

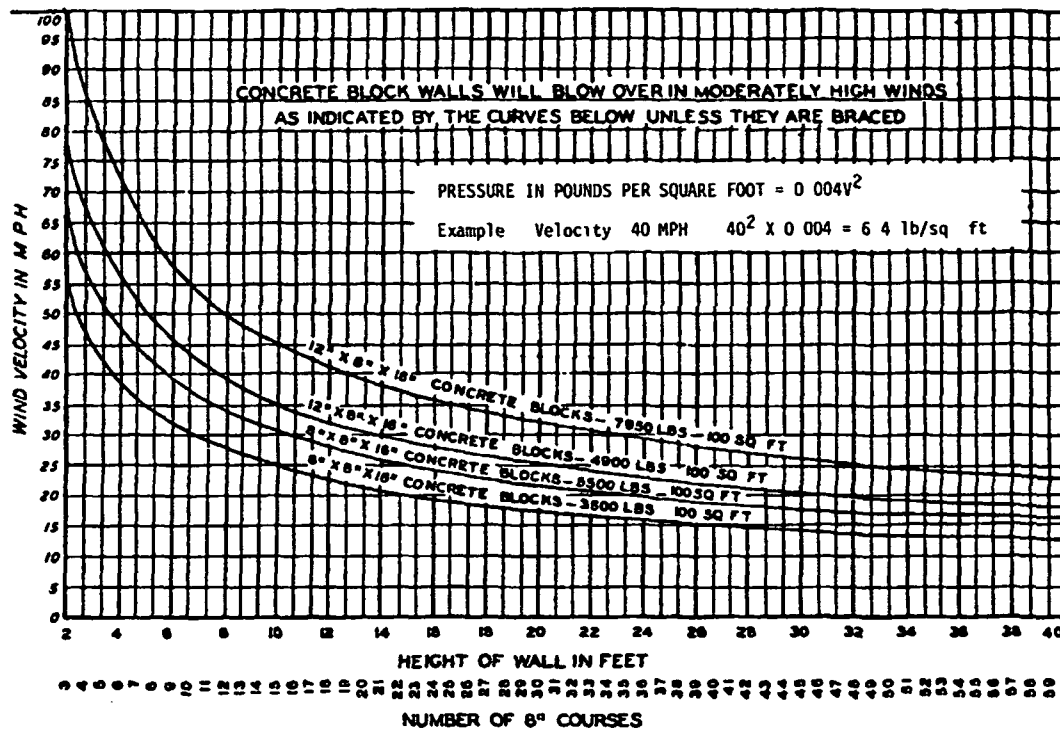


FIG 17-4 - Wind velocities that can be withstood by concrete block walls of varying height

Courtesy The Travelers Insurance Companies

Exterior masonry walls, especially of either load-bearing or nonload-bearing type whatever their height, are subject to wind loads beyond their designed capacity prior to the final set of the mortar or final tie into the structure. These wind loads have caused walls or sections of walls to break off and fall, causing both personal injury (sometimes fatal) and property damage.

Masonry walls should follow the erection of permanently installed structural members so that adequate lateral stability is provided. If this is impossible or impractical, temporary bracing should be placed until structural members can be installed.

Usually the architect will include in his design pilasters as well as the requirements for anchors and ties. Also local building codes require that during erection of walls the proper bracing and supporting shall be provided. The question is, what is proper?

During construction of exterior masonry,

two external forces should be considered—the weight (vertical) and the wind load (horizontal). Because the vertical load is supported by spandrels and relieving angles, the critical consideration is the horizontal load. Protection or bracing for this load must be provided either by screening or by simple shoring.

Codes and other engineering data indicate the thickness and height of walls which will withstand specific wind loads while unsupported. These specifications should be checked against the local wind conditions and bracing provided when required. (See R W Armstrong citation in "References.")

The National Building Code (1967 Edition) requires the following:

During erection masonry walls shall not be built higher than 10 times their thickness unless adequately braced or until provision is made for the prompt installation of permanent bracing at the floor or roof level immediately above the story under construction.