

BURY THE MYTH

There are NO Type I Block in Florida



Due to the High Annual Rainfall and High Annual Humidity in Florida, it is unrealistic to use Type I CMU's throughout the construction project. It is much more realistic to design and detail a project using Type II units. Therefore, to help explain this fact, in 1990 FC&PA issued the flyer "Bury the Myth" which explained this problem and the highlights from it are incorporated herein:

Note:

The basic idea here is to recognize the fact that Florida has high annual rainfall and high annual relative humidity.

Recognizing this fact:

It is recommended that the project should be designed to take into account the shrinkage requirements of ACI 530 which calls for designing for 1/2 of the potential linear shrinkage or 3/16" in 100 lf. See "Note for Engineers".

Florida

There are NO Type I Block in Florida:

- Average Annual Rainfall ... 50 - 65 inches.
- Average Annual Relative Humidity ... 75%



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In May 1990, FC&PA published the following note in the Shapes & Sizes Manual on page 2:

Note: "Please be advised that due to the high rainfall and humidity in Florida, Type I Moisture controlled units Are not available. Control joint spacing and location should be designed utilizing Type II non-moisture controlled units."

Florida Concrete & Products Association Recommendations MAXIMUM HORIZONTAL SPACING OF VERTICL CONTROL JOINTS IN CONCRETE MASONRY WALLS (feet) ¹				
Average Annual Relative Humidity	Wall Location	Vertical Spacing Of Bed Joint Reinforcement (Inches)	Type of Concrete Masonry ²	
			I Moisture	II Non-moisture
Greater than 75%	Exterior	None	26	20
		16	32	26
		8	40	32
	Interior	None	32	26
		16	40	32
		8	46	36

1 Approximate to nearest modular dimension

2 As defined in ASTM C90 Section 3. Classification 3.2.1 and 3.2.2

Note for the Engineers:

Because Type II units are non-moisture controlled, a higher allowance for potential linear drying shrinkage must be used than for Type I units:

Page C-9 Ref 1.8.5.2

1.8.5 Shrinkage
1.8.5.2 Masonry made of Non-moisture controlled
Concrete Masonry Units:

Section 2.1 Notation

K_m : coefficient of shrinkage of concrete masonry

\S = total linear drying shrinkage of concrete masonry units determined in accordance with AASTM C 426

What is a good value for "S" in Florida?

You may want to check with your concrete producer; however, a good general value for \S (for normal weight units—125 pounds per cubic foot or more, oven dry weight for concrete), is 0.032%

Example Coefficient of shrinkage for Type II masonry units:

$$\begin{aligned} K_m &= 0.5 \S \\ &= 0.5 (0.32\%) \\ &= 0.16\% \end{aligned}$$

How much shrinkage in 100 feet?

Potential linear shrinkage for Type II units for 100 inear feet of wall:

$$\begin{aligned} &= 0.016\% (100') (12') \\ &= 0.016\% \times 1200 \\ &= 0.192'' = \text{about } 3/16'' \quad (3/16'' = 0.1875) \end{aligned}$$