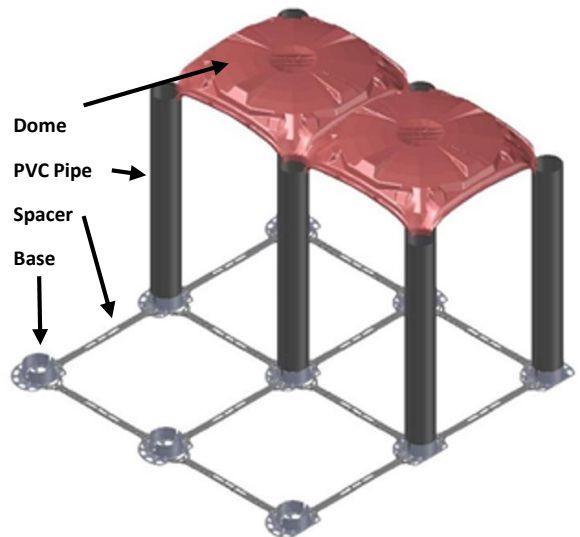
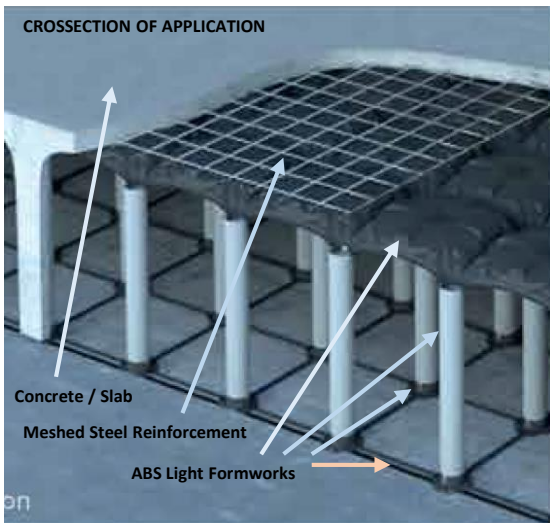


# VOID FORMWORKS FOR LIGHTWEIGHT FILL



ABS void formworks are used to create reinforced concrete raised floors up to 300 cm, providing a light, fast, easy and economical filling in any structure. They are made of single use recycled plastic and supply **value added engineering** solutions to conventional filling applications. They can supply LEED sustainability points to projects



