

# ORION

Concrete Retaining Wall

PERMACON



## Installation Guide

**VB**  
VAN BEEK'S  
LANDSCAPE SUPPLY

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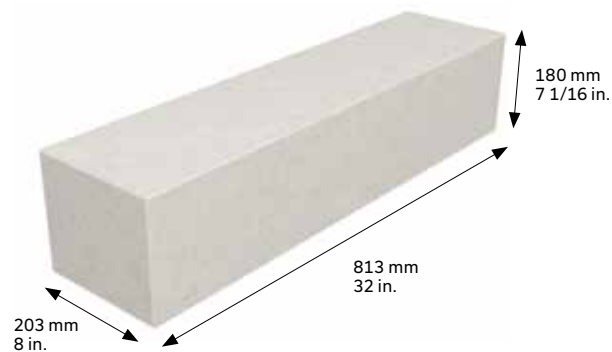
# Orion Wall

## 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

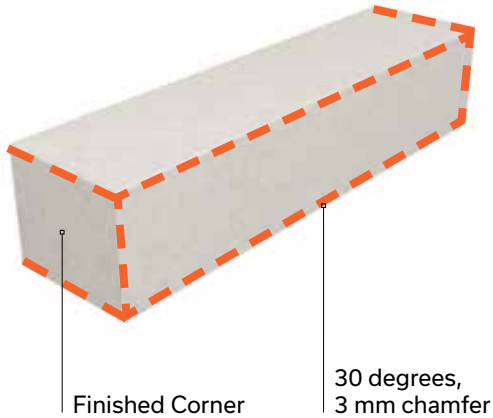


## TECHNICAL INFORMATION

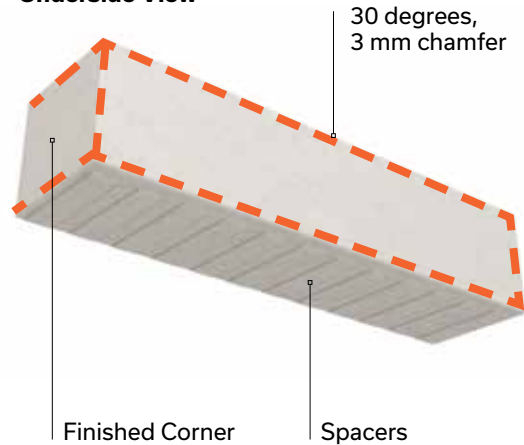
	MAX HEIGHT ft.	MAX HEIGHT m.	SETBACK degrees	QUANTITY ft <sup>2</sup>	QUANTITY m <sup>2</sup>
Setback	—	—	—	—	—
Straight	2.35	0.72	—	0.63	6.83

