

# Wall Characteristics

| TYPE OF BLOCK                          | INSTALLATION          | MAXIMUM HEIGHT AT THE TOP OF WALL INCLUDING BURIED UNIT WITHOUT OVERLOAD |             | MINIMUM POSSIBLE RADIUS |     | WALL ANGLE | AMOUNT OF WALL UNITS REQUIRED |                 |
|----------------------------------------|-----------------------|--------------------------------------------------------------------------|-------------|-------------------------|-----|------------|-------------------------------|-----------------|
|                                        |                       | FT                                                                       | M           | FT                      | M   |            | /FT <sup>2</sup>              | /M <sup>2</sup> |
| Tandem System (Lafitt, Melville)       | Angled                | 3.5                                                                      | 1.1         | 4.0                     | 1.2 | 9          | variable                      | variable        |
|                                        | Vertical              | 2.2                                                                      | 0.67        | 4.0                     | 1.2 | 0          | variable                      | variable        |
| Celtik® 90 Wall                        | Angled                | 3.5                                                                      | 1.1         | 3.0                     | 0.9 | 9          | variable                      | variable        |
|                                        | Vertical              | 2.2                                                                      | 0.67        | 3.0                     | 0.9 | 0          | variable                      | variable        |
| Grande Wall (see note)                 | 375, 750, 1125 units  | 8.5                                                                      | 2.6         | 65                      | 20  | 0          | 5                             | 0.46            |
|                                        | 375, 750, 1125 units  | 10.5                                                                     | 3.2         | 65                      | 20  | 9          | 5                             | 0.46            |
|                                        | 375, 750, 1125 units  | 13.1                                                                     | 4.0         | 65                      | 20  | 17         | 5                             | 0.46            |
| Keystone Wall (see note)               | Compact               | 3.0                                                                      | 0.9         | 4.0                     | 1.2 | 0 or 9     | 22 and/or 11                  | 2 and/or 1      |
| Orion Wall                             | Vertical              | 2.3                                                                      | 0.72        | -                       | -   | 0          | variable                      | variable        |
| RB wall                                | Angled                | 2.4                                                                      | 0.60        | -                       | -   | 9.6        | 3.10                          | 33.40           |
| Split-face Universal* Slope Block Wall | Without joints        | 5.0                                                                      | 1.5         | 5.0                     | 1.5 | 10         | 35                            | 3.2             |
|                                        | 50 mm - 2 in. joints  | 4.25                                                                     | 1.3         | 5.0                     | 1.5 | 10         | 28                            | 2.6             |
|                                        | 100 mm - 4 in. joints | 3.7                                                                      | 1.1         | 5.0                     | 1.5 | 10         | 24                            | 2.2             |
| Universal* Slope Wall                  | Without joints        | 4.00                                                                     | 1.20        | 5.0                     | 1.5 | 15         | 35                            | 3.2             |
|                                        | 50 mm - 2 in. joints  | 3.25                                                                     | 1.00        | 5.0                     | 1.5 | 15         | 28                            | 2.6             |
|                                        | 100 mm - 4 in. joints | 2.75                                                                     | 0.80        | 5.0                     | 1.5 | 15         | 24                            | 2.2             |
| Urbano Wall                            | Angled                | 2.4                                                                      | 0.72        | -                       | -   | 3          | variable                      | variable        |
|                                        | Vertical              | 2                                                                        | 0.60        | -                       | -   | 0          | variable                      | variable        |
| Vario wall (90 - 180 mm)               | Angled                | 3.5 - 2.3                                                                | 1.08 - 0.72 | -                       | -   | 9.46       | variable                      | variable        |
|                                        | Vertical              | 2.3 - 1.75                                                               | 0.72 - 0.54 | -                       | -   | 0          | variable                      | variable        |
| Vario Lafitt Wall (90 - 180 mm)        | Angled                | 3.5 - 2.3                                                                | 1.08 - 0.72 | -                       | -   | 9.46       | variable                      | variable        |
|                                        | Vertical              | 2.3 - 1.75                                                               | 0.72 - 0.54 | -                       | -   | 0          | variable                      | variable        |
| Wallstone Wall                         | Angled                | 16                                                                       | 0.40        | -                       | -   | 14         | 3.10                          | 33.40           |
|                                        | Vertical              | 16                                                                       | 0.40        | -                       | -   | 0          | 3.10                          | 33.40           |
| Wedgestone Wall                        | Angled                | 16                                                                       | 0.40        | 2.0                     | 0.6 | 14         | variable                      | variable        |
|                                        | Vertical              | 16                                                                       | 0.40        | 2.0                     | 0.6 | 0          | variable                      | variable        |

NOTE: The walls can be installed with other height and overload specifications than those above. Specific designs for special project conditions are available. Consult your Permacon Sales Representative for details.

