CLAIMS

1.- Artificial stone tile and/or slab that include veins made by strati of at least two different compositions of masses with fillers in each one of the at least two different compositions of masses comprising different petrous and artificial materials, in different proportions, compositions and granulometry and a polymerisable resin, wherein the artificial stone tile and/or slab comprises different granulometry in the different strati characterised in that the at least two different compositions in each stratus contains:

- Between 7% and 20% polymerisable resin;
- 10% to 70% by weight, of micronized filler, with a granulometry between 0.1 µm to 0.75mm;
- 0% to 80% by weight, of crushed filler, named "crushed 1", with a granulometry between 0.76mm and 1.20mm; and optionally,
- 0% to 50% by weight, of crushed filler, named "crushed 2" with a granulometry between 1.21 mm and 15mm;

wherein the veins show a width of between 10 to 3400 mm and a length of 100 to 3400 mm.

~~2.- Artificial stone tile and/or slab according to claim 1, characterised in that the vein shows a width of between 10 to 3400 mm and a length of 100 to 3400 mm.~~

~~3~~2.- Tiles or slabs made of artificial stone according to ~~any of the previous~~ claim 1~~s~~, characterised in that the veins present a width of 500 mm and a length of 1700 mm.

~~4~~3.- Artificial stone tile and/or slab according to ~~any of the previous~~ claims 1 or 2, characterised in that the fillers are materials selected from the group consisting of: marble, dolomite, opaque quartz, clear quartz, silica, crystal, mirror, cristobalite, granite, albite, basalt and ferrosilicon.

~~5~~4.- Artificial stone tile and/or slab according to any of the previous claims, characterised in that the at least two different compositions in each stratus contains:

- a first stratus comprising ~~10% to 70~~20% by weight, of micronized filler, with a granulometry between 0.1 μm to 0.75mm; and 69% by weight, of crushed filler, named "crushed 1", with a granulometry between 0.76mm and 1.20mm; and
- a second stratus comprising 17% by weight, of micronized filler, with a granulometry between 0.1 μm to 0.75mm; ~~0% to 80~~34% by weight, of crushed filler, named "crushed 1", with a granulometry between 0.76mm and 1.20mm; and ~~optionally,0% to 50~~40% by weight, of crushed filler, named "crushed 2" with a granulometry between 1.21 mm and 15mm.

~~6~~5.- Artificial stone tile and/or slab according to any one of the previous claims, characterised in that the polymerisable resin is thermosetting and is selected from the group consisting of unsaturated polyester resin, methacrylate resin, epoxy resin, unsaturated polyester and vinyl resins.

~~7~~6.- Artificial stone tile and/or slab according to any one of the previous claims, characterised in that the polymerisable resin is present in a percentage between 6% and 30% by weight.

~~8~~7.- Artificial stone tile and/or slab according to any one of claims 1-6, characterised in that the polymerisable resin is present in a percentage between 7% and 20% by weight.

~~9~~8.- Artificial stone tile and/or slab according to any of the previous claims, characterised in that each stratus is made of a mass which additionally comprises additives selected from the group consisting of catalysers, accelerants, binding agents and colouring agents.

~~10~~9. Process for manufacturing the artificial stone tile and/or slab according to claims 1 to ~~9~~8, characterised in that it consists of the following steps:

a) Preparation of different compositions of fillers with variable granulometry by crushing the different materials with varied granulometry making up the fillers;

b) Obtaining the resin stage by the addition and mix of a polymerisable resin with the catalyser, the accelerant, the binding material and, optionally the colouring agent;

c) Mix of a filler of step a) and the resin stage of step b) in a mixer until the homogenization and obtaining a first paste;

d) Mix of a filler of step a) and the resin stage of step b) in a mixer until the homogenization and obtaining a second paste with different composition of fillers with different granulometry to the first paste.

e) Transportation of each of the first paste of step c) and the second paste of step d) by a conveyor belt to the feeding or distribution mechanism.

f) Download of each of the first paste and the second paste placed in an ordered manner sequentially, from the distributor to the compressing mould that creates the design and dimension of the slab.

g) Protecting the mass that makes up the slabs with Kraft-type paper, or an elastomer, similar to a rubber coating

h) Moulding and pressing of the paste in each mould by vacuum vibro-compression;

i) Hardening by polymerization of the resin by heating;

j) Finish with a cooling, sizing, polishing and cutting step.

~~11~~10.- Process according to claim ~~10~~9, characterised in that step c) is repeated independently up to a total of 20 times depending on the number of pastes or masses that are to be included in the final artificial stone tile and/or slab wherein up to 20 different compositions of masses with fillers of different granulometry is prepared.

~~12~~11.- Process according to claims ~~10~~ 9 or ~~11~~10, characterised in that step ~~d~~e) implies the ordered and independent placing of the different strati in the conveyor belt and the ordered and independent download of the said in the feeding or distribution mechanism in the desired amounts.

