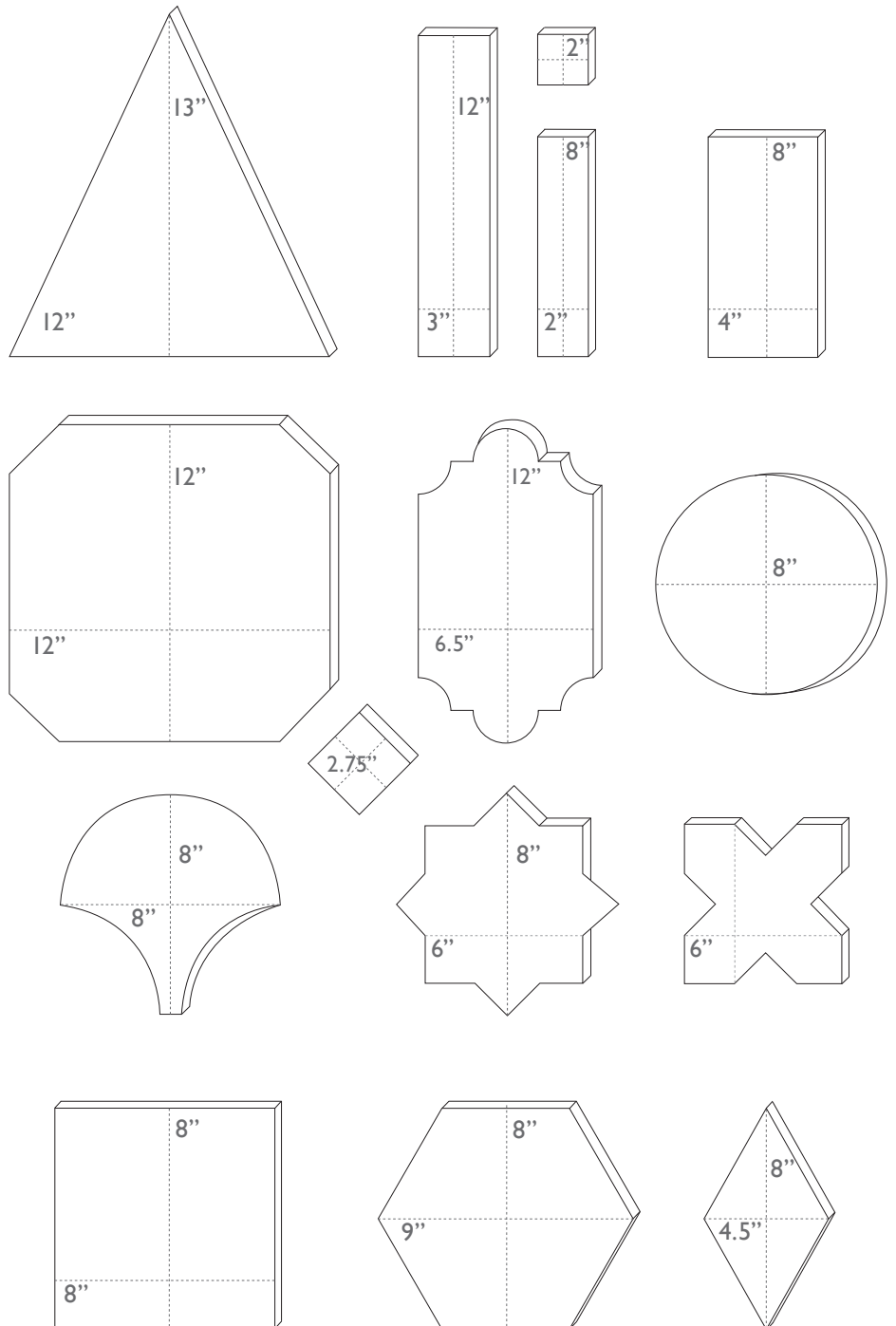


# ENCAUSTIC CEMENT

	USAGE
interior floor & wall	Y
exterior floor & wall	Y *
residential low traffic	Y
residential high traffic	Y
commercial low traffic	Y
commercial high traffic	Y
radiant heating compatible	Y
fireplace surround	Y
shower	Y
steam shower (resealing yearly)	Y
fountain	N
freeze thaw	Y **
pool	N
heat resistant	Y
backsplash	Y
grout type	unglazed
grout joint size	1/16"
UV resistant	Y ***



standard thickness for cement under 12"x12" is 5/8". standard thickness for cement over 12"x12" is 3/4". please note thickness can vary plus or minus 1/4".