**BASIC PRINCIPLES**

**Front View**



**Underside View**

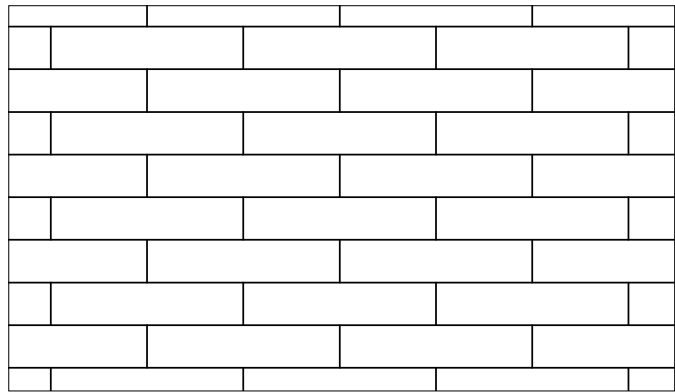


**TYPICAL ROW**

**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.

**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.



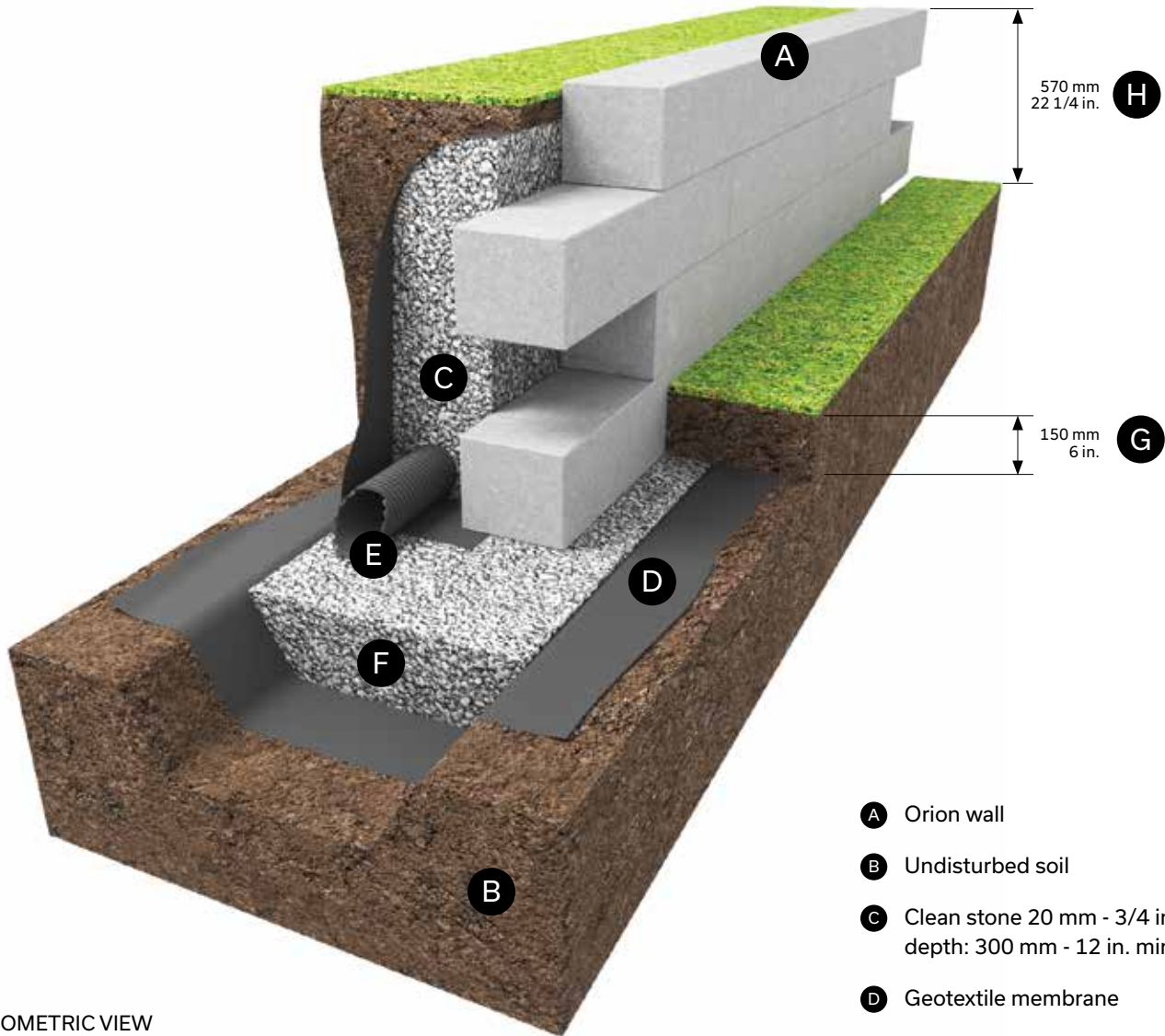
