



# ENCAUSTIC HANDMADE CEMENT TILES FROM VIETNAM

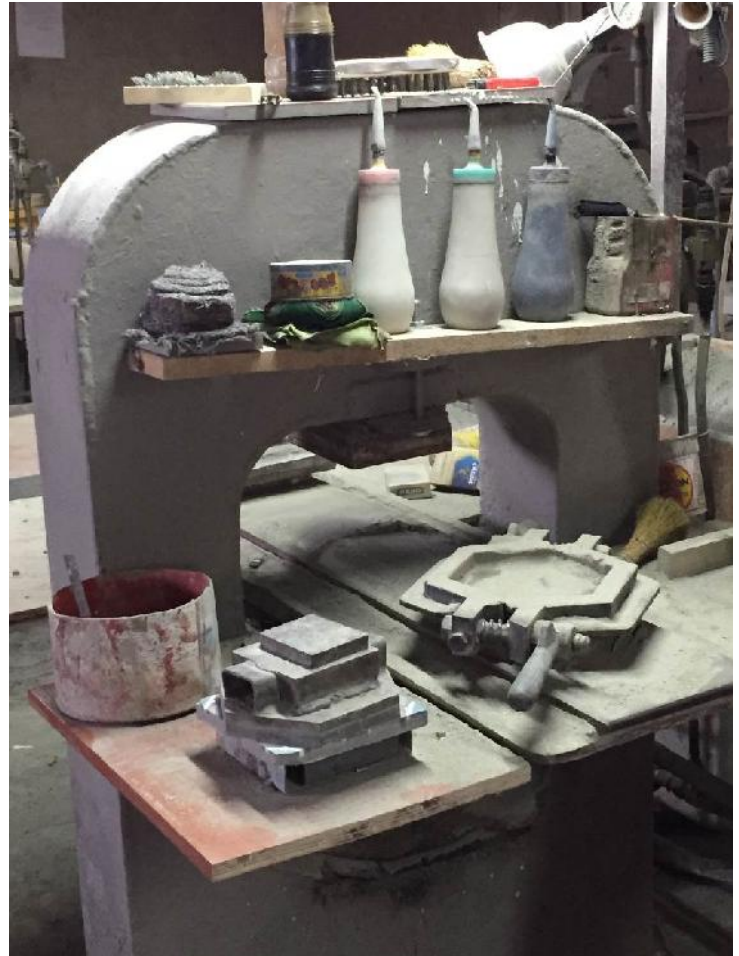




## STORY ABOUT CEMENT TILES

VST Materials JSC., is now running 3 factories of Encaustic Handmade Cement Tiles in the North and the South of Vietnam which are located conveniently nearby 2 biggest seaports (Hochiminh Port in the South and Haiphong Port in the North) to create one of the Biggest producer in Vietnam. Counted from Parent time since 1970s till now, VST family has exported its Encaustic Handmade Cement Tiles to over 34 countries in 4 Continents mainly to EUROPE and NORTH AMERICAS Countries.

Cement tiles are said to be appeared since 19th century in Spain and very soon, they were exhibited in France. Right after that, they became very popular in Europe, then America and were considered a high-end floor covering later on. They had been used in thousands of landmark public buildings and palaces around the world. Cement tiles are made by hands, one at a time, using mineral pigments, cement, a mold and a hydraulic press machine; Colorful patterns of cement tiles can be customized. They are expected to have slight imperfections which give them character and depth...



All of those aspects have made cement tiles special luxury building material. Nowadays, they are known throughout worldwide as “Encaustic Handmade Cement Tile” and used in either interior or exterior areas.

Very soon right after being found, in 1858, French came to Vietnam, they also brought techniques and equipments to produce cement tiles to Vietnam. Being handmade products, labors play the most important factor of this production while Vietnamese people are always acknowledged clever, skillful and hardworking. Therefore, Encaustic Handmade Cement Tiles could be known as the tradition of Vietnam. People can easily find in Vietnam many hundred-year houses or buildings or palaces, villas... with floors remaining luxury beauties such as Hochiminh Post office, Saigon Notre-Dame Cathedral..