The information contained in these technical documents is supplied for information purposes only. Any application of the information is the sole responsibility of the installer. The installer must ensure that the installation and use of retaining wall projects comply with local regulations and code requirements. A qualified engineer must be consulted for final design for construction purposes. Oldcastle Building Products Canada, Inc. and its affiliates cannot be held responsible for the improper use of information contained in these technical documents.

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## PACKAGING

For product packaging information, please refer to our Product Data Guide on our website.



English  
Quebec



English  
Ontario



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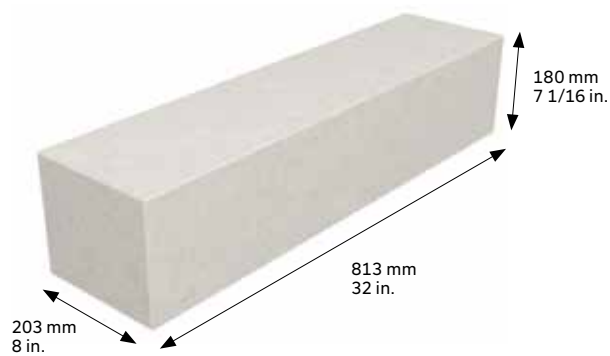
# Orion Wall

## DESCRIPTION



Build outdoor living elements with ease: flower boxes, privacy walls, flower beds, etc. No hardware nor accessories are required for the installation. With its slender format and smooth texture, Orion Wall will bring elegance and modernity to all your designs. No need to add a capping unit—all Orion wall units have finished corners, faces and tops.

## UNIT

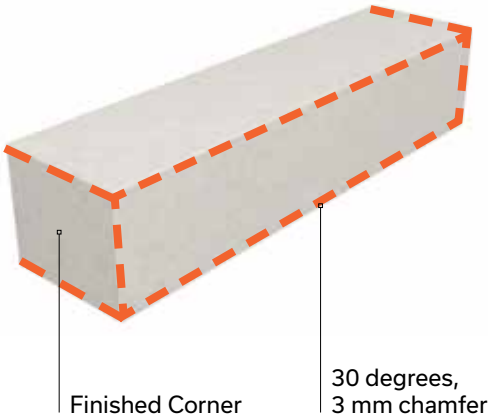


## TECHNICAL INFORMATION

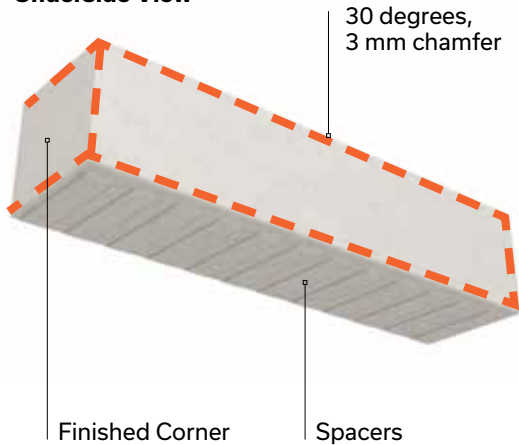
|          | MAX HEIGHT<br>ft. | MAX HEIGHT<br>m. | SETBACK<br>degrees | QUANTITY<br>ft² | QUANTITY<br>m² |
|----------|-------------------|------------------|--------------------|-----------------|----------------|
| Setback  | —                 | —                | —                  | —               | —              |
| Straight | 2.35              | 0.72             | —                  | 0.63            | 6.83           |

