# **Constructional Technology**

# AL-USTAQABAL UNVERSTY COLLEGE

**Asst.lec.Fatin Hashim** 

## **Ceramic and Stone Veneer Tiles Manufacturing**

#### **The Manufacturing Process of Stone Veneers Tiles:**

#### **Ingredients of manufactured stone veneer:**

Real stone is real rock mined from the earth, and it comes in different sizes and colors. Real stone is highly valuable, heavy, difficult to install, difficult to repair. First: Stone veneers are manufactured from a mixture of cement, aggregate, and pigments. Artificial stone has been around for a long time. In the past several decades, stone veneer manufacturers have improved the stone's composition so that it looks remarkably like the real thing, even on closer inspection. Most manufactured veneer stones are made of Portland cement, aggregates, and iron oxides. Cement gives the veneer its stability; Aggregates help reduce the weight of the stone, and iron oxides provide pigments to color the stone.





### Second: the manufactured veneer stone is the veneer.

The term veneer means that it is a decorative exterior surface applied to another structure. For example, it may be a brick building or a concrete block whose surface has been sheathed with veneer stones to give a belief that the building is made of stone.

<u>Natural stone</u> is often extracted and cut into thin pieces that act as a veneer. Therefore, veneers do not always apply to manufactured stones. It is always better to say veneer stone when referring to factory-made materials.

**Finally, there is a third type of stone veneer that** is often used in home interior spaces such as living rooms, dining rooms, and bedrooms. This material is often called a faux stone, and it may bear some similarity to real stone or manufactured veneer stone. But in terms of composition, the similarity ends: it is mainly made of plastic.





### **Installing manufactured stone veneer:**

The installation of the inner veneer stone is easier than the external installation. With the inner stone, you don't have to worry about rain and temperature issues. With interiors, it's the look that matters most. Stone made inside will experience much less stress than exterior stone: no rain, snow, sunshine, or extreme temperature changes. In the case of using veneer stone for exterior façades, you will need to insulate the surface behind the veneer stone, as the veneer is not intended to be the only barrier against rain and snow. Felt and two layers of the special paper must be placed to protect this stone.





### **Thin vs. Full-Dimension Manufactured Stone Veneers:**

Depth is an important factor with manufactured stone veneers. Since the manufactured stone veneer is purely an addition to what's already there, in many cases you want to minimize this thickness.

While it may not matter much in most exterior applications, depth certainly does matter in the interior.

Full-dimension manufactured stone veneer starts at around 2 inches thick and increases to various thicknesses, often up to 6 inches thick. Thin profile manufactured stone veneer is never more than 2 inches thick.

### **Systems of Stone Veneers Fixing:**

There are a variety of systems for attaching stone veneers including dowel, kerf, and others as well as direct fixing. The direct fixing system relies on a mortar or cement bonding between the substrate wall and the backside of the stone veneer. This application is generally used indoors as exterior weathering and temperature extremes cause the veneer to crack. Most exterior veneer systems hang stone from a support wall by pins and anchors allowing air space between, essentially using stone as a rain screen. The dowel anchorage system is one such method of the hanging veneer. The system relies on holes drilled into the edges of stone panels in which metal dowels are inserted. The dowels are connected to an angle bracket that is in turn connected by anchor bolts to the building's load-bearing wall or steel frame. Kerf anchorage systems operate in much the same way with different metal hardware. The kerf system uses grooves cut into the edges of stone veneer panels in which kerf plates or cleats are inserted, those plates are mounted to the wall behind and act much like a shelf on which the stone panel rests. Both the dowel and Kerf anchorage systems can be attached to the top, bottom, and sides of each panel ensuring a secure hold and binding the panels together to make a complete veneer.

### What is the difference between stone veneer and stone?

Natural stone veneer is made from real stone quarried from the earth. ... Natural stone veneer features imperfections, textures and tonal variation that has formed over thousands of years. Manufactured cultured stone veneer, on the other hand, is a man-made product designed to resemble natural stone.

### Can stone veneer be used outside?

**You can** add **stone veneer** to a host of surfaces, both inside and outside your home. One popular choice is to use **stone** veneer to cover a fireplace mantel for an earthy look of permanence.

#### What is the best mortar for stone veneer?

If you're looking for a reliable, general-purpose mix, type N mortar might be the winner. This mortar mix has a medium compressive strength and consists of 1 part Portland cement, 1 part lime, and 6 parts sand. It typically achieves 28-day strength at approximately 750 psi.

### Why is the stone veneer falling off?

A veneer stone may come loose from the wall because of water infiltration behind it, seismic movement or improper installation. In many cases, you can repair fallen veneer stones without calling in a professional.

### Can You glue stone veneer?

Because the best **stone veneer** is only as good as its **adhesive**. Since most veneer applications will involve a vertical facing, choose a strong, no-sag **adhesive glue** that will remain where applied and prevent the veneer from slipping and sagging

Ceramic tiles manufacturing process - How it's made?

افلام فديوية عن صناعة البلاط السيراميك

https://youtu.be/-6UHfRXLwGIhttps://youtu.be/8hw4SrG0Zuc

- 1- What are ceramic tiles used for?
  - 2- Is porcelain a ceramic?
  - 3- What are the types of ceramics?
  - 4- Which is easier to clean porcelain or ceramic tile?
  - 5- Can ceramic crack?
- 6- How can I tell if my tile is ceramic or porcelain?