Calculating quantities for the Catalina Retaining Wall System

Different formulas are utilized to calculate the quantities of block required when designing your projects with the Catalina Wall System. The formulas outlined in the examples listed below are used when incorporating both sizes of stone in your designs. Fifty percent of the block in terms of quantity would be small units and fifty percent would be the large. (Small = 5"H x 10"W x 9" Deep & 26 lbs and Large = 5"H x 15"W x 9" Deep & 45 lbs)

A multiplier of **1.15** is used when only one side of the wall is exposed. These applications would include raised patios, planters, tree-rings, fire pits and gravity retaining walls up to 2.5 feet tall. Taller walls can be constructed with the use of geogrid and proper input from an engineer.

When both sides of the wall are exposed for freestanding wall applications such as seat walls, more material is required and a multiplier of **1.37** is used. Once again, both these multipliers are used when incorporating both sizes of block at a fifty percent split in terms of quantity.

EXAMPLE # 1. 100 sq. ft. retaining wall - 40 ft. long and 2.5 ft. high = 40 x 2.5 = 100 sq. ft.

In this application we use the multiplier of **1.15** because only one side of the wall is exposed when we construct a retaining wall. (1.15 x 100 = 115) To complete this 100 sq. ft. wall we need 115 of the small units and 115 of the large units. Total block = 230.

EXAMPLE # 2. 375 sq. ft. retaining wall – 150 ft. long and 2.5 ft. high = 150 x 2.5 = 375 sq. ft.

In this application, once again we use the multiplier of **1.15** because only one side of the wall is exposed when constructing a retaining wall. (1.15 x 375 = 431.25 rounded up to 432) To complete this 375 sq. ft. wall we need 432 small units and 432 large units. Total block = 864.

EXAMPLE # 3. 375 sq. ft. of retaining wall using the large units only. (5"H x 15"W = **1.92** units per sq. ft.)

This application is very basic, we multiply 375 x 1.92 = 720 large block to build this wall.

To build the same 375 sq. ft. wall in small block we multiply 375 x **2.88** = 1080 small block to build the wall.

The key multipliers in this example are the **1.92 units** per sq. ft. for the Large 15" Catalina and the **2.88 units** per sq. ft. for the Small 10" Catalina Block.

EXAMPLE # 4. Double sided seat wall – 40 ft. long and 2.5 high = 40 x 2.5 = 100. sq. ft.

In this application we use the multiplier of **1.37** because both sides of the wall are exposed when we construct a seat wall. (1.37 x 100 = 137) To complete this 100 sq. ft. seat wall we need 137 of the small units and 137 of the large units. Total block = 274

To summarize, a double-sided freestanding seat wall has both sides of the wall exposed and all blocks must be installed side by side without gaps. For this reason, more blocks are needed and the multiplier of 1.37 is used. On retaining walls the backside of the block is not exposed, fewer blocks are used and the multiplier of 1.15 is applied. Don't forget, both these multipliers are used when incorporating both sizes of block at a fifty percent split in terms of quantity.

Some contractors will want to use other ratios besides the fifty percent split. In these situations, you would not use the 1.15 or 1.37 multipliers. Different formulas would be used based on the ratio or percentage of each block size defined for the project.

On average, 20% more block is used when building a double-sided freestanding seat wall vs. a retaining wall that has only one side exposed. Using twenty percent (.20) as a multiplier is also a quick and easy way to calculate your material. For example, a basic retaining wall 40 ft. long and 2.5 ft. high ='s 100 sq. ft. To build this wall out of the Large Catalina Units you would need 100 x 1.92 = 192 block. To build the same 100 sq. ft. wall as a seat wall you would need 20% more block or .20 x 192 = 39 block + 192 = 231 block total.