- \* requires weather flashing (exterior wall only) and waterproof sealant
- \*\* with application of waterproof, penetrating sealant
- \*\*\* black, dark blue, purple and green colors will fade in direct sunlight



# CEMENT RESOURCES—TRADE

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## INSPECTING YOUR SHIPMENT

- All cement tiles are made by hand, therefore variations in thickness, color, shade and pattern is to be expected.
- 2-4% tile breakage to be expected. We highly recommend ordering 15% overage.
- Irregular or chipped edges and cracked surfaces are normal.
- Dust and residue from shipping should be cleaned prior to installing.

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## INSTALLATION

- We strongly recommend having a professional with cement installation experience install your tile.
- Refer to the current edition of the TCNA Handbook for detailed installation methods for your project's needs.

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## SEALANT

- All cement installations are required to be sealed - especially showers, steam showers, backsplash and residential & commercial low/high traffic areas and exterior walls & floors.
  - We only recommend the use of Miracle 511 Porous Plus for an invisible, waterproof seal.
  - For heavy traffic commercial installations or areas susceptible to grease build-up we recommend three to five coats of Miracle Mira Matte top-coat sealant in addition to sealing.
  - Always test sealers in a small area to ensure it provides the finish you prefer.
  - If water and oil drops bead up on the surface of the tile after they have been sealed according to manufacturer's instructions, your tiles are properly sealed.
  - If your contractor is having any issues or questions regarding this sealant, please have them reach out to Miracle directly, as they are the best and fastest line of resolution.
  - PLEASE FOLLOW ALL MIRACLE SEALANT INSTRUCTIONS FOR BEST RESULTS as well as MAINTENANCE UPKEEP RECOMMENDATIONS.\*
- \* **HINT:** if water or oil does not bead up on the surface of your tiles then the sealant was not applied properly.

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## GROUT

- We **ONLY** recommend Mapei Flexcolor CQ grout to reduce the risk of grout haze and staining. Make sure to always follow the manufacturer's instructions. Letting the grout sit for even a short period of time can be problematic.
- We recommend 1/16" grout joint for all cement tiles.
- If your contractor is having any issues or questions regarding this grout, please reach out to Mapei directly at 1-800-992-6273 as they are the best and fastest line of resolution.

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## STAINING

- Staining is only a problem when using a grout other than Mapei Flexcolor CQ grout.
- Should your contractor choose to use another brand of grout other than Mapei Flexcolor CQ, be aware that the dyes used to pigment most grouts will stain cement tile.
- If your contractor opts to use a different grout or sealant brand we are not able to provide advice on failures.
- **IMPORTANT:** During grout application, immediately remove any excess grout off the face of the tile with a clean, damp cloth/sponge. If grout is allowed to cure on the face of the tile it could cause grout haze and staining due to the porous nature of cement tile.

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## MAINTENANCE

- Topical sealants will require periodic stripping and resealing - please refer to a professional for this.
- Single coat reapplication of the penetrating sealant is required once a year in shower applications due to the continuous exposure to water. Reapplication is needed more often if installation is in a steam shower. Please refer to a professional for this.
- Check with the Miracle Sealant tech support for best advice on maintaining sealants.

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## CLEANING

- Immediately clean up spills - do not allow liquids to sit on tile surface. Excess liquid can stain, pit and crack tile.
- Vacuum or sweep regularly - abrasive dirt and materials can scratch the surface.
- Non-slip mats or area rugs should be placed inside and outside entrance ways to remove abrasive materials that can scratch and dirty the tile surface.
- Mop floors regularly with warm, clean water and pH neutral cleaner.
- Interior wall installations can be cleaned with warm water and damp microfiber cloth.
- Shower and steam shower wall installations should be squeegeed after each use to prevent hard water stains, soap scum and mildew.
- Always avoid harsh chemicals and acidic or alkaline products.