~~13~~12.- Process according to any one of claims ~~10~~ 9 to ~~12~~11, characterised in that step e~~f~~) is carried out by means of a belt where the strati coming from the feeding systems have been downloaded or directly supporting the exit of the feeding system over the compressing mould and downloading the group of strati from the conveyor belt directly to the mould.

CLAIMS

1.- Artificial stone tile and/or slab that include veins made by strati of at least two different compositions of masses with fillers in each one of the at least two different compositions of masses comprising different petrous and artificial materials, in different proportions, compositions and granulometry and a polymerisable resin, wherein the artificial stone tile and/or slab comprises different granulometry in the different strati characterised in that the at least two different compositions in each stratus contains:

- Between 7% and 20% polymerisable resin;
- 10% to 70% by weight, of micronized filler, with a granulometry between 0.1 μm to 0.75mm;
- 0% to 80% by weight, of crushed filler, named "crushed 1", with a granulometry between 0.76mm and 1.20mm; and optionally,
- 0% to 50% by weight, of crushed filler, named "crushed 2" with a granulometry between 1.21 mm and 15mm;

wherein the veins show a width of between 10 to 3400 mm and a length of 100 to 3400 mm.

2.- Tiles or slabs made of artificial stone according to claim 1, characterised in that the veins present a width of 500 mm and a length of 1700 mm.

3.- Artificial stone tile and/or slab according to claim 1 or 2, characterised in that the fillers are materials selected from the group consisting of: marble, dolomite, opaque quartz, clear quartz, silica, crystal, mirror, cristobalite, granite, albite, basalt and ferrosilicon.

4.- Artificial stone tile and/or slab according to any of the previous claims, characterised in that the at least two different compositions in each stratus contains:

- a first stratus comprising 20% by weight, of micronized filler, with a granulometry between 0.1 μm to 0.75mm; and 69% by weight, of crushed

filler, named "crushed 1", with a granulometry between 0.76mm and 1.20mm; and

- a second stratus comprising 17% by weight, of micronized filler, with a granulometry between 0.1 μm to 0.75mm; 34% by weight, of crushed filler, named "crushed 1", with a granulometry between 0.76mm and 1.20mm; and 40% by weight, of crushed filler, named "crushed 2" with a granulometry between 1.21 mm and 15mm.

5.- Artificial stone tile and/or slab according to any one of the previous claims, characterised in that the polymerisable resin is thermosetting and is selected from the group consisting of unsaturated polyester resin, methacrylate resin, epoxy resin, unsaturated polyester and vinyl resins.

6.- Artificial stone tile and/or slab according to any one of the previous claims, characterised in that the polymerisable resin is present in a percentage between 6% and 30% by weight.

7.- Artificial stone tile and/or slab according to any one of claims 1-6, characterised in that the polymerisable resin is present in a percentage between 7% and 20% by weight.

8.- Artificial stone tile and/or slab according to any of the previous claims, characterised in that each stratus is made of a mass which additionally comprises additives selected from the group consisting of catalysers, accelerants, binding agents and colouring agents.

9. Process for manufacturing the artificial stone tile and/or slab according to claims 1 to 8, characterised in that it consists of the following steps:

a) Preparation of different compositions of fillers with variable granulometry by crushing the different materials with varied granulometry making up the fillers;

b) Obtaining the resin stage by the addition and mix of a polymerisable resin with the catalyser, the accelerant, the binding material and, optionally the colouring agent;

c) Mix of a filler of step a) and the resin stage of step b) in a mixer until the homogenization and obtaining a first paste;

d) Mix of a filler of step a) and the resin stage of step b) in a mixer until the homogenization and obtaining a second paste with different composition of fillers with different granulometry to the first paste.

e) Transportation of each of the first paste of step c) and the second paste of step d) by a conveyor belt to the feeding or distribution mechanism.

f) Download of each of the first paste and the second paste placed in an ordered manner sequentially, from the distributor to the compressing mould that creates the design and dimension of the slab.

g) Protecting the mass that makes up the slabs with Kraft-type paper, or an elastomer, similar to a rubber coating

h) Moulding and pressing of the paste in each mould by vacuum vibro-compression;

i) Hardening by polymerization of the resin by heating;

j) Finish with a cooling, sizing, polishing and cutting step.

10.- Process according to claim 9, characterised in that step c) is repeated independently up to a total of 20 times depending on the number of pastes or masses that are to be included in the final artificial stone tile and/or slab wherein up to 20 different compositions of masses with fillers of different granulometry is prepared.

11.- Process according to claims 9 or 10, characterised in that step e) implies the ordered and independent placing of the different strati in the conveyor belt and the ordered and independent download of the said in the feeding or distribution mechanism in the desired amounts.

12.- Process according to any one of claims 9 to 11, characterised in that step f) is carried out by means of a belt where the strati coming from the feeding systems have been downloaded or directly supporting the exit of the feeding system over the compressing mould and downloading the group of strati from the conveyor belt directly to the mould.