

# PORTACell-H PORTACell-R PORTAGrid

**SOIL STABILIZATION TECHNOLOGY**



Paved & Unpaved Roads | Ports & Yards | Railways | Airports  
Earth Retention System | Slope Protection & Channel Protection

## About Mtandt

**Mtandt Group** was founded in 1974, with key activities to provide safe and economical solutions to the industrial, infrastructure and government segments. Since its inception, Mtandt has been proactive in entering into partnerships with international market leaders, thus drawing technological expertise and introducing innovative products in Indian Market.

## PORTACell-H

PORTACell-H, the HDPE Geocell is a three-dimensional, lightweight, expandable system of welded cells creating a stable structure of cellular walls that provide confinement support to slope, base, channel, and vertical applications.

Our Geocells are made in a variety of sizes to suit various applications.



## Applications

- Erosion control
- Ground stabilization
- Slope protection
- Railway trackbed stabilization
- Reservoir & Landfill
- Hill slope protection
- Subgrade stabilization
- Canal slope protection and lining
- Retaining walls

## PORTACell-H Soil Stabilization GeoCell Technical Data

PORTACell-H Properties							
Material Properties		Unit	Product code change product code to PCH (Abbreviation for PORTACell-H)				
Weld Spacing (± 3%)		mm	PCH 330	PCH 356	PCH 445	PCH 660	PCH 712
Cell Depth (± 3%)		mm	75	100	125	150	200
	Width	mm	244	259	320	488	508
Expanded Cell Dimensions (± 3%)	Length	mm	210	224	287	436	475
Expanded Cell Area (13%)		cm <sup>2</sup>	250	289	460	1000	1206
Nominal Expanded Section Dimension (+3%)	Width	m	2.44	2.59	3.20	4.88	5.08
	Length	m	6.10	6.50	8.32	12.64	13.78
Nominal Expanded Section Area		m <sup>2</sup>	14.90	16.82	26.63	61.70	70.00



# PORTACell-R

## About PORTACell-R

PORTACell-R is a three-dimensional honeycomb cellular confinement of polymeric strips when filled with locally available granular material such as sand, recycled asphalt, etc. tends to improve the load-bearing capacity of the pavement.

This smart engineered innovation is made of Novel Polymeric Alloys, prevents the movement of infill and distributes loads over a wide area, thereby increasing the strength and stiffness of a pavement layer. Owing to its unique properties, it enables better performance, unlike conventional HDPE geocells & most importantly incurs savings in terms of overall project cost, project completion time & requirement of expensive natural resources like aggregates.

## Why PORTACell-R

- It reduces long-term maintenance and construction costs for roads and load support.
- It increases soil modulus and bearing capacity.
- It reduces the requirement for aggregates and quarry material, thus safeguarding the environment.
- It retains cell wall stiffness and compaction for project design life and lifespan.
- It facilitates the usage of fly ash and other locally available material as infill for a sustainable solution.

## Applications



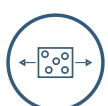
## Key Engineering Benefits



**High elastic stiffness –  
Long term pavement stiffness**  
(DMA Test, ASTM E2254)



**High tensile strength –  
Supports heavy loads**  
(ISO 10319)



**Low permanent deformation –  
Durable for entire design life**  
(SIM Test, ASTM D6992)



**UV and oxidation resistance –  
Environmental durability**  
(HPOIT Tests, ASTM D5885)

## About PORTAGrid

PORTAGrid, the Geogrid is a geosynthetic product used to reinforce soils and other materials like stone, gravel, cement, concrete, asphalt, etc. When subjected to tension, such materials can pull apart while geogrids can uniformly distribute this tension over a larger area and provide reinforcement to resist flexural deformation. This is possible because of their high strength, high modulus, and low-creep sensitivity.

Extruded geogrids are made of high modulus polypropylene (PP) through a process of extrusion, sheet forming, punching, and stretching. This last step of stretching is both longitudinal and transverse. Extruded Geogrids ensure high tensile strength in both machine and cross directions which makes them very beneficial in a variety of applications for Ground Reinforcement, Soil Stabilisation & Erosion Control.



Roadways



Railway tracks



Ports & yards soil stabilization



Rural roads and unpaved roads

## PORTAGrid Soil Stabilization Geogrid Technical Data

PORTAGrid PP	Mechanical Properties							Junction Efficiency	Durability Resistance to UV Degradation	Dimensions	
	Unit Tension (Kn/m)									Typical Size mm (±5.0)	
	Ultimate		@2.0% Strain	@5.0 % Strain		0.5% Redial Stiffness				MD	TD
	MD	TD	MD	TD	MD	TD					
PORTAGrid PP 1515	15	15	6	6	11	11	210	≥95%	100%	38	38
PORTAGrid PP 1515LA	15	15	6	6	11	11	210	≥95%	100%	65	65
PORTAGrid PPI616	16	16	6.5	6.5	11.5	11.5	210	≥95%	100%	38	38
PORTAGrid PPI616LA	16	16	6.5	6.5	11.5	11.5	210	≥95%	100%	65	65
PORTAGrid PP 2020	20	20	7.5	7.5	15	15	350	≥95%	100%	38	38
PORTAGrid PP 2020LA	20	20	7.5	7.5	15	15	350	≥95%	100%	65	65
PORTAGrid PP 3030	30	30	11	11	21	21	380	≥95%	100%	38	38
PORTAGrid PP 3030LA	30	30	11	11	21	21	380	≥95%	100%	65	65
PORTAGrid PP 4040	40	40	14.5	14.5	28.5	28.5	400	≥95%	100%	38	38
PORTAGrid PP 4040LA	40	40	14.5	14.5	28.5	28.5	400	≥95%	100%	65	65
<b>Packaging</b>											
Width (±0.05m)	3.95 mtrs						Length	25,50,75 Meters			

### Remarks:

- The above parameters in this specification sheet are based on tests carried out at our in-house testing lab and separately accredited laboratories. While the information is presented as a true and accurate representation of the attributes of the product to the best of our knowledge, no expressed or implied warranties are made, and Mtandt Limited assumes no responsibility or liability regarding the use of this information, Mtandt has right to make any revisions time to time in the specification when and where required.
- Measured parameter values are having ± 3.0mm tolerance.
- Measured in accordance with ISO 10319, ASTM D 6637, calculate at the average value and mechanical properties having ± 10% tolerance.
- PORTAGrid biaxial Geogrid are highly resistance to ultra-violet as it incorporates over 1.0% carbon black, measured in accordance with ASTM D 4355 @ 500 HRS.
- PORTAGrid biaxial Geogrid are manufactured using polypropylene, which is unaffected by biological degradation and is highly resistant to acids, alkalis and salts that are typically found in soils.



## End-To-End Customized Support



Site Inspection



Installation & Training



Customized Solution & Design Support



Industry Expert Support

## Key Projects



Khairatunda to Barwa Adda Section NH-02, Dhanbad



Vikravandi- Sethiyathopu (NH-45C) in State of Tamil Nadu



Large International Airport, Mexico



Load transfer platform stabilization in Ports, Latin America

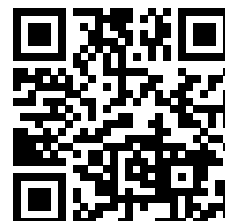
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