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## CEMENT RESTORATION

- Should your cement tile installation start to show signs of staining, distressing and/or wear and tear, they can be refinished—similar to how stone and hardwood floors can be refinished to renew the surface.
- Wet sanding should be performed by a proficient handy person or floor refinisher.
- The colored top layer of cement tiles are very hard and can withstand periodic refinishing.
- When followed correctly, the result will be a gentle removal of a micro-layer exposing a like-new pigment surface

**The following tips should only be performed by licensed tile/stone refinishers**

- Refinishing requires an orbital sander buffer with a 400 grit wet/sandpaper, two buckets of clean water & two clean towels.
- Find a test area and use one bucket and towel to douse water onto tile surface to act as a lubricant.
- Use the orbital sander to sand area, stopping and wiping the sanded tile with the other towel immediately until you have successfully removed micro-layer off of the top surface.
- **IMPORTANT:** You must immediately clean the resulting pigment slurry - failure to do this while sanding will result in grout/sanding slurry staining the surface of the tile.
- If test area is successful, proceed to sand the rest of the installation.
- Once you have successfully stripped the surface, you must reseal tiles using previous Miracle Sealant products and manufacturers instructions.

# CEMENT TILE SPECIFICATIONS

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What's in our tile: Our encaustic cement tiles do not use kilns or other firing processes, therefore no fossil fuels are burned during production. Instead they are processed in a way that allows them to be free of energy costs involved in the firing process of ceramic tiles. They are created using basic earth components - natural pigments mixed with ground marble dust, white portland cement and sand. Instead of firing, our cement tiles are made by pouring the materials into a mold, then being hydraulically pressed and stacked in a water bath to cure. The end result is a durable, safe and long lasting tile.

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## COLOR AND TEXTURE VARIATION

Cement tiles are rated V2 (slight variation) / T1 (smooth)

Due to the handmade craftsmanship of many of our tiles and the variety of materials used, there are degrees of variation in our tiles color, shade and texture. These differences are more pronounced in certain types of tiles than others, especially in tiles from separate production lots, or "batches".

The following is a guide for the different degrees of variation that we have assigned our tiles:

### COLOR VARIATION

- V1** low variation
- V2** slight variation
- V3** medium variation
- V4** heavy variation
- V5** extreme variation

### TEXTURE VARIATION

- T1** smooth
- T2** light texture
- T3** medium texture
- T4** heavy texture

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## FLOOR RATING

Cement tiles are rated IV

(can be used for light residential to heavy commercial foot traffic)

- I** Light Residential (powder room, bathroom floor, dining room, bedrooms, etc.)
- II** Heavy Residential (entry way, laundry room, kitchen, mudroom, hallway, stairs, etc.)
- III** Light Commercial (boutique, health offices, etc.)
- IV** Heavy Commercial (hotel lobby, retail, office building, shopping mall, restaurant, etc)
- V** Industrial (restaurant kitchen, bar work area, winery production, exterior hotel entry, airport, car showroom, driveway, etc)