# ORION WALL

## 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.**



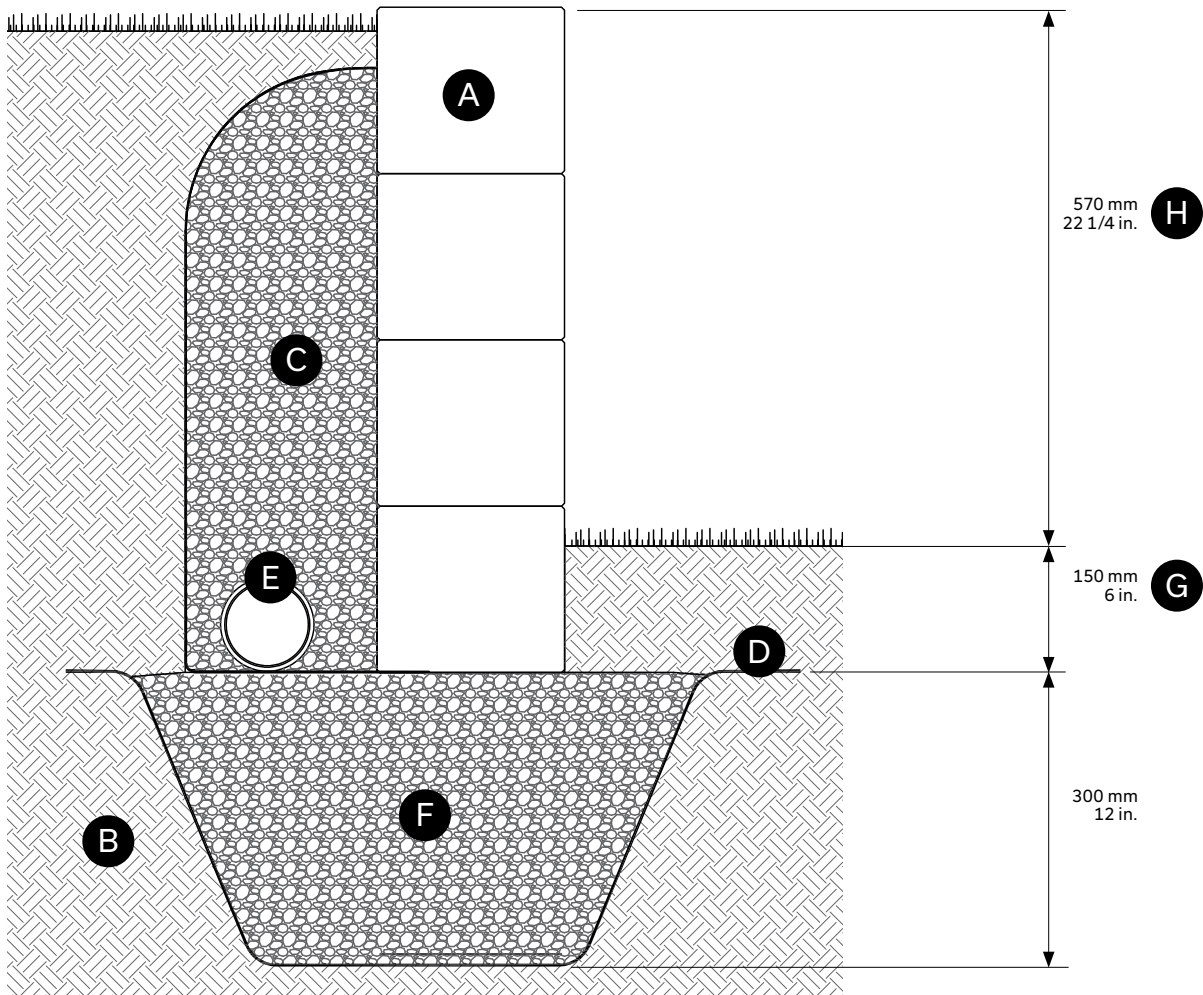
ISOMETRIC VIEW

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

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>)

