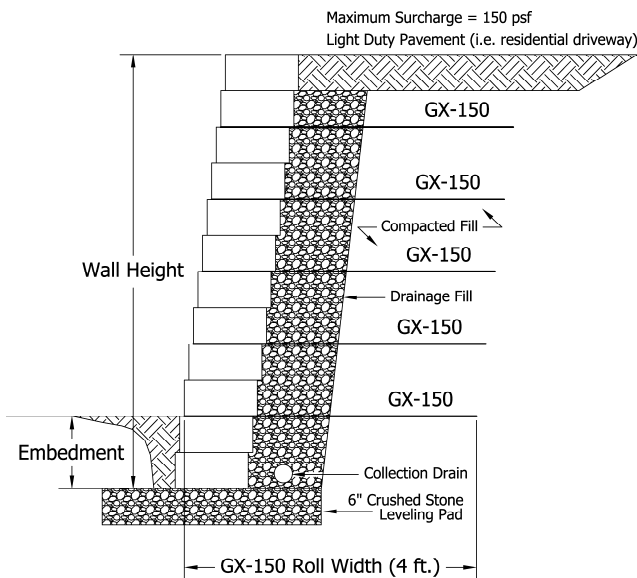


# GX™-150 Geogrid

## Retaining Wall Reinforcement

- Reinforcement Chart
- Calculator for 'Number of Rolls'
- Why Carthage Mills' GX™-150 is Important
- Before Proceeding and Site Preparation
- Guidelines for Installing Reinforcement Geogrid



### Calculating the 'Number of Rolls' Required

(Roll Size: 4 feet wide x 45 feet long = 180 square feet)

#### Step One: Determine the Number of Geogrid 'Layers' Required

With 6" Tall Blocks			With 8" Tall Blocks		
Wall Height (ft)	No. of Blocks (Vertical)	No. of Geogrid Layers	Wall Height (ft)	No. of Blocks (Vertical)	No. of Geogrid Layers
2'	4	1	2'	3	1
2' 6"	5	2	2' 8"	4	2
3'	6	3	3' 4"	5	3
3' 6"	7	4	4'	6	4
4'	8	5	4' 8"	7	5
4' 6"	9	6	5' 4"	8	6
5'	10	7	6'	9	7
5' 6"	11	8			
6'	12	9			

#### Reinforcement Chart:

- The GX™-150 is placed with a maximum vertical spacing of two wall blocks.
- Provide adequate drainage and compacted fill per segmental retaining wall (SRW) block manufacturer's instructions.
- Embedment Depth recommendations may vary between SRW block manufacturers and is considered part of the total wall height.
- This chart is for estimating purposes only, is specific to walls 6' or less in total height, and is affected by local soil types and loading conditions.
- Final design should be performed by a registered, professional civil engineer to meet all local codes and regulations.
- No provisions have been made for global/external stability or site topography.
- Follow all the recommendations of the SRW block manufacturer for assembly of the block and geogrid system and selection of appropriate structural backfill materials.

ADDITIONAL INFORMATION AND MORE DETAILED INSTRUCTIONS ARE ON THE BACK OF THIS SHEET

#### Step Two: Calculate the Number of 'Rolls' Required

##### Formula:

$$\frac{\text{No. of Geogrid Layers} \times \text{Geogrid Width} \times \text{Length of Wall}}{\text{Square Feet of One Roll}} = \text{Number of Rolls Required}$$

##### Example:

Per the chart, a wall 6' high x 27' Long using 6" blocks requires **5 Layers of GX™-150**

$$\frac{5 \text{ (Layers)} \times 4 \text{ (Geogrid Width)} \times 27 \text{ (Wall Length)}}{180 \text{ (Square Feet)}} = \mathbf{3 \text{ Rolls GX™-150 Geogrid}}$$

GX™ Geogrids:  
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Component of Your Wall

Carthage Mills  
Reinforcement



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## ■ Why Carthage Mills' GX™–150 Geogrid is Important

Carthage Mills' GX™–150 is a biaxial, PVC coated, high strength, high tenacity, high molecular weight polyester geogrid designed to provide the reinforcement that is otherwise missing in the soils directly behind the wall. Use of the GX™–150 greatly reduces the tremendous outward pressures by these soils against the SRW concrete blocks by acting as a "tie-back", and ensures the durability and long life of the project.

Reasonable care should be taken to prevent damage to the geogrid prior to and during installation.

## ■ Before Proceeding

It is important that you consult and follow the detailed directions provided by the 'manufacturer' of the SRW block you are using for the assembly of the block and geogrid system as they will vary between styles and brands.

Final design should be performed by a registered, professional civil engineer to meet all local codes and regulations.

Special Note: Any guidelines contained herein do not include provisions for global or external stability, variations in local soil types, topography or loading/surcharge conditions, are not to be construed as engineering advice, and are to be used as 'guidelines' only. Also, any recommendations or instructions from the manufacturer of the SRW block or other governing authority supersedes anything contained herein.

## ■ Site Preparation

Before placing the GX™–150 geogrid, excavate to the desired lines and grades, and clear the ground surface of all debris. Prepare the leveling pad and base course per the instructions of the SRW block manufacturer.

## ■ Guidelines for Installing the GX™–150 Reinforcement Geogrid

1. Following the block manufacturer's instructions, install the concrete block wall units at the desired elevation and alignment up to the elevation of the *first layer* of geogrid. This includes any required *collection drains*, *drainage rock* and *structural fills* as required by the block manufacturer, local building codes and regulations, and/or the engineer's final design.
2. Roll out the geogrid parallel to the block face placing the edge of the geogrid within ½ inch of the front finished face of the SRW block.
  - a. This creates a four (4) foot embedment of the geogrid. The GX™–150 is *biaxial* reinforcement geogrid and can be placed perpendicular to the face of the wall when longer embedment lengths are required. Simply cut the desired length off the end of the roll and install it in the same manner.
3. Apply a nominal tension to the geogrid to remove any slack and hold in place, using stakes if necessary, until the geogrid has been covered with at least 6 inches of drainage and structural fill.
  - a. Adjacent geogrid panels should be butted up to one another to achieve a 100% bird's-eye-view coverage.
  - b. Never overlap the GX™–150 geogrid soil-reinforcement layers directly on top of each other.
  - c. *Curves* and *corners* require special layout procedures. In these instances, overlaps may occur *behind* the wall, and at least 3 inches of fill material should be provided between those overlapping geogrid layers.
4. Proper compaction of the drainage rock and structural fill before the start of each new course is essential. Using a plate compactor, and per the block manufacturer's instructions, begin compacting in maximum 6-8 inch lifts, working a path parallel to the wall and towards the back of the excavated area until solid, movement-free soil is achieved.
  - a. Backfill should be placed, spread and compacted in a manner that limits the development of wrinkles or movement of the geogrid and the concrete blocks.
  - b. Only walk-behind compaction equipment should be allowed within the geogrid reinforcement zone.
5. Continue installing the SRW blocks and GX™–150 geogrid per manufacturer's instructions with a maximum of two (2) block courses between geogrid reinforcement layers.

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