Encaustic Handmade Cement Tiles are made of natural materials with 3 layers:

- The first layer (or colored and patterned layer) is about 3-4mm of thickness including pigments and friendly environmental additive to make colors sustainable and sharp as well as waterproof. This additive also protects tiles from stains caused by coffee, tea or other strong-stained factors.
- The second layer (very fine dried powder made from cement and filtered sand) is just about 1-2mm thickness to make first layer dried enough to guarantee the beauty of patterns and colors on top without any defect.
- The third layer (grey) is hydraulically pressed to surface of tile being a part to strengthen the tiles from the ordinary materials such as cement, aggregate and fine sand. It is about 10mm thick.

We do not use clay and fire, so no agricultural land and energy is consumed during the production.

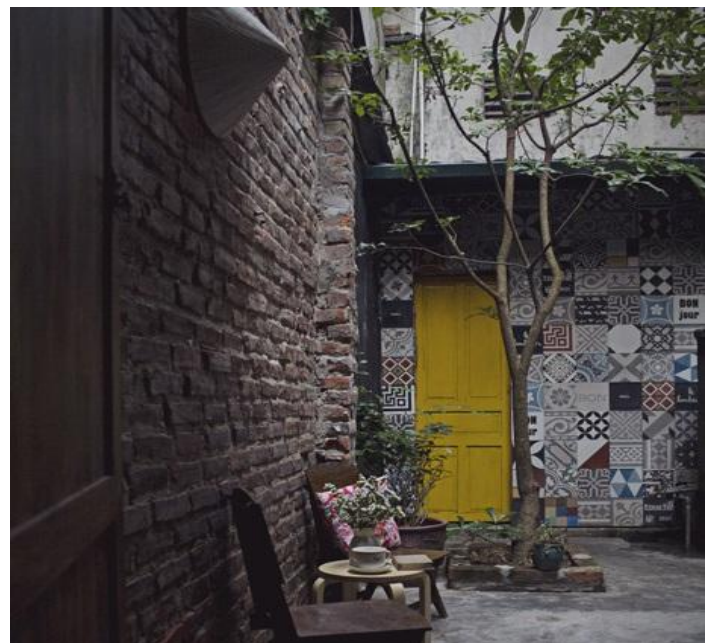
Besides, they're also produced under traditional way of manufacturing by our skillful craftman who have been handcrafting cement tiles for Generations.



Nowadays, Encaustic Handmade Cement Tiles have often been using in high grade and luxury buildings, restaurants, hotels or even in cottages in countrysides to create antique and unique looks.



VST Cement tile in Nagoya, Japan



VST Cement tile in Old Quarter, Hanoi

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## HOW TO MAKE

**Step 1:** Testing colors (in case of new colors requested by clients) for matching and preparing copper divider molds as well as pressing molds based on order requests. This step will determine size of tile and quality of top layer of cement tile.



**Step 2:** Insert divider mold into pressing mold. Then pouring the prepared colors into the pattern divider chambers as designs.



**Step 3:** The pattern divider to be removed and then the first coat will be covered with another two layers of dried mortars and humidified one as basement. This step requires special technique to guarantee same thickness for every tile.





**Step 4:** Put whole mold into hydraulic pressing machine for a while.



**Step 5:** The tiles to be removed from molds carefully by the craftsman, then tile is inspected carefully for desired quality by himself before leaving for next steps.



**Step 6:** After curing in clean open air areas, tiles will be cured in water tanks for hardenning.



**Step 7:** The tiles will be cleaned and taken out to cooling rooms and put on drying racks for 3-4 days for being dried enough (less than 17% humidity) before waxing and packing in carton boxes for packing and loading. A serious quality control on every piece will be conducted in this step.



## INSTALLATION

The installation process is very simple and rapid to accomplish. However, great care should be taken so as not to damage tile surfaces and edges during installation process.

