Provided By:

CMHA

CAN I WET CUT MASONRY UNITS? AND HOW WET IS TOO WET?

Yes. Wet cutting of concrete masonry unit (CMU) is permitted. This is explicitly permitted in the *Standard Specification for Masonry Structures TMS* 602 [1]. A masonry unit having 50% or more of its surface area observed to be wet is considered to have unacceptable moisture content and this is included as an industry recommended guidance in CMHA TEK 03-01C [2].

Moisture content of CMU can increase due to rain or other sources. Excessive moisture within a CMU can have various negative impacts such as shrinkage and possible cracking, compromising bond strength between mortar and CMU (for unreinforced masonry), and decrease in mason productivity. CMHA TEK 03-01C, along with the industry recommended guidance for moisture content, outlines a simple field procedure that can be done to determine the moisture content of a CMU. The procedure is used to determine if a unit has less than 50% of surface area wet, or has 50% or more of the surface area wet. The test was developed by CMHA to provide an easy marker to determine if a masonry unit is too wet to be installed. The procedure is done by wetting the surface of a "damped" CMU after which the following observations and conclusions are made:

1) If the surface of the unit is observed to be wet but darkens when the free water is applied, then the unit is considered damp (**less than 50% of the surface area is wet**).

2) Conversely, if the surface of the unit is observed to be wet but does not darken when free water is applied then unit is considered wet (**50% or more of the surface area is wet**).

The Occupational Safety and Health Administration (OSHA) [3] recently issued a rule to limit exposure to respirable crystalline silica, as such, wet cutting of masonry units is one of the acceptable methods prescribed by OSHA to control the release of silica into the air. The rule was made to curb the effects that prolong exposure to silica may have such as, lung cancer, silicosis, chronic obstructive pulmonary disease and kidney disease. The rule became effective on June 23, 2016 mandating different industries to meet **most** of the requirements by various deadlines as follows:

- ***Construction*** – Compliance by June 23, 2017 (one year after effective date)
- ***General Industry and Maritime*** – Compliance by June 23, 2018 (two years after effective date)

Last Revised May 10, 2017

REFERENCES

1. *Specification for Masonry Structures,* TMS 602-16. The Masonry Society, 2016.
2. *All-Weather Concrete Masonry Construction,* TEK 03-01C, CMHA, 2002.
3. OSHA, *OSHA's Final Rule to Protect Workers from Exposure to Respirable Crystalline Silica*. United States Department of Labor, 2016. https://www.osha.gov/silica/

ABOUT CMHA

The Concrete Masonry & Hardscapes Association (CMHA) represents a unification of the Interlocking Concrete Pavement Institute (ICPI) and National Concrete Masonry Association (NCMA). CMHA is a trade association representing US and Canadian producers and suppliers in the concrete masonry and hardscape industry, as well as contractors of interlocking concrete pavement and segmental retaining walls. CMHA is the authority for segmental concrete products and systems, which are the best value and preferred choice for resilient pavement, structures, and living spaces. CMHA is dedicated to the advancement of these building systems through research, promotion, education, and the development of manufacturing guides, design codes and resources, testing standards, and construction practices.

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