4 cm / 1.56 in</td>
<td>Height 6 cm / 2.36 in</td>
<td>Height 11 cm / 4.33 in</td>
</tr>
<tr>
<td><strong>Concrete consumption</strong></td>
<td><strong>Concrete consumption</strong></td>
<td><strong>Concrete consumption</strong></td>
</tr>
<tr>
<td>0.010 m³/m² - 0.353 ft³/ft²</td>
<td>0.022 m³/m² - 0.776 ft³/ft²</td>
<td>0.025 m³/m² - 0.882 ft³/ft²</td>
</tr>
<tr>
<td><strong>Pallet dimensions</strong></td>
<td><strong>Pallet dimensions</strong></td>
<td><strong>Pallet dimensions</strong></td>
</tr>
<tr>
<td>75 x 150 x 260 cm / 29.52 x 59.05 x 102.35 in</td>
<td>75 x 150 x 260 cm / 29.52 x 59.05 x 102.35 in</td>
<td>75 x 150 x 260 cm / 29.27 x 59.05 x 102.35 in</td>
</tr>
<tr>
<td><strong>Pieces per pallet and area covered</strong></td>
<td><strong>Pieces per pallet and area covered</strong></td>
<td><strong>Pieces per pallet and area covered</strong></td>
</tr>
<tr>
<td>300 pcs and 150 m² / 1614 ft²</td>
<td>250 pcs and 125 m² / 1345 ft²</td>
<td>250 pcs and 125 m² / 1345 ft²</td>
</tr>
<tr>
<td><strong>Pallet weight</strong></td>
<td><strong>Pallet weight</strong></td>
<td><strong>Pallet weight</strong></td>
</tr>
<tr>
<td>534 kg / 117.268 lb</td>
<td>490 kg / 1080.265 lb</td>
<td>540 kg / 1190.496 lb</td>
</tr>
</tbody>
</table>

Material: recycled PP
Application speed: 100 m² / 1076 ft² man-hour on a rectangular area

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**FORMWORK LOAD BEARING REPORT**

<table>
<thead>
<tr>
<th>Sample No</th>
<th>Sample Type</th>
<th>Sample Size (mm)</th>
<th>Plate Size (mm)</th>
<th>Maximum Size (kN)</th>
<th>Maximum Size (kN/m²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ABS Disposable Formworks H5</td>
<td>710x710x50</td>
<td>450x450</td>
<td>26.950</td>
<td>133.1</td>
</tr>
</tbody>
</table>

* Please contact us for more detailed information.
ABS LEVEL APPLICATIONS

Reinforced Concrete Raised Floor

Application Steps

Product Placement

Installation Passages

Junction Box Placement

Leaving Junction Box Reservation

Concrete Pouring (dry screed)

Real Application Cross Section

Various Finishing Types
### ABS PLUS TECHNICAL DATA

#### Dimensions

- **Dome size**: 71 cm x 71 cm, 2 domes per m² / 27.80 x 27.80 in per ft²
- **Dome height**: 15 cm dome height w/o leg connections / 5.91 in
- **Base height**: 6.1 cm net arch height / 2.48 in
- **Leg diameter**: 125 cm, 2 legs per m² / 4.92 per ft²
- **Leg height**: Variable cm, depending on requirement
- **Number of spacers needed**: Max 4, lower than 50 cm / 19.70 in heights may not require any spacer at all, however all 4 spacers are need for height more than 120 cm. / 47.24 in

#### Pallet dimensions

- **Pallet dimensions (dome)**: 75 x 150 x 265 cm / 30.00 x 59.1 x 104.30 in
- **Pieces per pallet (dome)**: 180 pieces
- **Area covered per pallet (dome)**: 90 m² / 969.00 ft²
- **Pallet weight (dome)**: 361 kg / 795 lb

**Material**: dome, base and spacer recycled PP, leg recycled PVC
**Application speed**: 20 m² (215 ft²) / man-hour on a rectangular area

#### Formulas

- \( h = \text{height in m of the topping concrete calculated separately depending on the live loads needed} \)
- \( H = \text{total height of the ABS Plus system in m before concrete casting} \)
- \( \text{Leg height in m} = H - 0.15 \text{ m} - 0.025 \text{ m} \)
- \( \text{Concrete consumption in m}^3/\text{m}^2 = h + 0.03554 + [\text{H} - 0.15] \times (0.02453) \)

**Table: Maximum Allowable Loads for ABS Plus Disposable Formwork System**

<table>
<thead>
<tr>
<th>Tip Type</th>
<th>ABS Plus Slab Thickness (mm)</th>
<th>Diaphragm Overall Depth (mm)</th>
<th>Diaphragm Load Distribution (kN/m)</th>
<th>Top Concrete Thickness (mm)</th>
<th>Maximum Load Recorded (kN)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1A BS Plus 710x710x300</td>
<td>1,3462</td>
<td>8,6</td>
<td>10</td>
<td>110</td>
<td>278,6</td>
</tr>
<tr>
<td>1B 710</td>
<td>50</td>
<td>10</td>
<td>Yes</td>
<td>80</td>
<td>238,5</td>
</tr>
<tr>
<td>1C 710</td>
<td>50</td>
<td>5</td>
<td>Yes</td>
<td>80</td>
<td>125,9</td>
</tr>
</tbody>
</table>

**Applies to both C25 and C30 concrete classes.**

*Q188 x 188 = x 6 mm steel wire and 150 x 150 mm steel wire grid.*

Q335 x 335 = x 8 mm steel wire and 150 x 150 mm steel wire grid.

Q377 x 377 = x 8.5 mm steel wire and 150 x 150 mm steel wire grid.

Q427 x 427 = x 10 mm steel wire and 150 x 150 mm steel wire grid.
1. Place the bases using the spacers so that the base’s flat side is adjacent to the wall. Cut the base creating a second edge so that it fits into a corner.

2. Press the PVC pipes that have been cut according to the project firmly into the base slots.

3. Place the domes on the PVC pipes, from right to left and from top to bottom, checking that the domes fit over each other and on the PVC pipes 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: Example 1; full dome on the wooden console attached to the wall.

5. Inserting the last row of ABS Plus domes: Example 2; Placing a cut dome on the wooden console attached to the wall.

6. In the case of full-dome wall finishes where the PVC pipes are adjacent to the walls, place ABS Plus dome side closer or 5x10 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 PVC pipes.

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 20 cm above the domes. Every PVC pipe should be stabbed with a steel rod to release the air trapped in the pipe. Fill the domes and topping concrete after filling the pipes.

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. During the 24 to 48 hours following the concrete pouring, joints should be cut in the floor in such a way not to exceed 1/5 of the floor thickness.

INSTALLATION VIDEO
disposableformwork.com/videos

INSTALLATION GUIDE
disposableformwork.com/documents