**Step 1:** Prepare a perfectly level concrete surface to install cement tiles. It is not recommend to lay down the cement tiles directly on a fresh concrete or a layer compacted cement/sand. Over time, this incorrect technique will create uneven floor tiles that could easily become loose, crack or break. Be mind to calculate 20mm below the line of the intended floor height (15mm for 20x20 tiles and 4mm for mortar).

**Step 2:** The tiles can be installed by using either glue/adhesive or thin mortar layer bed. To have a good adherence of floors:

- Submerge tiles in a water basin before the installation.
- It is necessary to trowel glue or mortar on both surfaces of leveled surface and at back of tiles by using a toothed paint scraper.



**Step 3:** Laying tiles down. This step must be carefully handled to avoid of chipping out on edges. After laying the tiles, level tiles on floors by construction ruler and hands NOT rubber hammer to avoid of cracks. It is important to leave a very small gap (about 1mm) between the tiles.





**Step 4:** Immediately cleaned on the surface with humid cloths the exceeding adhesive cement on tile surfaces or edges. Otherwise such kind of stains will be very difficult to be removed later on, then leave the floors untouched and protected until the mortar to be dried naturally enough before grouting.



**Step 5:** Fulfill the joints by grouting liquid. Color of this liquid should be white for the most suitable in any case. Other colors can be used on owner preference. Remove all excessive grouting materials before it is dried.



**Step 6:** Wash the floors with soap and clean water and leave floors dried completely, then apply suitable penetrating sealer from qualified manufacturers to have the most expecting floor finishes. It is strongly suggested to test sealer with one single tile before apply the whole floor.



**Step 7:** Depending on traffic frequency, repeat this sealing process every 12-24 months.

## TIPS

- Encaustic cement tile is handmade product and made from natural materials so the tiles are subject to contain color variations. It is necessary to check tiles randomly before installation to have better distribution of tiles between laying areas to achieve the most uniform floors.
- Take care to align the tiles so that a regular pattern is maintained throughout the floor
- There will be some calcareous spots on tile surfaces as character of cement tiles to be naturally caused by reaction between chemical factors in cement and water. Those spots will be disappeared automatically from 1 to 2 months afterward of using
- Don't leave any space among the squares. Adjust the squares to form the design well
- A good leveling of your ground will facilitate its polishing.
- Ensure that the tiles are perfectly level throughout the installation, because cement tiles can't be reduced or water polished like marble or terrazzo.