PRODUCT DESCRIPTION	Hydraulic pressed handmade cement tiles.																								
PRODUCT COMPONENTS	<p>Wear colored layer: 3 to 4 mm +/- thickness affixed to the tile body by 1,700 PSI mechanical pressure, composed of: white portland cement, marble dust and mineral pigments for color (oxides and organic)</p> <p>Tile Body: 12 mm +/- in thickness, composed of gray portland cement &amp; sand</p>																								
DIMENSIONS	<table border="1"> <tr> <td><b>Rectangle</b></td> <td>5 cm x 20 cm x 1.6 cm (2" x 8" x 5/8") / .34 kg per tile (.75 lb) 10 cm x 20 cm x 1.6 cm (4" x 8" x 5/8") / .68 kg per tile (1.5 lbs) 7.6 cm x 30.5 cm x 1.6 cm (3" x 12" x 5/8") / .77 kg per tile (1.7 lbs)</td> </tr> <tr> <td><b>Square</b></td> <td>20 cm x 20 cm x 1.6 cm (8" x 8" x 5/8") / 1.36 kg per tile (3 lbs)</td> </tr> <tr> <td><b>Diamond</b></td> <td>11 cm x 20 cm x 1.6 cm (4.5" x 8" x 5/8") / 1.36 kg per tile (3 lbs)</td> </tr> <tr> <td><b>Hexagon</b></td> <td>20 cm x 23 cm x 1.6 cm (8" x 9" x 5/8") / 1.36 kg per tile (3 lbs)</td> </tr> <tr> <td><b>Octagon</b></td> <td>30 cm x 30 cm x 1.9 cm (12" x 12" x 3/4") / 2 kg per tile (4.5 lbs)</td> </tr> <tr> <td><b>Circle</b></td> <td>20 cm x 20 cm x 1.6 cm (8" x 8" x 5/8") / .91 kg per tile (2 lbs)</td> </tr> <tr> <td><b>Scallop</b></td> <td>20 cm x 20 cm x 1.6 cm (8" x 8" x 5/8") / .68 kg per tile (1.5 lbs)</td> </tr> <tr> <td><b>Triangle</b></td> <td>30 cm x 33 cm x 1.9 cm (12" x 13" x 3/4") / 1.59 kg per tile (3.5 lbs)</td> </tr> <tr> <td><b>Lantern</b></td> <td>30 cm x 16.5 cm x 1.6 cm (12" x 6.5" x 5/8") / .91 kg per tile (2 lbs)</td> </tr> <tr> <td><b>Star</b></td> <td>20 cm x 17.7 cm x 1.6 cm (8" x 6" x 5/8") / .82 kg per tile (1.8 lbs)</td> </tr> <tr> <td><b>Cross</b></td> <td>15 cm x 15 cm x 1.6 cm (6" x 6" x 5/8") / .45 kg per tile (1 lbs)</td> </tr> <tr> <td><b>Bouchon</b></td> <td>7 cm x 7 cm x 1.6 cm (2.75" x 2.75" x 5/8") / .17 kg per tile (.38 lbs)</td> </tr> </table> <p>* Please note all dimensions are nominal and can vary plus or minus 1/4 inches.</p>	<b>Rectangle</b>	5 cm x 20 cm x 1.6 cm (2" x 8" x 5/8") / .34 kg per tile (.75 lb) 10 cm x 20 cm x 1.6 cm (4" x 8" x 5/8") / .68 kg per tile (1.5 lbs) 7.6 cm x 30.5 cm x 1.6 cm (3" x 12" x 5/8") / .77 kg per tile (1.7 lbs)	<b>Square</b>	20 cm x 20 cm x 1.6 cm (8" x 8" x 5/8") / 1.36 kg per tile (3 lbs)	<b>Diamond</b>	11 cm x 20 cm x 1.6 cm (4.5" x 8" x 5/8") / 1.36 kg per tile (3 lbs)	<b>Hexagon</b>	20 cm x 23 cm x 1.6 cm (8" x 9" x 5/8") / 1.36 kg per tile (3 lbs)	<b>Octagon</b>	30 cm x 30 cm x 1.9 cm (12" x 12" x 3/4") / 2 kg per tile (4.5 lbs)	<b>Circle</b>	20 cm x 20 cm x 1.6 cm (8" x 8" x 5/8") / .91 kg per tile (2 lbs)	<b>Scallop</b>	20 cm x 20 cm x 1.6 cm (8" x 8" x 5/8") / .68 kg per tile (1.5 lbs)	<b>Triangle</b>	30 cm x 33 cm x 1.9 cm (12" x 13" x 3/4") / 1.59 kg per tile (3.5 lbs)	<b>Lantern</b>	30 cm x 16.5 cm x 1.6 cm (12" x 6.5" x 5/8") / .91 kg per tile (2 lbs)	<b>Star</b>	20 cm x 17.7 cm x 1.6 cm (8" x 6" x 5/8") / .82 kg per tile (1.8 lbs)	<b>Cross</b>	15 cm x 15 cm x 1.6 cm (6" x 6" x 5/8") / .45 kg per tile (1 lbs)	<b>Bouchon</b>	7 cm x 7 cm x 1.6 cm (2.75" x 2.75" x 5/8") / .17 kg per tile (.38 lbs)
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AVERAGE COEFFICIENT OF FRICTION (DCOF ACUTEST)	"Wet Dynamic Coefficient of Friction" (DCOF) / The DCOF measurement on the standard tile after testing was 0.74, within the required range.																								
FREEZE/THAW RESISTANCE (ASTM C1026)	Like concrete, untreated cement tiles are not resistant to freeze/thaw cycles and should be protected with penetrating sealer as well as a top coat sealant. Weather flashing should be used for exterior walls.																								
WATER ABSORPTION (ASTM C373)	avg. 10.9%; non-vitreous																								
ACID RESISTANCE	Cement tiles are not resistant to acids and should be cleaned with pH neutral cleaners.																								