CRAWLSPACE CONSTRUCTION

# Application Areas



FILL BETWEEN FOUNDATION FOOTINGS



INVERTED BEAM FILL



LANDSCAPE FILL



SUNKEN SLAB FILL



ELEVATOR, STAIRCASE, HALLWAY FILL



WATER HARVESTING STORAGE / STORMWATER ATTENUATION TANK

# Application Areas



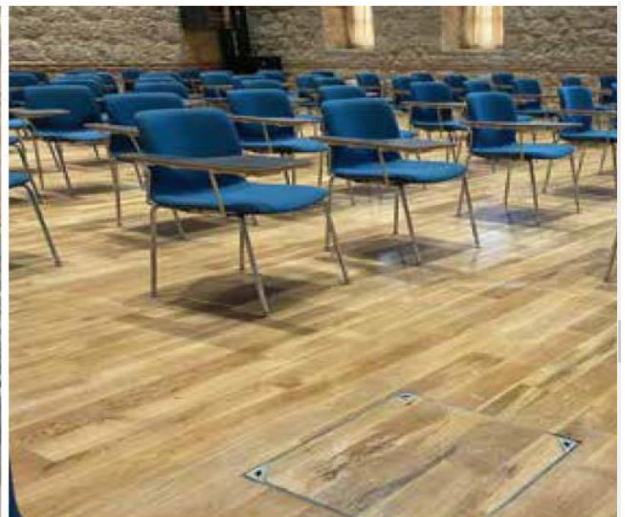
CAR RAMP CONSTRUCTION



SWIMMING POOL AND LANDSCAPE FILL



POOL DECK SLAB FILL



CONCRETE RAISED FLOOR AND INFRASTRUCTURE CONSTRUCTION

# Application Areas



ELEVATOR, STAIRCASE, HALLWAY FILL



STAIRS AND MULTIPLE HEIGHT APPLICATIONS

## ADVANTAGES OF ABS VOID FORMWORKS

  
THE LIGHTEST SOLUTION

  
EASE OF LOGISTICS

  
VERY HIGH LOAD BEARING CAPACITY

  
REDUCED CONSTRUCTION TIME

  
VOID SPACE CREATION

  
FAST AND EASY INSTALLATION

  
HEAT AND SOUND INSULATION

  
ENVIRONMENTAL VALUE

  
RAMP CONSTRUCTION

  
SEPARATOR WALL CONSTRUCTION

  
RADON GAS AND DAMP BARRIER

  
CONTINUOUS CONCRETE SURFACE

## VIDEOS / DOCUMENTS (Click or Scan)



[Presentation and Installation](#)



[Basement Installation](#)



[International References](#)



[Documents, Reports, LEED](#)

# ABS Plus (ABS) vs Expanded Polystyrene (EPS)

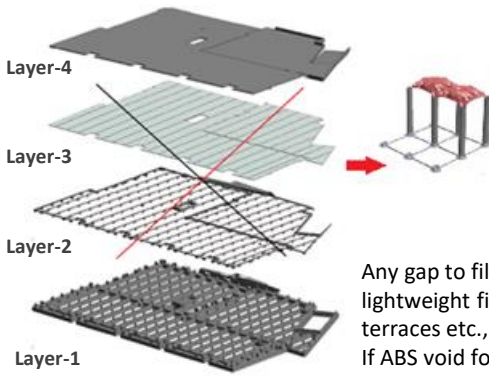
No.		Expanded Polystyrene (EPS)	ABS Plus (ABS)	Comparison & Comments
1	Volume	100% of the space to be filled must be filled with material i.e. EPS	At 1 meter high only 5% material is needed, 95% of the space stays empty/void	Disposable formworks are also called void formers. By shaping concrete into pillars, arches and domes they create an empty space below the domes. Whereas with EPS, all the volume must be filled.
2	Mechanical, electrical and plumbing (MEP) passages	Difficult to apply	Very easy to apply	With EPS all MEP work must be installed into a carved space. Whereas with ABS Disposable Formworks, all the MEP works can be installed easily between the legs, tested and then closed. Moreover, inspection hatches can be left in the slab for future checks.
3	Logistics	At 1 meter high 100% material is needed	At 1 meter high only 5% material is needed	With EPS the entire filling volume must be shipped in trucks to the job site and the same volume must be carried on the job site vertically (by a crane or by hand) to the application area. Whereas ABS Disposable Formworks can save 1:25 of transportation volume.
4	Covering concrete slab	Pedestrian min 10 cm Vehicles min 20 cm	Pedestrian min 5 cm Vehicles min 10 cm	EPS creates a horizontal surface without any pillars; hence the structural design requires thicker and more reinforced covering slab. Moreover, because of this reason extra support walls might be needed in between the EPS. Whereas ABS Disposable Formworks construct a continuous grid of domes, resting on arches on top of 2 pillars per sqm., hence less concrete and reinforcement is needed for the same load requirements.
5	Risk of future cracks	High	Zero	EPS shrinks in time, that's why a very expensive high-density EPS is required to prevent future structural cracks for filling purposes. If more economical, less density EPS is used, than other preventions, such as shear-walls and/or increased slab thickness, are needed. Whereas disposable formworks construct a structure with a very high load bearing capacity prone to structural cracks.
6	Cost	High	Low	Because ABS Disposable Formworks construct a void space, cost of material is also lower starting around 20-30 cm against EPS. Disposable formworks are more beneficial to the customer the higher the required height gets. EPS cost rises linearly to the required height, but disposable formworks' price increases with only a fractional cost of 2 pipes per sqm.

In short, the biggest advantage comes from the lack of material needed to get desired structural results.

At an area of 300 m<sup>2</sup> and at a height of 62.5 cm you would need 8 full trucks of EPS whereas

**ONLY** 6 pallets of ABS Plus would be enough to fill the area.

# Sample Projects and Cost Comparisons



## SAMPLE PROJECT-1

This is an industrial project constructed on a marshy ground.