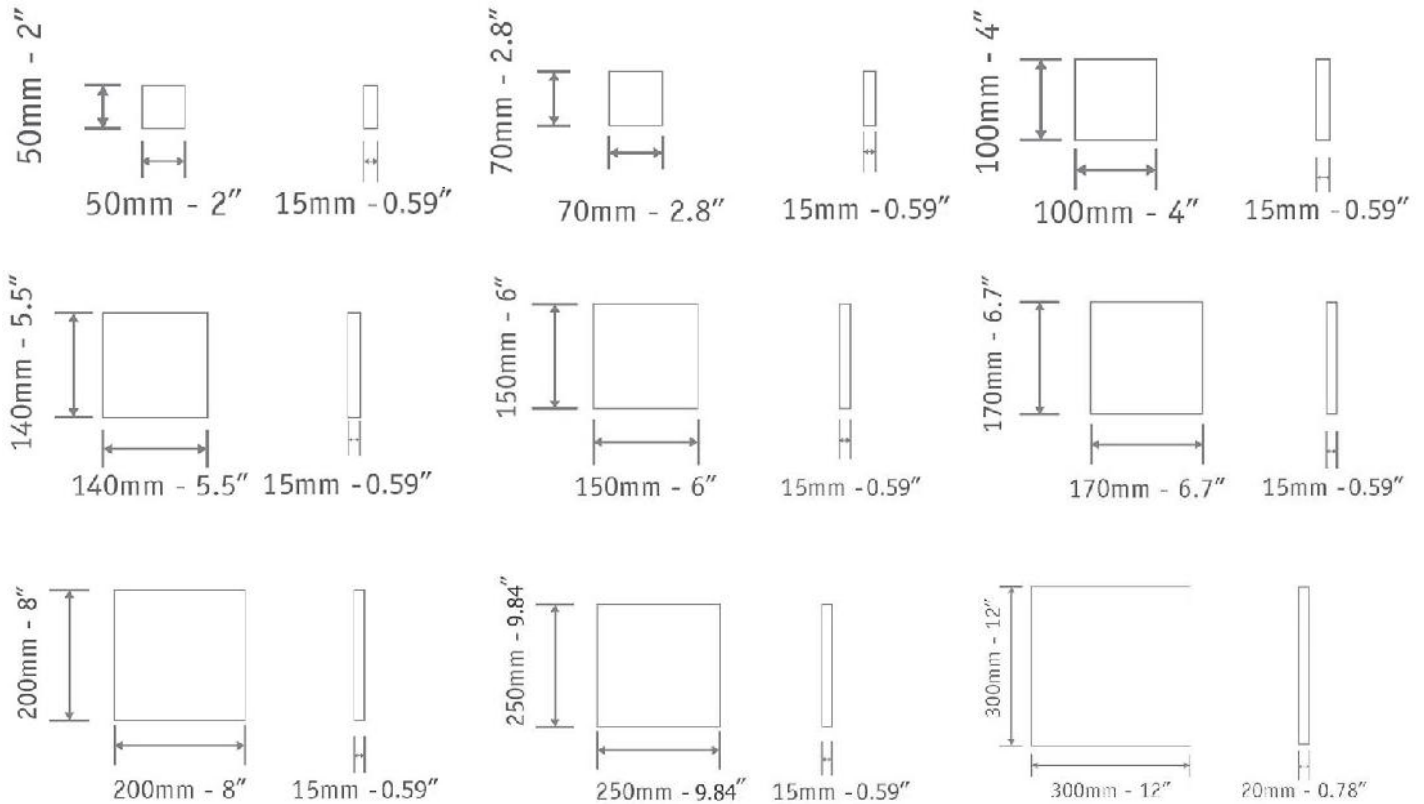


VST Cement tile in Wien, Austria

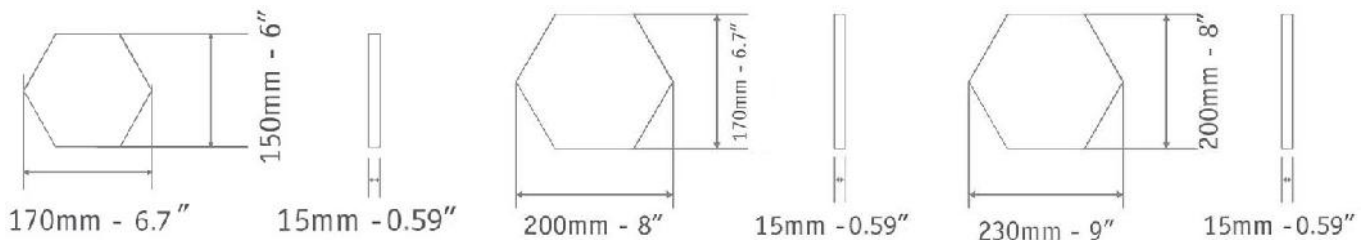


## AVAILABLE SHAPES & SIZES

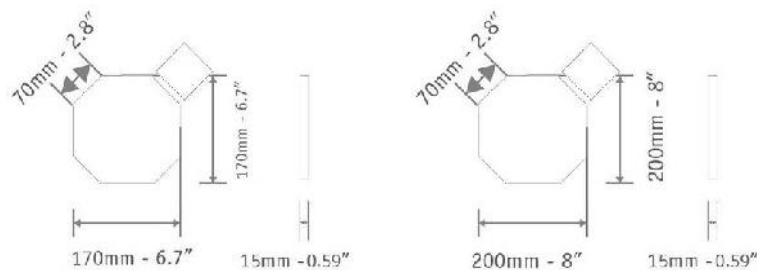
### Square



### Hexagon



### Octagon



Other shapes & Sizes can be customized...