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LEED CREDITS

The product is an inherently non-emitting source of VOCs (stone, ceramic, metals, powder-coated metals, plated or anodized metal, glass, cement, clay brick, and unfinished or untreated solid wood) and has no integral organic-based surface coatings, binders, or sealants.

Our cement tiles are considered 'inherently non-emitting sources' under the Low-emitting Materials Credit of LEEDv4/v4.1, but our current pre-seal offering is not compliant with LEED. Because we offer them finished in a pre-polish & pre-seal format to support stain resistance, we would recommend ordering them without the sealant, in the pre-polish format only, in order to qualify for the Low-emitting Materials Credit.

'Inherently non-emitting' means that these tiles types have been shown to not contribute emissions to indoor environments and are therefore exempt from demonstrating compliance with CDPH v1.1-2010 or CDPH v1.2-2017.

Use of these tiles as Wall or Flooring materials should be entered in the LEED v4.1 low-emitting materials Calculator and identified as 'inherently non-emitting' in the Products Tab (Column L).

Disclosures for MR Credit Material Ingredient Disclosures under LEEDv4/v4.1, are not available at this time. We are exploring our disclosure options and hope to have these available Q1/Q2 of 2020.

Disclosures for MR Credit Environmental Product Declarations under LEEDv4/v4.1, are not available at this time. We are exploring our disclosure options and have not established a timeline for completion.

Contribution to MR Credit Material Sourcing under LEEDv4/v4.1, does not apply as there is no recycled content, no bio-based materials, no wood, no reused products included in our tile at this time. Extended producer responsibility programs are highly difficult to manage given the nature of end-of-use tile removal methods. Tile can last hundreds of years but fashions often change, which is the dominant reason for its removal. We work hard to ensure our cement tiles can withstand the tests of time while remaining timeless.

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RECYCLED CONTENT

There is no recycled content in our cement tiles at this time. See Material Sourcing disclosure above.

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PERCENTAGE OF PRE-CONSUMER  
AND/OR POST-CONSUMER MATERIALS

There is no pre-consumer or post-consumer material content in our tiles at this time. See Material Sourcing disclosure above.

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FIRE RATING

We currently do not have fire testing results from a 3rd party testing lab for our cement tiles. Please reach out if there is a specific standard or code you are looking at that has a requirement.

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WET AREA APPLICATION

Cement tiles can be applied in wet areas like a bathroom, shower or steam shower only if specific waterproofing precautions are taken:

- Cement tiles can be used on shower floors and walls in residential settings only if a waterproofing, penetrating sealer (Miracle Sealants 511 Porous Plus) is used to seal the tiles and grouted areas.
- Single coat reapplication of the penetrating sealant is required once a year in shower applications due to the continuous exposure to water. Reapplication is needed more often if installation is in a steam shower. Cement tiles are not recommended for submerged use (pools or fountains).