

### Stamped concrete surface hardener

#### USES

METOPRES is specially modified dry shake hardener used in the process of stamping fresh concrete surfaces by means of different patterned stamping molds to give beautiful textured decorative concrete surface finishes.

#### ADVANTAGES

- Supplied ready to use
- Easy and economical to apply.
- Relatively quick rate of application can be up to 500 m<sup>2</sup> / day in wide area,
- Specially designed in two types containing hard Corundum or hard Silicate group of aggregates to give abrasion resistant concrete surface.
- Availability of a large number of patterns.
- No regional collapse of the floor or movement of the individual stones or bricks etc. Which is the case in the traditional method.
- Easy to repair.
- Special company logos and rock coping systems.

#### AGGREGATE CHARACTERISTICS

Table 1.0	
Aggregate type	Hardness (Mohs)
METOPRES type 1- (standart type) Silicate group of aggregates	5-7.0 Mohs
METOPRES type 2- Corundum aggregates	9.0 Mohs

#### APPLICATION FEILDS

- METOPRES is used on light traffic roads,
- Pavements,
- Pathways around buildings and factories.
- Private car parks,
- Garden pathways and
- Around swimming pools.

#### DESCRIPTION

METOPRES stamped concrete dry shake hardener is a factory blended , quality controlled , ready to use hardener in powder form.

It contains natural very hard aggregate.

METOPRES, Dry Shake Hardener, is necessary for decorative stamped concrete application. Cementitious METOPRES hardener Metorel release agent, Metoseal protective sealer, stamping mats, hammers and small tools are all necessary for Metopres application.

#### COLOR

Dark gray, Brick red, Green, yellow, brown, black.

#### DESIGN CRITERIA

##### Base concrete :

The quality of the base concrete is important and will effect the final finished surface. High quality concrete mixture must be used with a minimum 250-350 kg/m<sup>3</sup> cement content. The water cement ratio and the concrete mix are very important too because excessive bleeding and segregation are not desirable and must be brought down to minimum level. Depending on the weather conditions, the water/cement ratio, slump can vary between 60-120mm.

When using METOPRES dry shake hardener some moisture from the surface of the concrete is necessary to wet the powder. If there is any excess bleed water on the surface (more than necessary and needed for moisturizing the hardener) then it should be removed before applying METOPRES.

#### INSTRUCTIONS FOR USE

##### Preparation of the base :

The soil must be well compacted to minimize settlement of the soil and decrease the number of cracks that might eventually occur on the surface of the concrete .

##### Concrete forms :

The size and the position of the forms should be planned carefully so that joints are left in the correct and necessary places while placing concrete technical standards should be taken into consideration. Wood forms, steel forms, or even architecturally decorative floor and pavement bricks can also be used as permanent forms, and give a decorative appearance to the final product and form a natural joint which will not need cutting at later stages.

##### Concreting :

The necessary steel reinforcement must be placed in the concrete base or foundation according to the structural calculations. Large aggregates in the concrete mortar can cause problems during application therefore normally it is preferable to use No.1 aggregates mixed equally with coarse sand and a minimum of 250-350 Kg./m<sup>3</sup> Portland cement. Suitable water/cement ratio is used depending on the weather conditions. The concrete is poured into the forms , vibrated and the surface trowelled and bull floated. Polymer modified concrete must be used if thinner concrete layer is placed.

##### Application of Hardener :

When very little moisture applications remains on the surface of the concrete and the concrete is firm enough so that an imprint of 1.5-2 cm is made by the weight of a person, then a minimum of 3Kg./ m<sup>2</sup> of colored METOPRES concrete surface hardener is sprinkled on the surface. The surface is then trowelled with a hand trowel. In large areas it is advisable to use light weight power trowel.



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#### **Using the release agent :**

After the application of the colored concrete surface hardener, a special water repellent powder METOREL release agent is used by spreading it on the surface of the concrete about 250-350 g./m<sup>2</sup> is sprinkled all over the surface it will give an antique effect to the final finished surface. In closed or windy open areas it is best to use liquid release agent for the same purpose (but with no antique effect.)

#### **Stamping :**

The concrete must be still plastic. The correct time for starting stamping can be roughly estimated by pressing a finger into the concrete mortar if the depression does not close and does not fill with water then stamping should start by placing the special mats of the selected pattern on the surface and hammering with special hammering tools.

#### **Preparation of joints :**

The joints should be cut regardless of any patterns shape or direction which may result in unwanted joint marks on the patterned surface so the most practical method instead of cutting the joints it would be better to use decorative pavement bricks or similar ready made material. These will act as forms and there will be no need for joint cutting and filling and will give an attractive final touch.

#### **Washing and cleaning :**

2- 7 days after stamping the concrete the surface is washed with pressurized water. Acid washing can be carried out if necessary but it must be applied by experienced workers.

#### **Sealing with METOSEAL :**

METOSEAL is concrete sealer applied on the washed and dried surface. METOSEAL is used for different reasons, it seals, protects the surface and gives a shiny finish. 200- 500 g/ m<sup>2</sup> of METOSEAL is applied with a roller, a brush or a spray gun. Depending on the weather conditions minimum 30-60 minutes should be waited before applying the second coat.

#### **Repair of the finished product :**

If for any reason damage occurs in the finished surface a quick and practical repair work can be made by preparing a METOPRES repair mortar. Therefore the damaged or broken part of the concrete can be repaired by applying the steps and procedures mentioned above.

#### **STORAGE:**

- Store in a dry, non humid area,
- No more than five bags should be stacked on top of each other,
- For cement based hardeners, preferably use in 6 months from production date and if properly stored this period can be as long as 1 year.

#### **COVERAGE :**

3-4 kg/m<sup>2</sup> is used in stamped concrete applications.

#### **CAUTION:**

##### **Fire**

METOPRES is not flammable.

##### **Health and safety**

- \*It is cementitious material so do not use on floors subjected to acids and other corrosive chemicals,
- \*Avoid inhalation of dust while sprinkling the dry shake hardener and the release agent on the surface.
- \*The above mentioned application system is for normal weather conditions. In the case of extreme weather conditions this application method, the concrete mixing and curing application must be modified accordingly.
- \*METOPRES is a cementitious material and becomes alkaline when mixed with water therefore avoid contact with skin it can be harmful and wash thoroughly with water.

#### **LIMITED WARRANTY**

All recommendations, statements and technical data herein are based on tests we believe to be reliable and correct also based on our long experience in this field of construction.

METOP LTD. Warrants it's products ( METOPRES) to be free of manufacturing defects and contains best quality ingredients. Since no control is exerted over it's application and use METOP LTD. or Pipomet Emirates Makes no warranty, either expressed or implied, concerning this product.

Extra and special guaranties can be granted to certain big project by obtaining mutual agreements between concerning parties. The company detailed application instructions must be complied with for any company guaranties to be applicable.

**METOP**

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