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## PATTERNED CEMENT TILES

Our factories have hundreds of available patterns after years making cement tiles. Besides, all other patterns and colors as well as sizes can be customized.

### Encaustic handmade cement tiles with normal Matt finishes



And hundreds of other patterns more...

### Encaustic handmade cement tiles with terrazzo finishes



And hundreds of other patterns more...



## Encaustic handmade cement tiles with Engraved finishes



### Borders and Corners



### Skirting-boards



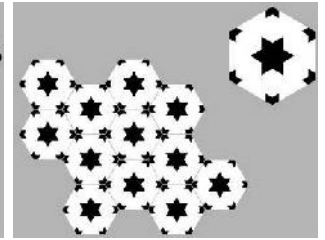
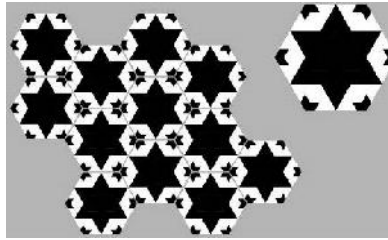
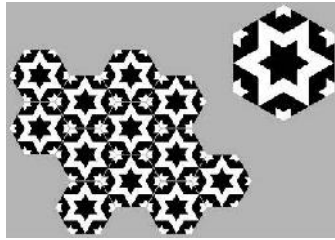
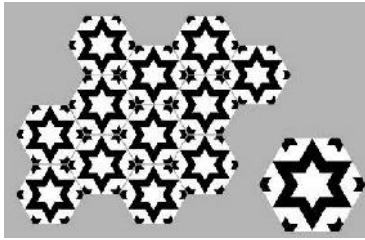
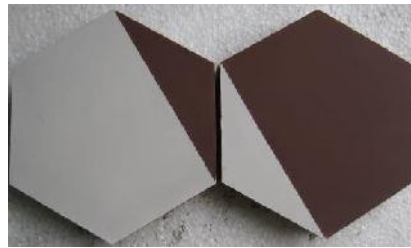
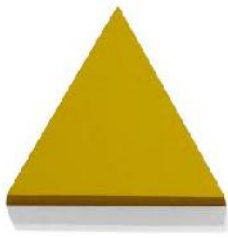
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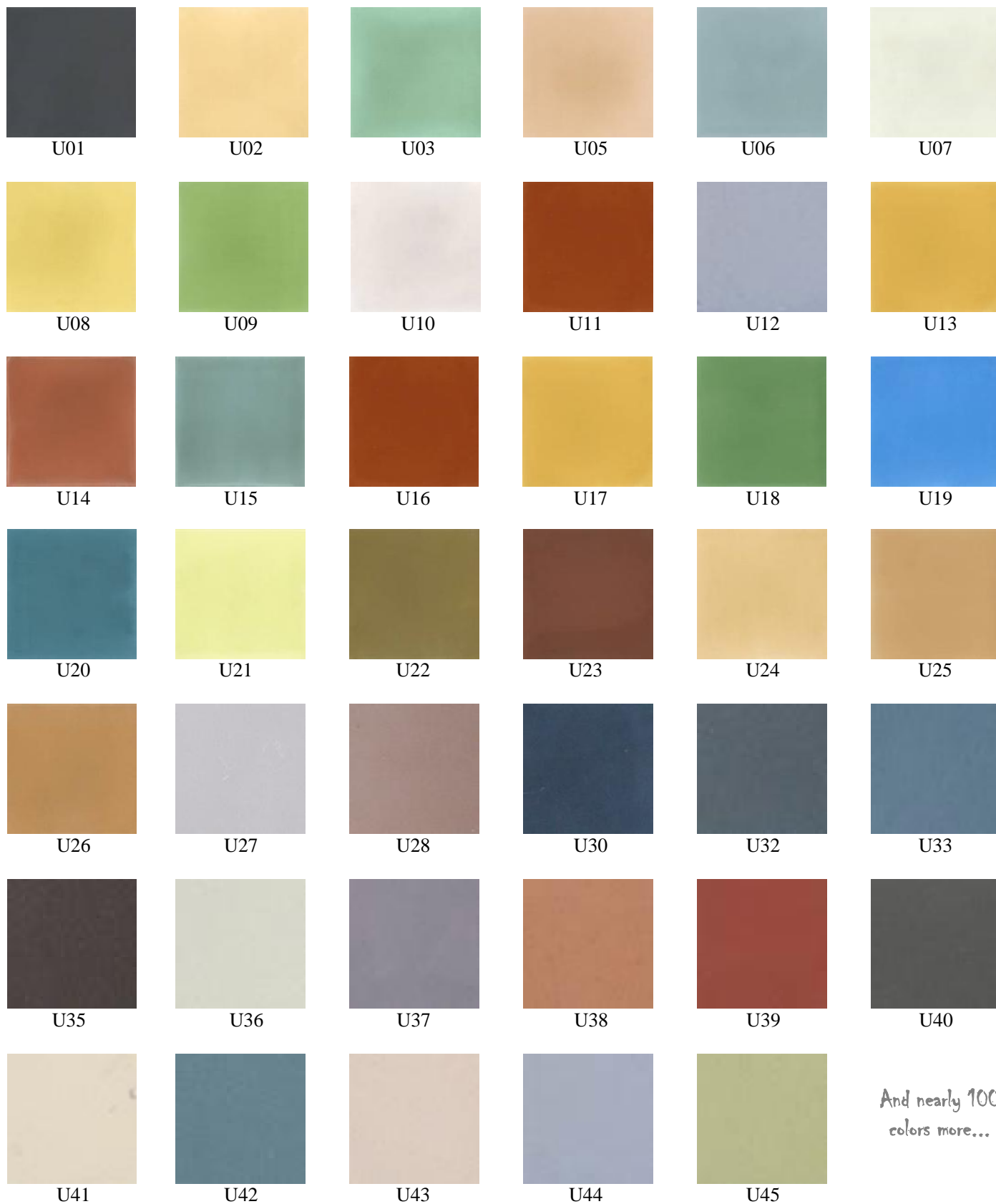
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## Specialities & Patchworks