BASIC PRINCIPLES

Front View



Underside View



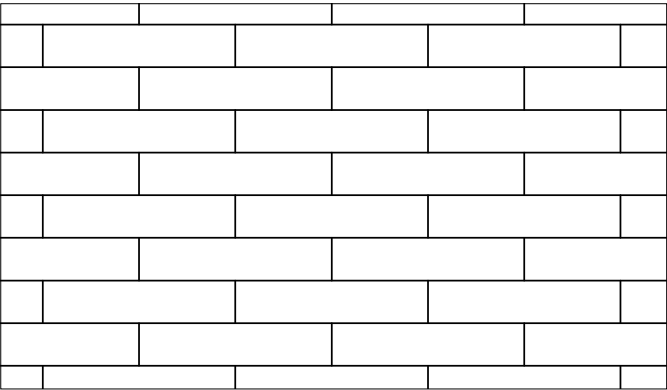
TYPICAL ROW

**CAUTION !**  
Orion units must be turned on their side once removed from the skid. The spacers should face the ground. The face with the chamfers goes on the outside of the wall.

A diagram showing two Orion units. One unit is shown in its original orientation (flat), and the other is shown turned on its side. A blue arrow points from the flat unit to the turned unit, indicating the correct orientation for installation.

LAYING PATTERN

RUNNING BOND PATTERN



CREATING OUTER AND INNER CORNERS

It is recommended to always begin the construction of a retaining wall with a corner in order to avoid cuts and an alignment of vertical joints from one row to another. Orion units have to be glued together with a Techniseal concrete adhesive.



