

MINIMUM VERTICAL REINFORCEMENT FOR 8-, 10-, AND 12-INCH NOMINAL FLAT BASEMENT WALLS*

USING #3 “GATORBAR” BFRP (BASALT FIBER REINFORCED POLYMER) BARS

APPLIES IN SEISMIC CATEGORIES A, B, AND C ONLY

MAX WALL HEIGHT (feet)	MAXIMUM UNBALANCED BACKFILL HEIGHT (feet)	MINIMUM NUMBER OF #3 VERTICAL “GATORBAR” BAR AND SPACING								
		Soil classes and design lateral soil (psf per foot of depth)								
		GW, GP, SW, SP 30			GM, GC, SM, SM-SC and ML 45			SC, ML-CL and INORGANIC CL 60		
		Minimum nominal wall thickness (inches)								
		8	10	12	8	10	12	8	10	12
8	5	Plain	Plain	Plain	Plain	Plain	Plain	Plain	Plain	Plain
	6	Plain	Plain	Plain	Plain	Plain	Plain	Plain	Plain	Plain
	7	Plain	Plain	Plain	Plain	Plain	Plain	Plain	2#3@22	Plain
9	5	Plain	Plain	Plain	Plain	Plain	Plain	Plain	Plain	Plain
	6	Plain	Plain	Plain	Plain	Plain	Plain	Plain	Plain	Plain
	7	Plain	Plain	Plain	Plain	Plain	Plain	Plain	2#3@19	Plain
	8	Plain	Plain	Plain	2#3@20	Plain	Plain	Plain	2#3@15	Plain
10	5	Plain	Plain	Plain	Plain	Plain	Plain	Plain	Plain	Plain
	6	Plain	Plain	Plain	Plain	Plain	Plain	Plain	Plain	Plain
	7	Plain	Plain	Plain	Plain	Plain	Plain	Plain	2#3@18	Plain
	8	Plain	Plain	Plain	2#3@18	Plain	Plain	Plain	2#3@13	2#3@17
	9	2#3@21	Plain	Plain	2#3@14	2#3@18	Plain	Plain	2#3@10	2#3@14

* See the notes on the next page.

The table shown is based on ACI 332-14 “Residential Code Requirements for Structural Concrete (ACI 332-14) and Commentary” Table 8.2.1.3f modified per ACI 440 “Guide for Design and Construction of Structural Concrete with Fiber-Reinforced Polymer (FRP) Bars”. This table is not valid for Seismic Design Categories D₀, D₁, D₂ or E. All other requirements not shown here shall be in accordance with the International Residential Code 2015.

In addition to the required vertical reinforcement shown in the table above, the minimum horizontal wall reinforcement shall be provided as follows:

MINIMUM HORIZONTAL REINFORCEMENT FOR CONCRETE BASEMENT WALLS

Minimum Horizontal “GATORBAR” Bar Size and Spacing	4 #3 @18 inches spaced equally over the wall height*
* This table uses bundles of #3 BFRP bars instead of #4 bars as required per ACI 332 8.2.5.	

