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n a t u r a l s t o n e s

Vein cut Travertine



Physical Specifications

Hardness (MOHS) 4

Density (gr/cm²) 2, 3

Porosity % 2, 0

Compressive Strength (Kgr/cm²) 570

Compressive Strength After Freezing (Kgr/cm²) 582

Degree Of Pores % 91,9

Physical Properties

The samples have been prepared according to TSE (The Institution of Turkish Standard) guidelines. Various experiments have been made at the laboratory of the mining engineering in the Cukurova University.

Unit Volume Weight

50x50x50mm sized of the samples have been worn out until ± 1 mm differences and have been weighed on the sensitive scale. The weight has been divided geometrical volume. Average of the samples have been taken and calculated as $\gamma = 2.47$ gr/cm³. The samples have been dried in oven at 105°C for 24 hours. Dry unit weight have been determined as $\gamma = 2.45$ gr/cm³.

Then the dry samples have been put into water at 25°C for 36 hours and water absorption ratio has been determined Water absorption ratio of the travertine's has been found 1.89 % in volume, 0.77 % in weight (according to gravity).

Specific Gravity

Standard samples have been ground and sieved 10 micron. The samples have been dried at oven until unchanged mass gravity. The density has been calculated by Pichnometer method. Average density of the Travertine's was 2.77 gr/cm³.

Void Ratio

Void ratio has been described as the ratio of void volume to mass volume. Void ratio is calculated from the following formula. $e = (V_o / V_k) \times 100$
 V_o : Void Volume V_k : Mass Volume

Interiors & Exteriors

One of the most useful pieces of garden wall coverings is also Travertine tiles.

Natural-looking, maintenance free for years, completely natural stone.

Looking for a material that will add value to your walls Travertine is undoubtedly the right products

Whether you're building a new house or remodelling, natural stone offers you unparalleled beauty, permanence, and uniqueness – and adds true value to your home. See what others are saying about natural stone. Natural stone is a key part of two of the top 10 elements of design in the home that are resonating with today's buyers: the desire for low-maintenance/no-maintenance materials and the use of natural materials inside and outside the home. Natural travertine floor tiles come in a vast range of different colours, textures and finishes. From the more textured and pitted classic travertine through to the honed and glass-like finish of ivory vein cut travertine, there really is something for everyone.

With the range of colours and finishes available, natural travertine floor tiles really can suit any decor and can add substantial value to your

Porosity

The porosity is calculated from the following formula: $n = (V_b / V_k) \times 100$

Average porosity of the travertines is found about 8.02%.

Vein cut

Travertine can be cut on either a "vein" cut, which is against the bedding which reveals the bedding planes, or a "fleuri" cut, which is along the bedding plane and reveals a flowery, often circular pattern. This cut is also referred to as a "crosscut" pattern

The vein cut travertine is usually produced as unfilled but honed / polished. The biggest interest for the vein cut travertine comes from Israel, Spain and UAE mostly.

At the moment despite recent years; very few quarries are extracting material suitable for Vein cut travertine. Although every travertine can be cut as vein cut; they come out with black lines and dirty appearance if the material is not suitable for vein cutting.

Nowadays most of the travertine factories and quarries are working cross-cut tiles. In Turkey cross cut may sometimes be called as American cutting. This is probably because of the high demand of United States to the cross cut travertine.

In the production side, although it seems as if it is the same working with vein cut and cross cut; in reality working with cross cut is more harder. First of all; there exists more selections of the tiles compared to vein cut tiles. Also 90% of cross cut travertine tiles are being asked as filled; means a lot of hard working. Also for production the chissled edge finishings, tumbled materials and mosaics; cross cut travertine is being used.

Formation of Travertine

The thermal springs at Denizli which give rise to these geological phenomena cover a wide area. In this area, there are several hot water springs which have a temperature between 35 and 100 degrees. The thermal springs of Denizli form an integral part of the regions, The water, having emerged from the spring, is transported 320 m to the head of the travertine's and deposits itself on a section 60 to 70 meters long covering an expanse of 240 to 300 meters square.

When the water first comes out of the ground it is about 35.6 °C . The water includes calcium hydro carbonate in a big quantity. When it contacts with oxygen, the carbon dioxide and carbon monoxide escapes and the calcium carbonate settles and forms the travertine. The sediment is jelly-like in the first stage.

The chemical reaction is: $Ca (HCO_3) + O_2 \rightarrow CaCO_3 + CO_2 + H_2O$

The travertine's are not in contact with water every time as it is seen on the photos and brochures. The thermal water is given to the travertine's by controlled programme. If the water flows on the same place for along time, it causes moss and pollutes the white travertine's. The travertine's area should be dried for certain times to prevent this pollution and to let the jelly-like sediment harden. It is forbidden to walk on the travertine's owing to being smooth and broken easily in the first stage of the formation.

Using Natural Stone in Your Home

It's a terrific and beautiful material to use in all areas of your home. Knowing the different types of stone, their finishes and applications will help you to make an informed decision on which stone is the best for your project.

Wet, wet, wet

You may wonder why your stone tiles are wet when delivered. They are always packed in wet conditions at the factory and cannot properly dry out until unpacked. They will lighten in colour as they dry out. You have to make sure that the tiles are completely dry before blending them and installing them. Sometimes it may be necessary to dry the tiles in front of a direct heat source to see the true colour of the stone when it is totally drying and flooring.

Fillings

Travertine stone is a form of limestone. It often forms near hot bubbly mineral rich springs. Gas bubbles become trapped and create a pitted surface on the stone. These pitted surfaces can be filled with an epoxy or dust resin. Filling the small holes and pits gives the travertine a more finished look. A refined beauty.

Please Note:

All natural stones are products of nature and no two pieces are exactly alike. There will be small variations in all dimensions. The materials should be looked at to distinguish colour and marking characteristics and should be "shuffled" before fixing to create a random pattern. Any other design details should be agreed before installation.