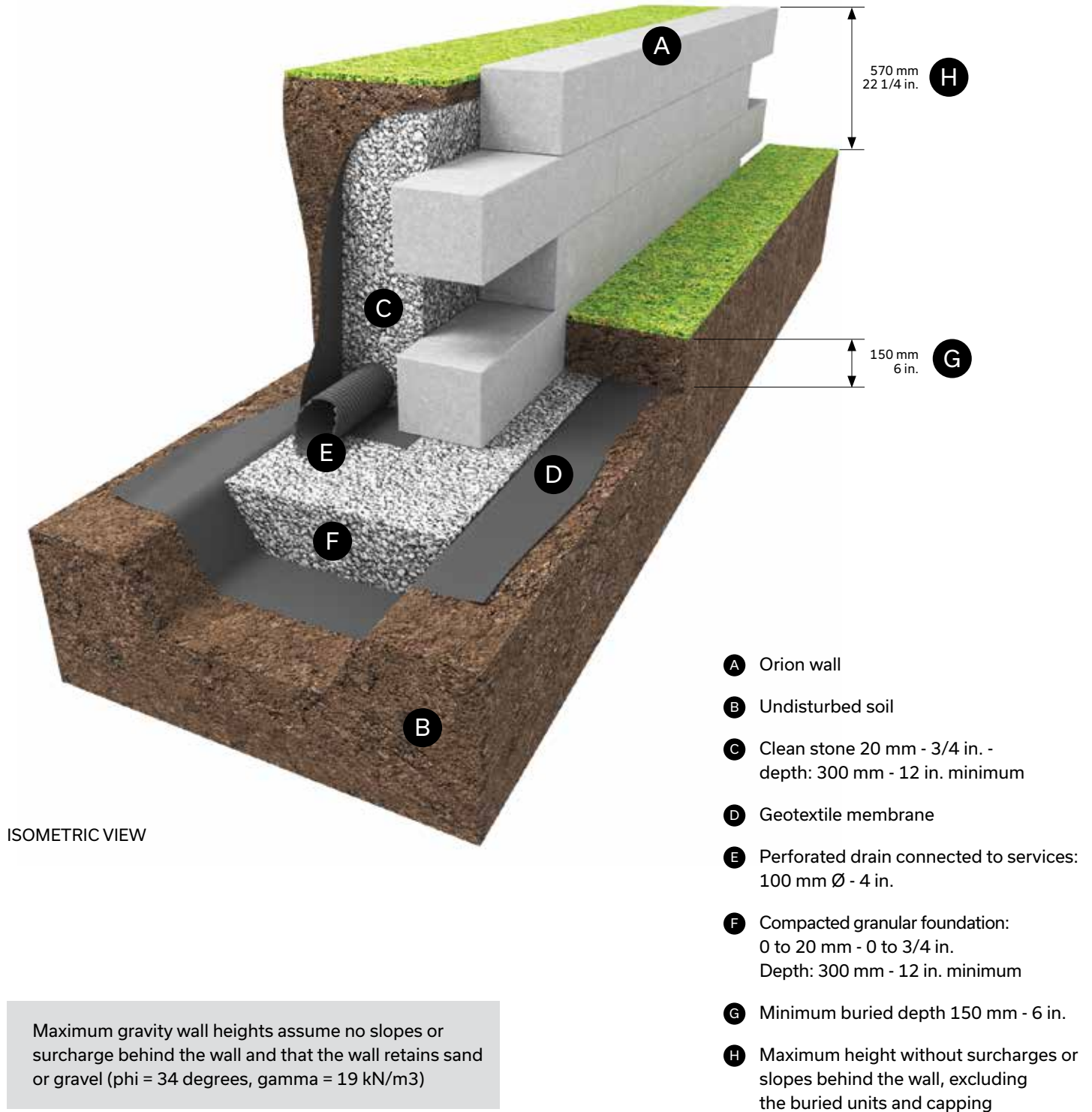
# Orion Wall

## CROSS-SECTION – VERTICAL WALL

Orion Wall installed in a vertical application can go up to 4 rows (total height of 720 mm or 28 1/4 in).

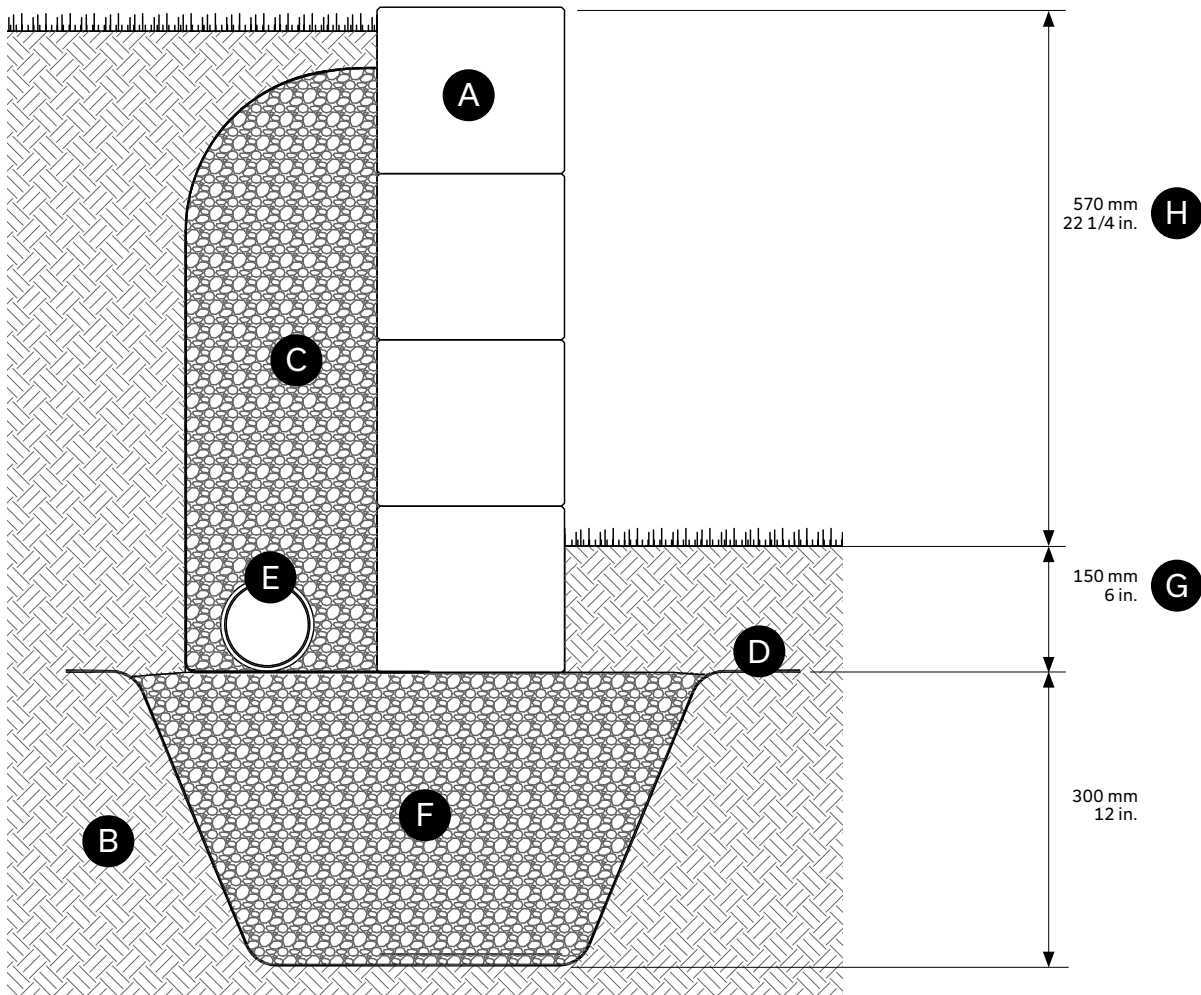
- > Use Techniseal concrete adhesive between rows of Orion Wall
- > Orion Wall can be used with or without capping over the last row. If a capping unit is installed, simply glue it with concrete adhesive.

