



Early Strength of Masonry

A great question that comes up relatively often for shoring, and wall bracing, and other masonry construction inquiries is how quickly masonry gains strength. The common strength requirement for concrete masonry, and similarly for plain concrete, is to require full strength at 28-days.

A simple answer from NCMA is that “masonry gains strength pretty rapidly.”.

Research from NCMA in the early 2000’s, which is not part of the TMS code, states that masonry has more than 50% of its strength at 24 hours after construction completion. That is also the value used in wall bracing guides from NCMA and IMI.

First, concrete masonry units comprise of a large percentage of the overall masonry wall assembly. These units arrive to the job site and are relatively far along the curing process.

Second, when comparing masonry strength to concrete strength, masonry should be ahead of the curve for strength gain in the early stages of construction. A comparison of the two materials is below:

The research from NCMA suggests the following age v strength values:

- Age > 1 day - 50%
- Age > 3 day - 75%
- Age > 7 day - 90%
- Age > 28 day - 100% of final strength, F'm

Understanding the early strengths of masonry is considered to be part of the means and methods of construction, however it is useful for the designers to be aware of these values during their masonry design and project site observations.

