

THE RAW MATERIALS

THE MARBLE

The term “marble” is generally (and improperly) used to describe all the metamorphic and non metamorphic compact calcareous rocks.

Marble is mainly made of calcium carbonate, along with other accessory minerals that determine its coloration. Marble is a rock that can be affected by acids and is quite soft: it shows level 3 on the Mohs Scale of Hardness. The majority of the marble used for the production of our engineered stones is sourced from Italian quarries located within 500 km (310 miles) from the factory.

THE QUARTZ

Quartz is a mineral that is easily and widely found in nature: it is made of silicon oxide SiO_2 and is available both in crystalline form and sand. It is a very hard mineral, reaching level 7 on the Mohs Scale of Hardness. Any acid, except for hydrofluoric acid, does not affect quartz. The majority of the quartz crystals and the quartz sand used for the production of our engineered stones is sourced from both European and Asian quarries.

THE RESIN

Polyester unsaturated resin is a viscous liquid made of a polymeric unsaturated part and a reactive monomer, usually styrene. During the reticulation process, activated by adding catalysis' starters and promoters, the monomer co-polymerizes with the reactive groups of the polymeric part, building a three-dimensional solid, called thermohardener plastic.

In the production process of the marble based engineered stones the reticulation takes place at room temperature, while in the production process of the quartz based engineered stones the reticulation takes place with heat (120°C / 250°F).

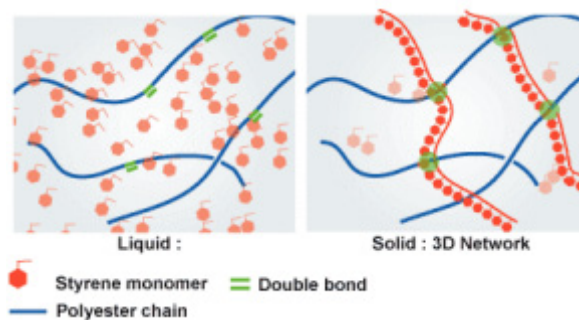


Diagram of the reticulation mechanism

THE ADHESION PROMOTER

Siliceous aggregates (such as quartz, granite and glass) bind very weakly with the resin. By adding an adhesion promoter to the resin, the problem is solved and a strong bond is formed. The adhesion promoter is a molecule that builds a chemical “bridge” between the resin and the aggregates, creating the ideal adhesion.

THE PIGMENTS

The different coloration of santamargherita® engineered stones is achieved by adding both organic and inorganic pigments. These special pigments have high chemical- physical resistance and excellent stability to light. In general, inorganic pigments are used, but organic pigments are needed for bright colors. In order to achieve a consistent coloration of the engineered stone, the pigments are dry-mixed with the other mineral aggregates prior to adding the resin.

The above mentioned raw materials are the main ingredients of the santamargherita® engineered stones. Minor ingredients are:

- granite
- feldspar
- mirror
- glass
- mother of pearl