



**1. PRODUCT INFORMATION**

Product Name: TerraTile Mission Series Tile

Fired clay pavers and fired clay accessories are manufactured to enable the user to build horizontal surfaces providing both functional and decorative features.

**2. Composition/Information on Ingredients**

Contains: The fired clay products manufactured for TerraTile by Vietnamese Ceramic JSC, from a mixture of various natural clays and special additives, offer the properties of high density, low porosity, chemical and abrasion resistance and high compressive strength. These fired clay products are manufactured at the Vietnam factory. The composition of the fired clay products is a mixture of complex metal oxides combined in a glass-like matrix, which is practically chemically inert.

Typical physical and chemical characteristics of the fired clay products are as follows:

**Physical Characteristic**

<b>Bond Strength</b>	Greater than 50 psi standard
<b>Warpage</b>	Meets 1% standard allowed on any edge
<b>Thickness</b>	Meets .04" standard allowed
<b>Water Absorption</b>	7% range.
<b>Wedging</b>	Meets 1% standard allowed
<b>Breaking strength</b>	Meets or exceeds 250 lbs. standard
<b>Modulus of Rupture</b>	Exceeds 2000 psi (no standard)
<b>Coefficient of friction</b>	Meets 0.6 recommended wet standard
<b>Facial size variation</b>	Meets 3% standard variance
<b>Surface Hardness</b>	Measured on MOHS Scale Typical 6 range

\* Please note that the above figures are results for batch mean

**Durability:** Unaffected by frost and freeze-thaw cycles

**Chemical Resistance:** Fully resistant to an extensive range of inorganic corrosive chemicals.

**Chemical Analysis**

<b>Chemical Characteristic</b>	<b>Typical % by weight</b>
Silica	64.7
Alumina	21.0
Ferric Oxide	1.9
Magnesia	0.8
Potash	2.4
Titania	0.8
Soda	0.5
Lime	0.3
Iron Oxide	0.1



### **3. Hazards Identification**

- Respirable dust containing quartz and cristobalite can constitute a long-term health hazard if inhaled in excessive quantities over extended periods.
- When tested in accordance with the recommendations of the Medical Research Council the respirable quartz concentrations of the Norco Industrial Tiles were below the occupational exposure standard of 0.1 mg/m<sup>3</sup>.
- No cristobalite was present in any of the dust.
- Contact with fired clay products can cause cuts and abrasions and surface dust could cause minor irritations.

### **4. First Aid Measures**

**Eye Contact:** Hold eye open and flush with plenty of water.

**Inhalation:** In case of inhalation of dust move the patient to fresh air and seek medical attention.

**Skin Contact:** Remove product and clean affected area with a sterile wipe. Dress if required.

### **5. Fire Fighting Measures**

Fired clay products are not flammable and will not facilitate combustion with other materials.

### **6. Handling and Storage**

- Fired clay products are delivered strapped in cardboard end-cap packs on wooden pallets.
- The recommended method of off-loading from vehicles is by a mechanical means, at the same time ensuring all lifting apparatus and vehicles are capable of lifting the product within their working capacity.
- Care must be taken when placing packs into position to avoid dropping and banging.
- When using hand off-loading methods, follow safe lifting methods and procedures to avoid personal injury.
- Do not slide or throw the product.
- All products must be stored on a level, hard surface and not on slopes or soft ground.
- When stacking products on top of each other care must be taken to use safe lifting procedures and to ensure the stability of the stack.
- When placing our products on your own pallets ensure the pallet is large enough, strong enough and not damaged. Fired clay products are heavy.
- Before removing our pallet wrapping ensure that the contained products are safe and will not fall over. Temporary supports may be necessary. When removing end-caps, use the appropriate tools and wear protective gloves.
- Store product in-groups of sizes, type and color.
- Avoid unnecessary moving of products.
- Keep products covered wherever possible.
- Should the products have become wet during storage or cutting, they must be fully dried prior to use.



## **7. Exposure Controls/Personal Protection**

**Eye Protection:** Wear protective goggles/glasses or face protection when cutting.

**Hand Protection:** Wear suitable gloves. Type B should be worn.

**Skin Protection:** Suitable clothing

**Technical protective measures:** No special measures required.

- Inhalation of any dust produced from the cutting or grinding of the products should be avoided. Dust mask should be worn in enclosed spaces where the handling or further processing of fired clay products is taking place. Eye protection should be worn when cutting or grinding the products.
- Avoid direct skin contact and wear protective gloves when handling the product.
- Always follow correct safe lifting procedures.

## **Physical and chemical properties**

**Appearance:** Off white

**Flammability:** Not applicable

**Odor:** Not applicable

**Particle size:** Not applicable

**Solubility in water:** Insoluble

## **9. Disposal Considerations**

- Fired clay products and associated packing are inert but should be disposed of in accordance with local regulations.
- Fired clay products will not give off harmful fumes if subjected to heat.
- Timber pallets, when burnt, give off mainly carbon monoxide and water plus a small amount of various hydrocarbons.
- If the product was imported it may have been fumigated in accordance with local quarantine laws (check import documentation). If the consignment was fumigated the wooden pallets must not be used for burning applications such as fireplaces and barbecues because the fumigant (e.g. Methyl Bromide) will give off potentially poisonous gases.
- Shrink-wrapped film will pyrolyse oxidatively to produce carbon dioxide, carbon monoxide and water plus a small amount of various hydrocarbons and aldehydes. The involved gases may ignite and provide heat that will accelerate the pyrolysis and allow combustion of more polythene and other combustible material in the vicinity. Burning of the film is accompanied by the release of flaming molten droplets of polymer that could ignite adjacent flammable materials. Care must be taken to avoid skin contact with molten polymer or heated polythene, otherwise burning of the skin will result. These comments cannot be of a more precise nature because conditions in a real fire situation can never be fully predicted.
- Should a fire involving the packaging material occur any available fire extinguisher might be used to extinguish the fire providing the fire is limited to the packaging material. It is unlikely the packaging materials will be the only factor in a total fire situation and other materials may induce particular hazards. All possible should be done to avoid inhalation of the fumes given off by the fire and, in particular, smoke created during fire fighting operations.



## MATERIAL SAFETY DATA SHEET (cont.)

### 10. Transport Information

Fired clay products and their associated shrink-wrapping and timber pallets are not subject to hazardous substance conveyance regulations and vehicle labelling is not required.

### 11. Other Information

Although data in this MSDS is based on information of this moment and are believed reliable, we cannot assume any responsibility for the use thereof, nor do we accept any liability for loss or damages directly or indirectly caused by our product. It is the users responsibility to check the safety, quality and all properties of this product prior to use, particularly where use is other than as recommended in our Technical Data Sheet.