## Color palette



## PACKING STANDARDS



No	Size (cm)	Pcs per box	Boxes per pallet	Pcs per pallet	Pcs per m2
1	20 x 20 x 1.5	13	60	780	25
2	17 x 17 x 1.5	17	60	1,020	35
3	15 x 15 x 1.5	24	60	1,440	44
4	14 x 14 x 1.5	24	60	1,440	51
5	20 x 10 x 1.5	26	60	1,560	50
6	10 x 10 x 1.5	52	60	3,120	100
7	7 x 7 x 1.5	50	112	5,600	204

Tiles are put face to face. Between the tiles, there are white papers to protect tile surfaces.

Then, carton boxes are put into wooden pallets. Pallets will be loaded into container. Each 20 ft container can be loaded from 20-24 pallets. Actual packing will be changeable depending on real requested sizes and loading capacity which is allowed by Buyer's custom officers.

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## TECHNICAL SPECIFICATIONS

Basic specific information as below detailed tables. Special test report will be made on request.

Table 01:

No	Description	Allowed level	
		A1 Grade	A2 Grade
1	Maximum tolerance of square corners in mm is not bigger than	0.5	1
2	Maximum of warping surface in mm is not bigger than	0.5	1
3	Maximum of curving edges in mm is not bigger than	0.1	0.2
4	Maximum of color fading, tolerances between lines and connection of patterns compared to standard color in mm is not bigger than.	1	2
5	Breakage of facing layer, its depth is not over 0.5mm and its length is not over 2mm. Calculated by marks, spots is not over	1	2
6	Breakage of corners on facing layer is not over 2mm. Calculated by marks, spots is not over	0	2
7	Breakage of base layer with size is not over 5mm. Calculated by marks, spots is not over	1	2

Table 02:

No	Characteristics	Unit	Parameter
1	Water absorption less than	%	< 5
2	Breaking strength	daN/pcs	162
3	Abrasion	g/cm2	0.39
4	Impact resistance	times	>30