**No accessory required for the Orion Wall.**



# Orion Wall

## CROSS-SECTION – VERTICAL WALL



Maximum gravity wall heights assume no slopes or surcharge behind the wall and that the wall retains sand or gravel ( $\phi = 34$  degrees,  $\gamma = 19$  kN/m<sup>3</sup>)

- A** Orion wall
- B** Undisturbed soil
- C** Clean stone 20 mm - 3/4 in.  
Depth: 300 mm - 12 in. minimum
- D** Geotextile membrane
- E** Perforated drain connected to services:  
100 mm Ø - 4 in.
- F** Compacted granular foundation: 0 to 20 mm - 0 to 3/4 in.  
Depth: 300 mm - 12 in. minimum
- G** Minimum buried depth 150 mm - 6 in.
- H** Maximum height without surcharges or slopes behind the wall, excluding the buried units and capping

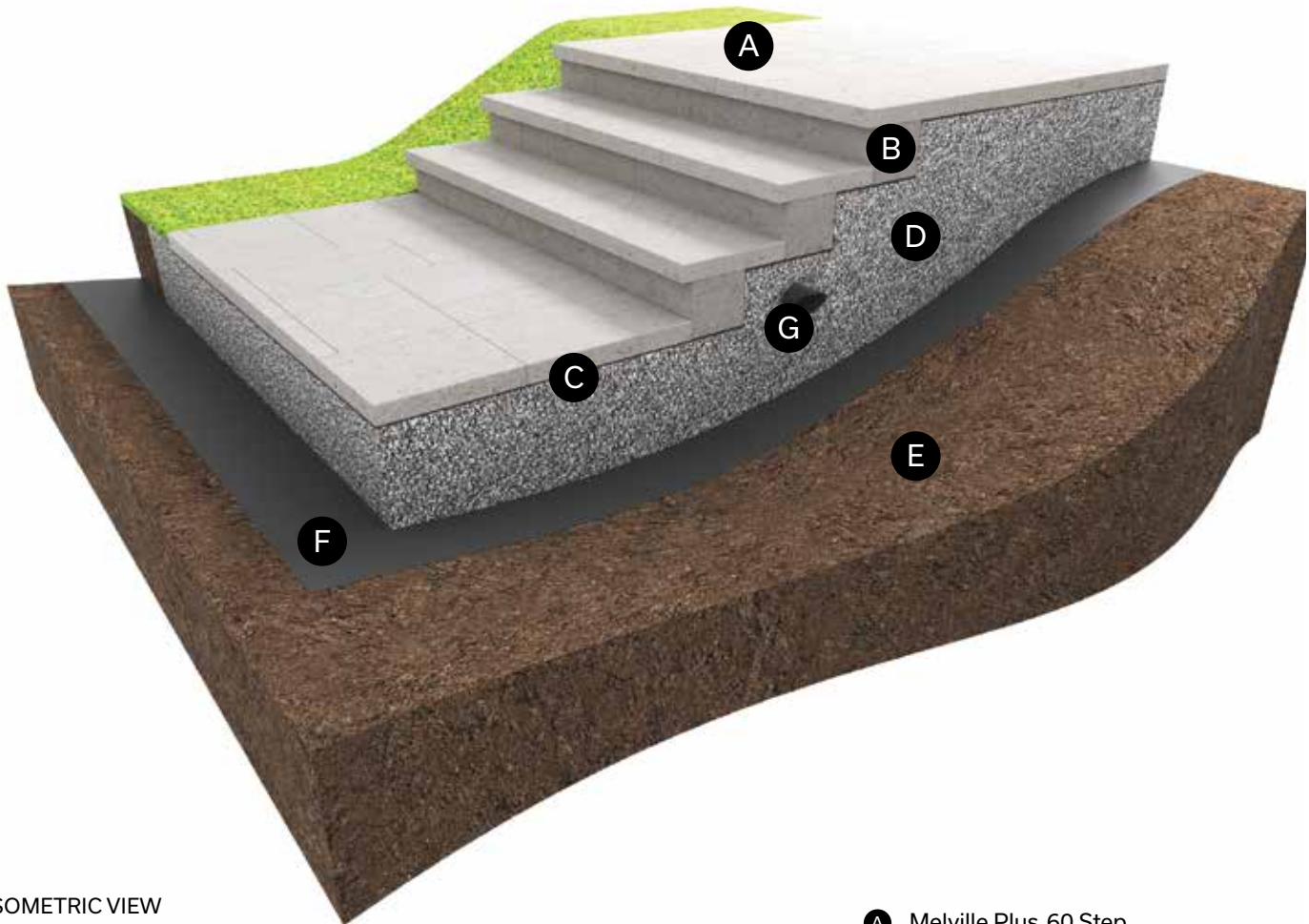
# Orion Wall

## CROSS-SECTION – CREATING ORION WALL STEPS

To create steps, install the Melville 60 step combined with the Orion Wall units used as risers, as detailed below:

> Use Techniseal concrete adhesive to glue the step unit

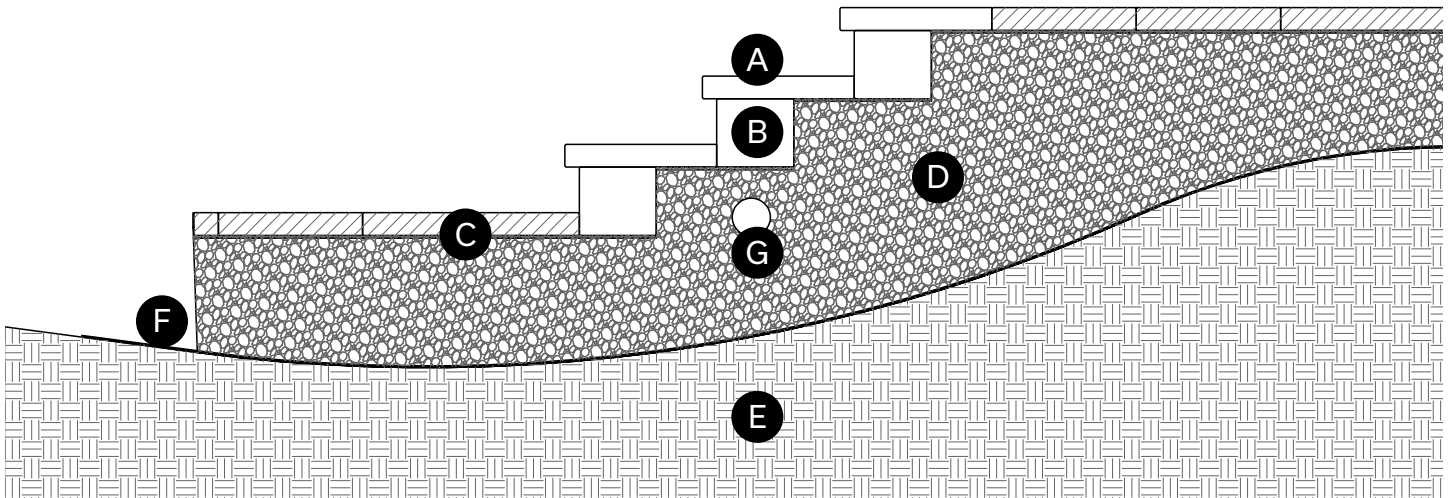
**No accessory required for the Orion Wall.**



ISOMETRIC VIEW

- Ⓐ Melville Plus 60 Step
- Ⓑ Orion wall
- Ⓒ Laying bed: 25 mm - 1 in.
- Ⓓ Compacted granular foundation:  
0 to 20 mm - 0 to 3/4 in.  
Depth: 300 mm - 12 in. minimum
- Ⓔ Soil in place
- Ⓕ Geotextile membrane
- Ⓖ Perforated drain connected to services:  
100 mm Ø - 4 in.

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