

QUOIN CORNER



Masonry & Ceramic Tile Institute of Oregon

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Resiliency or Sustainability or Both

We look at the pictures of the devastation that took place in 2018 and we see very few buildings that resisted the hurricane force winds and the wildfires in California practically destroyed everything in their path. The East Coast of the United States was ravaged by two Atlantic Hurricanes. Hurricane Michael caused an estimated \$25 billion dollars in property damage and Florence was responsible for close to \$24 billion dollars of property loss. Meanwhile, on the West Coast wildfires were creating havoc. The Camp Fire burned more than 153,000 acres in Northern California, near the town of Chico. The fire caused at least 88 fatalities and destroyed more than 18,000 structures, with the town of Paradise being the hardest hit¹. What can we do to protect our property from these disasters?

One way, is to construct buildings that exceed the basic building codes. In Mexico City Beach, Florida, we saw reports from CNN of a house that withstood the damaging winds. The owners said, "They built the house using materials and construction methods that exceeded the building codes". A homeowner, Jeremy Wolf, built his house in the Ojai Valley in California using concrete masonry with the idea that his home could withstand damage from a wildfire. Exceeding the building code, the concrete masonry and other fire resistant materials used to construct the house withstood the test when the "Thomas Fire" came onto his property.

The US Resiliency Council is an organization that looks at the resilience of buildings. Their definition of resilience is, "A measure of how quickly a system recovers from shock". The US Resiliency Council has created a rating system for resilience that helps owners, builders and designers determine how well their project will perform after a disaster. The building's performance is reviewed in three dimensions, Safety, Damage and Recovery. The USRC SAFETY dimension reflects the expected performance of the building in terms of loss of life, injury and egress. The USRC DAMAGE dimension is an estimate of the cost to repair the building, as a percentage of replacement cost (not including the replacement of contents). The USRC RECOVERY dimension is an estimate of the time until a property owner or tenant is able to enter and use the building for its basic intended functions. More about the benefits of the rating system can be found at www.usrc.org².



Devastation of Hurricane Michael
Photo courtesy of the Lee Herald

One of the more prevalent construction concerns is to create buildings that have a low impact on the environment. The US Green Building Council developed a rating system (Leadership in Energy and Environmental Design, LEED) that helped define green buildings. The US Green Building Council states, "LEED provides a framework to create healthy, highly efficient and cost-saving green buildings. LEED certification is a globally recognized symbol of sustainability achievement."

The difficulty is that sustainable buildings are developed to have a negligible impact on the environment- but can these sustainable buildings resist the impacts of the environment? The level of damage and loss of use for LEED®-rated buildings in Hurricane Sandy was significant. The resulting debris and the quantity of resources required to rebuild underscored the need to consider the impact of a building's natural hazard performance and resilience³. According to the Small Business Institute, "25% of small businesses do not reopen after a major disaster. For a building to be truly sustainable, the environment must have little to no impact on it and its occupants' activities before and after a disaster. A sustainable building must be resilient as well."⁴

The use of masonry is one way to meet the needs for resiliency and sustainability. Masonry buildings are energy efficient, especially when considering the benefits of a mass wall. Masonry does not contain volatile organic compounds and is a superior sound deadening material. Recent research suggests that concrete masonry reabsorbs carbon through a process known as "carbonation"⁵. This helps reduce the total carbon foot print of concrete making these products more eco-friendly. Masonry is not damaged by water nor does it decay due to moisture making it a great material to resist flood waters. Concrete masonry is often used to construct tornado shelters. These wind resistant walls are not destroyed by wind borne debris. Masonry is not combustible, it is more than fire-resistant, it does not burn.

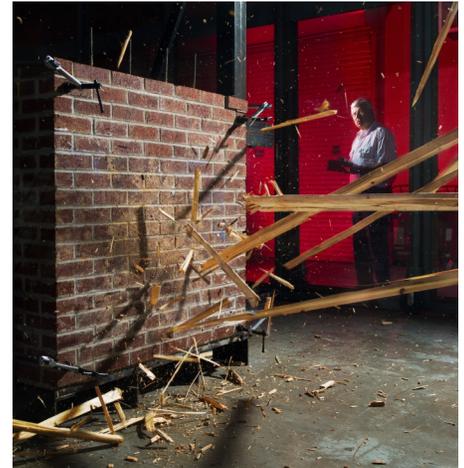
Conditions have changed. Our environment is more unpredictable now more than ever. We need to take charge and demand that our buildings can withstand the reoccurring weather related disasters, as well as meet the demands of sustainability. Masonry can meet both of these demands!