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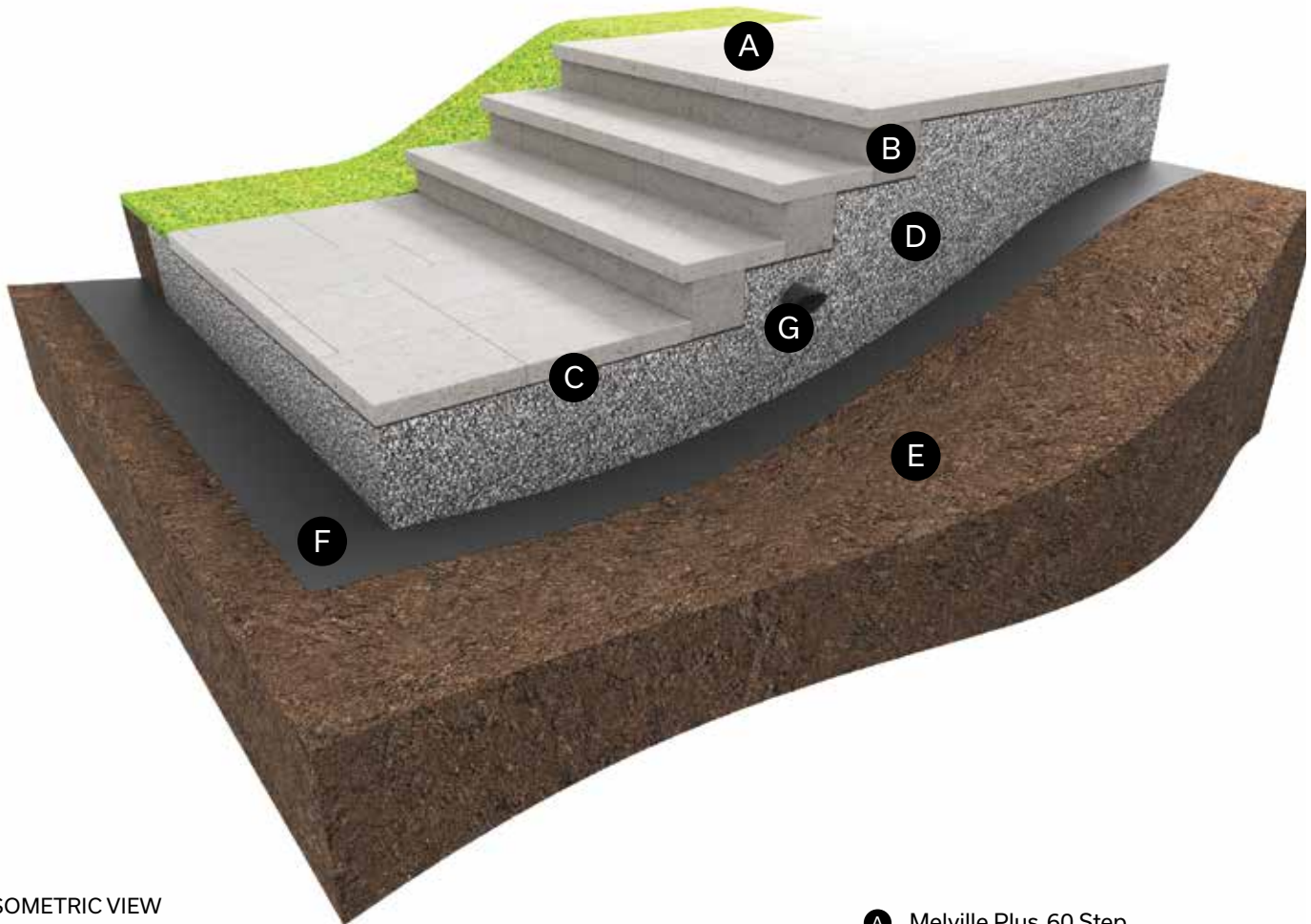
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## CROSS-SECTION – CREATING ORION WALL STEPS

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

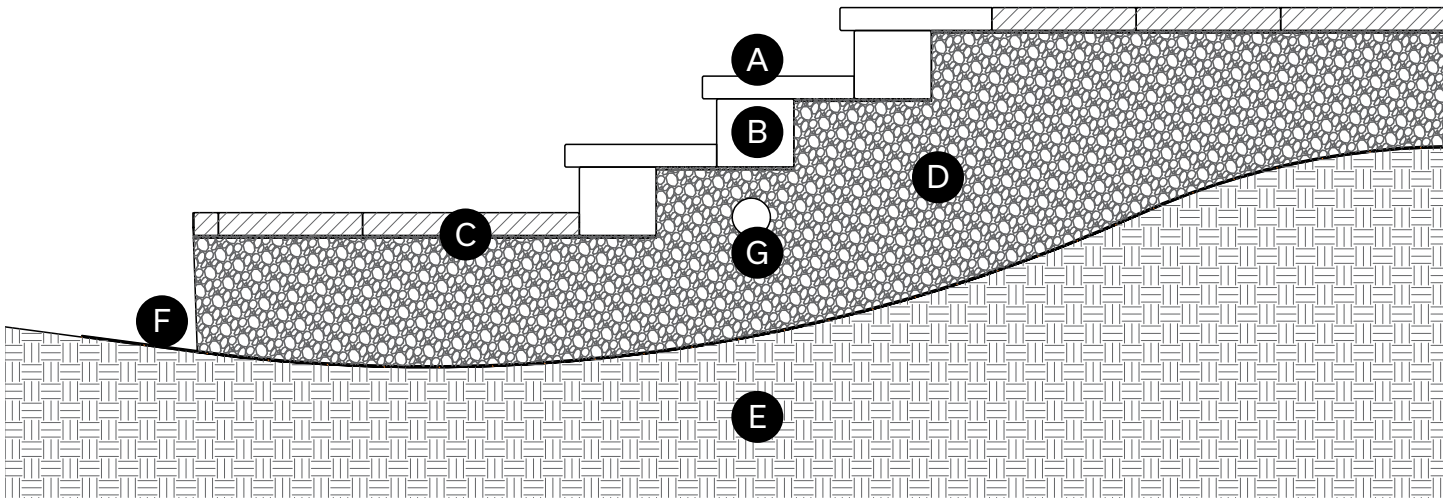
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ISOMETRIC VIEW

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

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