

Materials Estimating Guide For Autoclaved Aerated Concrete (AAC) Systems

As a masonry material, many of the traditional estimation criteria used for other masonry materials, also apply to AAC Masonry. Aside from the size, shape and weight of the AAC units, a wide variety of component and accessory items used to construct an AAC system serve similar functions as they do in traditional masonry construction systems.

Standard Sizes:

AAC masonry units are typically available in 8 x 8 x 24 (W x H x L) inch units. Units with widths of 4", 6", 10" and 12" are also available. All material coverage rates are based on an 8 x 8 x 24 inch standard unit. Standard and special units are available with end "handles" and cylindrical reinforcing cores similar to CMU's. These are the rates per block of various material system components.

Setting Mortar:

- Thin-bed mortar – 28 sf of wall area per 20 lb. bag (equates to 21 - 8"x8"x24" block or 42 - 4"x8"x24" block). This is based on a setting thickness of 1/8". Thinner joints will yield greater coverage areas.
- Regular mortar for base course – 35 lf (equates to 17.5 - 8"x8"x24" block) per #70 bag of M, S or N masonry cement. The first course is laid in a full mortar bed. The initial bed joint should take the irregularity of the slab or foundation out of the coursing or elevation equation. The first block course should utilize an 8" high unit. Regular CMU may be used to establish the first course, but if it is not 100% solid CMU, it must be solidly filled with mortar or grout.
- Jumbo units that are 24" high require about half the amount of thin-bed mortar required for 8" high wall units. Bedding area is reduced, but head joint quantities remain constant.

Estimating Masonry Grout:

- AAC Bond Beam units require similar amounts of masonry grout as CMU bond beams.
- An AAC block with a 4" diameter core has a volume of 402 cubic inches. An AAC block with a 3" diameter core has a volume of 226 cubic inches. Therefore, one CY of fine (recommended) or coarse masonry grout will reinforce 825 - 3" cored AAC units or 464 - 4" cored AAC units. This volume does not account for minimal waste or the area occupied by rebar.

Production Rates:

Jumbo (8"x24"x24") units are 20% more efficient to place than 8"x8"x24" units since the larger units cover more area. However, jumbo units weigh three times as much as 8" high units. Because of their higher weight, the use of jumbo units doesn't necessarily guarantee increased production.

Rates of production will vary, as is the case with other masonry wall systems. Items affecting production include unit size, built-in items, weather conditions, unit weight, level of reinforcing, ease of access, and general jobsite conditions. Production rates for AAC could be determined by the known or expected rates of production for various sizes of CMU. Basing AAC production rates in this way should yield 33% more AAC wall erected at the end of a given installation cycle. Given favorable project conditions, even higher rates are possible.

For specific questions regarding AAC, call 1-866-IMI-4AAC.

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