Resources

1. "Assessing US Climate in 2018" National Centers for Environmental Information (NCEI) 2019-02-06
2. "US Resiliency Council" USRC Dimensions and Definitions (<http://usrc.org/rating-definitions>)
3. "US Resiliency Council" USRC_Architects_Brochure.pdf
4. <https://www.bisnow.com/los-angeles/news/commercial-real-estate/buildings-cannot-achieve-sustainability-without-disaster-resistant-infrastructure-construction-experts>
5. "Pacific Northwest Building Resiliency Coalition" Concrete-as-a-Carbon-Sink-Rethinking-Carbon-Sequestration-in-the-Built-Environment.pdf



California's deadliest wildfire "The Camp Fire"
Photo courtesy of
Accuweather.com



Testing the impact resistance of masonry
Photo courtesy of Texas Tech University
National Wind Institute



Resilient concrete masonry home

Ceramic Tile Creates Healthy Spaces



Ceramic Tile is often thought of as only a flooring material, but it can be used in so many more places. Tile is used as counter tops, backsplashes and shower walls to mention a few. One of the benefits that is often overlooked when using tile in all these applications is that you are creating a healthy space.

Ceramic Tile is naturally inert and resistant to dust and other harmful pollutants that are known to cause a variety of health problems.

Concerned about allergies and asthma? Unlike other surfaces, tile is both hard and impervious, meaning it's inhospitable to dust mites, bacteria, fungi, mold and other irritants.¹

Since tile is manufactured at temperatures that reach up to 2500 degrees F, it's inherently inorganic, emitting zero VOCs. VOCs – emitted by virtually all other types of flooring – are harmful gases that can cause headaches, nausea, and nose, eye and throat irritation. VOC emissions are also a leading cause of "sick building syndrome."²

Since tiles are solid, they don't contain the binders common to other surfaces – binders like formaldehyde, often found in products containing medium-density fiber board, plywood and particle board. Why is formaldehyde a problem? It is known to lead to an increased incidence of asthma, particularly in children and the elderly – to the point that it has been federally restricted under the Formaldehyde Standards for Composite Wood Products Act.³

Tile flooring is also free from PVC, a resin commonly used in other surfaces to improve mechanical flexibility and heat stability. PVC contains phthalates and organotin, both regularly a subject of concern and discussion among health experts.⁴

The more places that you use Ceramic Tile, the healthier the space!

Resources

1. <https://whytile.com/healthy-spaces/> zero allergens
2. <https://whytile.com/healthy-spaces/> zero vocs
3. <https://whytile.com/healthy-spaces/> zero formaldehyde
4. <https://whytile.com/healthy-spaces/> zero PVC





Masonry & Ceramic Tile Institute of Oregon Annual Golf Tournament

Friday July 26, 2019

7:45 am Shotgun Start

Langdon Farms Golf Club

24377 NE Airport Road

Aurora, OR 97002

We are looking forward to another successful event and we need your participation to make it happen. Play will be a Four Person Scramble. We will have contests that include long drive, longest putt, closest to pin and a putting contest. As well, a special contest "Beat the Pro" with all the proceeds benefiting the American Cancer Society. There will be cash prizes for the winners and you will want to stick around for the catered barbecue lunch. Not only will you enjoy great food, this is when we will draw the winners of the raffle prizes. Sign up today and plan on enjoying a fun filled day.

Cost is \$100 per golfer

Put together your foursome today. You can register by contacting Harold Friberg at harold@mioctio.org or 503.354.7309 or online at mf-masonryceramictileinstitute.golfgenius.com

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Upcoming Events

13th North American Masonry Conference

June 16-19, 2019

Salt Lake City, UT

URM Seismic Resilience Symposium

July 18-20, 2019

Portland, OR

National Concrete Masonry Association Midyear Meeting

August 6-9, 2019

Seattle, WA

Mason Contractors Association of America Midyear Meeting

September 8-11, 2019

Omni Mount Washington Resort, NH

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