It is planned to be installed as four layers against water risk :

1. Base grid metal layer directly on the muddy soil
2. Cover grid metal layer facing the base to form a crawlspace
3. Precast cover layer
4. Finishing slab

If ABS void formworks is used, there is no need for layers 2&3 and also minimum labor is required

Any gap to fill with “backfill, crushed stone etc..” on top of rough foundation or any lightweight filling (i.e. Geofoam/Styrofoam/XPS) for regular floors, amenity decks, terraces etc., ABS Void Formworks might be an alternative to any filling materials.

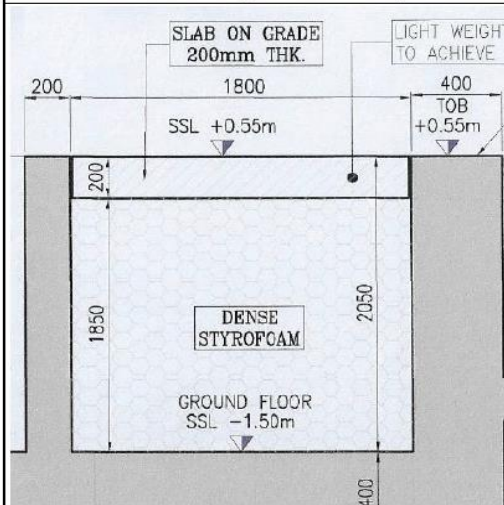
If ABS void formwork is used the aprpx cost comparison is as below:

The approximate cost advantage for 100 cm height of filling with backfill is 95 £/m<sup>2</sup> where with ABS Void Formers 68 £ /m<sup>2</sup> including concrete and rebar cost.

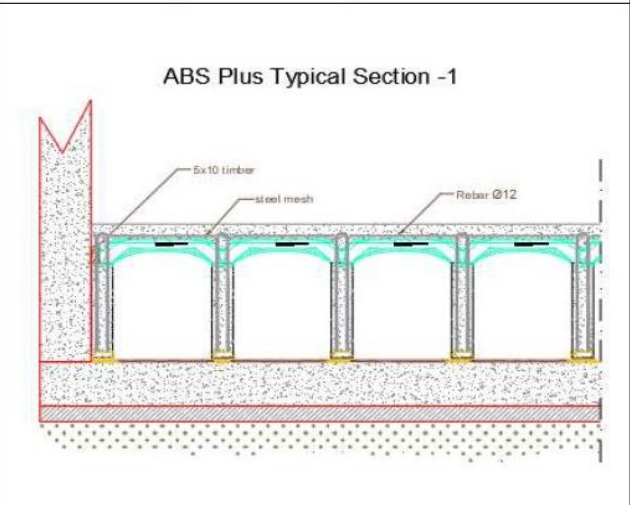
Construction time for the conventional versus ABS solution is about 16 man-days to 4

## SAMPLE PROJECT-2 ABS DISPOSABLE FORMWORK SYSTEM COMPARISON TABLE H100 cm with concrete

### Alternative Filling with XPS (Geofoam)



### ABS Plus Adjustable Height



### Typical Section of XPS / Geofoam

### Typical Section of ABS Plus

Results	Alternative		Disposable Formworks	
Material	EPS foam (15 dns)		ABS Plus System	
Total section height	100,00	cm	100,00	cm
Material cost	128,30	GBP/m <sup>2</sup>	38,94	GBP/m <sup>2</sup>
Laying and compacting labor	5,67	GBP/m <sup>2</sup>	1,00	GBP/m <sup>2</sup>
Steel mesh cost	7,28	GBP/m <sup>2</sup>	5,38	GBP/m <sup>2</sup>
Laying steel mesh labor	2,65	GBP/m <sup>2</sup>	3,16	GBP/m <sup>2</sup>
Concrete consumption	0,15	m <sup>3</sup> /m <sup>2</sup>	0,15	m <sup>3</sup> /m <sup>2</sup>
Concrete cost	18,00	GBP/m <sup>2</sup>	18,47	GBP/m <sup>2</sup>
Concrete pouring and compacting labor	0,75	GBP/m <sup>2</sup>	0,77	GBP/m <sup>2</sup>
<b>TOTAL cost</b>	<b>162,65</b>	<b>GBP/m<sup>2</sup></b>	<b>67,73</b>	<b>GBP/m<sup>2</sup></b>
			13,00	pallets
Operation volume (21 ton or 25 m <sup>3</sup> / truck)	17,00	trucks	1,00	trucks
Operation speed	18,00	man-day	4,00	man-day