



## **Dry mortar**

Using various types of construction mortar is very common and essential in building construction. Despite the invention of different materials and supplies, a suitable substitute has not yet been provided for some of the applications of mortar. From ancient times to the present, various types of mortar have always been used for building and external walls, such as mortar for joining bricks, mortar for plastering internal walls, and tiles and ceramics on floors, walls, and ceilings, sealing and insulation, etc.

The industry for producing mortar for the above-mentioned tasks has faced challenges, such as production, which has always been a major concern in constructing residential buildings. This includes accurately mixing materials to obtain the right mortar, controlling the quality of necessary materials, ensuring the strength and durability of the materials, training skilled personnel for using and applying the materials, transporting and storing materials during the work, managing the mortar after preparation, handling the bulk of materials needed, disposing of excess after construction completion, and moving and using these materials in the building. During the 1960s in Western Europe, the rising demand for industrial building construction and speed of execution led researchers to add polymer materials to solve execution problems and improve its properties. Considering quality and focusing on expanding the application and achieving new chemical additives to solve the issues and drawbacks of traditionally mixed

mortars in workshops, the dry mortar technology was invented in Western Europe, and it is now increasingly being used in our country as well.



### **Characteristics of STG Ceramic Adhesive**

- 1- The base adhesive is cement and mineral and has a long lifespan, while chemical adhesives are made of excellent materials and have a shorter lifespan due to the perishability of organic materials.
2. Due to the ease of preparation and application, the speed of implementation is very high. In addition, the service life of the prepared adhesive mixed with water is at least 2 hours.
3. Ceramic tile adhesive has high strength and adhesion (more than 0.5 MPa) and is resistant to high humidity and extreme heat.
4. The most important feature of dry mortars and this type of adhesive is to save the amount of water consumption for preparation.
5. It is easy to glue tiles on tiles without the need to remove old tiles.
6. With this type of adhesive, you will not have any restrictions in choosing the size of ceramic tiles.
7. This adhesive is mineral base and completely environmentally friendly.
8. Packed in 25 kg bags and while reducing the consumption of materials and severely reducing the distraction of building materials
9. Easily is conveyed on the floors.
10. The possibility of installing all kinds of coatings on concrete, stone, etc.
- 11- For sticking various types of tiles and porcelain ceramics in large pieces and sizes on different vertical and horizontal surfaces, inside and outside buildings.
- 12- Usable in underfloor heating systems and suitable for facade tiling.

Note: In cold weather and places where the height of the tile work is high, the ceramic installation should be carried out in two stages with a time interval of 6 hours. So that the heaviness of the ceramic and the lack of water absorption of the materials do not cause the ceramic to slip and separate.



### STG TILE AND CERAMIC ADHESIVE

Tile, Ceramic, Facade brick Adhesive is a mortar for installing tile and facade brick on floors and walls in thin-set applications.

STG ceramic tile adhesive is a cement-based adhesive designed according to European standards with high strength and longevity, due to industrial production and continuous quality control, it has very high uniformity and quality.

Cement	Portland - type II, white cement
Aggregate	Silica sand $\leq 1$ mm
Composition	Cement, silica sand, additives
Color	White, grey
Packaging	25 kg bag
Water Ratio	25% of dry mortar weight
Application time	1 hour
Consumption	3-4 kg/m <sup>2</sup>
Thickness	3-10 mm
Durability	Water proof, frost and weather conditions resistant
Initial Adhesive strength	1.4 MPa accord to EN1348 standard.

## How to prepare tile glue

Mixing of powder with water should be done using an electric mixer (drill + blade). The bucket or container in which the powder and water are mixed should be proportional to the speed of work and the volume of mixing, always add the powder slowly to the water and make sure that the electric mixer is on when the powder is added to the water and the mixing process continues until a uniform and homogeneous mortar is obtained. Leave the prepared tile adhesive mortar alone for 5 minutes, repeat the mixing process again for a short time.

## How to apply tile glue

In the standard method of tiling with tile glue, you must first apply the glue in parallel grooves and in one direction on the desired surface using a serrated trowel. Then apply a thin layer of adhesive to the surface behind the tile or ceramic and install the tile on the surface in a maximum of 20 minutes. The best usage temperature for this product is between 15 and 25 degrees Celsius. At lower temperatures, the drying time of the adhesive will be longer. The initial gripping time of this product is 24 hours under standard temperature conditions of 25 degrees Celsius, and the tile adhesive reaches its maximum strength after 28 days. This duration depends a lot on various factors such as temperature, humidity, adhesive thickness, and application conditions, and may be more or less frequent.

Note 1: The tile application platform and the way the adhesive is applied on it should be such that at least 60% of the back of the tile is impregnated with glue after installation, otherwise a spatula with a greater depth of grooves should be used.

Note 2: After mixing the tile adhesive with the prepared mortar water, it should be used in a maximum of 60 minutes according to the ambient temperature, so prepare the adhesive in a quantity that is used during this time, after applying the adhesive on the surface, the tile should be installed in 20 minutes at most. At the time of installation, the surface temperature under the work should be at least 5 and a maximum of 40 degrees Celsius.



## How to use

The place of use should be free of any grease, dust, loose particles or old paint. Do not use in places that are under high vibration. Do not use on metal surfaces. If it is applied to concrete surfaces, at least 28 days have passed since the concrete pouring.

Conditions and maintenance of STG Block Adhesive and Ceramic Tile Adhesive.

1. The maintenance and safety tips of the light block adhesive are like cement and gloves should be used when working with the glue
- 2- The bags should be placed on a dry floor with a minimum distance of 10 cm from the ground



3. They should not be exposed to rain
4. Up to 8 bags can be stacked on top of each other
5. Dry mortar pallets should be stored at the closest distance from the project site.
6. The mortar should be prepared in the required size according to the instructions stated on the envelope and the mixing should continue until the air is removed.

Knowledge has always been an efficient and appropriate tool for advancing any project and goal, which is one of the vital and necessary issues.

Light block tools are also among these items for correctly and completely specialized performance of building wall and building block projects using STG light blocks.

