



Heavy Duty , Steel fibres forced Metallic and Emery Floor hardener

Product Description

METOP TM-4 MIX is a very hard wearing special purpose, heavy duty industrial coating, and durable concrete surface coating ,with a very high abrasion resistance. Specially design Very Heavy traffic use ,

Contains micro steel fibre, very hard Silicon Carbide, Aluminum-oxide together with natural Iron oxide aggregates and high strength cementations binders

Advantages

- * Provides a high strength wearing surface
- * High compressive , flexural resistance
- * Supplied ready to use
- * Easy to apply; clean and maintain
- * Spark resistance –Anti-Static performance
- * Achieves approximately 5 to 8 times abrasion resistance of plain cured concrete

Uses

- * Specially design for heavy-duty loads and Military use concrete surface
- * Steel factories,
- * Aircraft Hangars ,
- * Heavy Freight terminals
- * All type of heavy duty factory floors ,
- * Indoor and outdoor all Car Parks

Table 1.0-Aggregate type of METOP TM4-MIX

Aggregate type	Hardness (Mohs)
Silicon Carbide	9.5 Mohs
Corundum aggregates	9,0 Mohs
Natural IronOxide	6-7 Mohs
Steel fibres	-

The Silicon Carbide and Corundum aggregates gives a very high abrasion and wear resistance with their superior hardness to the final concrete surface, Steel fibres gaves a extra reinforcement to the surface coatings

Color

*3 Standard colors are always available Concrete gray / Black and / Brick red . Other colors can also produce, according to the customer needs.

General Properties

METOP TM-4 SERIES

(**TM-4 / TM-4 SC / TM-4 MIX**) produce by same chemical formulation so gives more or less similar technical specification. Differences comes from the aggregate types used in for different purpose

.Model can be chosen , according to the moveable heavy load traffic type, life time , abrasion resistance needs ,

Generaly ,Bohme Test ,Abrasion loss around 1,5 -3 cm³/50cm²

The average 28 day flexural and compressive strengths of **METOP TM-4** gives a preferable value to the end users

Abrasion

Table 2.0 Flexural strength	
Type of coating	Bohme Abbrasion loss
(Avarage)	EN 13892-3
METOP TM4-MIX	3.00 cm ³ /50 cm ²

Flexural strength

Table 3.0 Flexural strength	
Type of coating	Average Flexural strength
	(Mpa)
METOP TM4-MIX	12.4

Compressive strength

Table 4.0-Compressive Strength	
Type of coating	Average Compressive
	Strength
	(Mpa)
METOP TM4-MIX	105





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Design criteria

Base concrete :

The quality of the base concrete is very important and will affect the final finished surface. High quality concrete mixture must be used with a minimum 300-350 kg/m³ cement content. The water cement ratio and the concrete mix design are very important. Excessive bleeding and segregation are not desirable and must be brought down to minimum level. Depending on the weather conditions the water/cement ratio can vary between 60-120mm.

Instructions for use

-Site preparation

*Finish all necessary soil compaction and floor preparation work before placing the concrete.

*Sub grade must be well drained and must be graded in uniform thickness to create uniform load bearing characteristics and eventually reduce cracks ,

- Concrete placement

* Protect the working area from wind and direct sunlight. Preferably finish concreting work, after finishing roofing and other wall construction

* Always use good quality concrete mix suitable for industrial floors and prepared according to internationally accepted standards.

* In industrial floors thickness of the placed fresh concrete specially for heavy loads should not be less than 15 cm reinforced concrete.

* Discharge the concrete directly from the concrete mixer truck. Deposit concrete uniformly in front of the vibrating screed.

* The grade behind the screed must be checked frequently over vibration must be avoided to stop excess fine material from coming to the surface.

* If any Power lazer screed and finisher using in this concreting , System must be change by according to the type of machines and area of concreting dimension

- Color hardener application

Can be use in a 2 different system

- Classic system which is sprinkling Metop TM-4 MIX dry on wet in a min 2 stages,
- Metop TM-4 MIX as a mortar wet on wet to the surface ,

In classic sytem Metop TM-4 MIX must be shake on 2 or 3 stages totally 8- 12kg/m² or more rate according to the surface traffic load

*In Wet on wet system -METOP TM-4 MIX must be mixed well , with around 25% pbw with water. Then apply this mortar directly to the surface, total mortar mixture of Metop TM-4 MIX and concrete , compacted , leveled and trowel ,by using hand trowels or bull floats before the power trowel starts floating to surface (For more details of application ,can be taken from Metop Company technical service)

Coverage :

METOP EX -METOP TM-4 SC and others TM-4 MIX and TM-4 ST has a different specific gravity so coverage must be calculate according to the surface traffic and desired coverage thickness

Heavy duty surface

8-12 kg dry on wet .

10-25 kg /m² Wet on wet can be use

Moderate industrial traffic -8-10 kg/m²

For light Traffic You may use METOPEX or Metop-SERTOP color hardener

Curing

100-200 g/m² METOCURE ACR 150 High solid content acrylic curing agent should be applied to the dry clean concrete surface after the last trowel finish . It is manufactured to conform to ASTM C309.

METOCURE ACR 150 has the advantage of preventing initial water loss from the concrete surface and eventually result in better quality and higher strength concrete . Depending on the type of curing agent used best results can be achieved if no moisture is present on the surface of concrete during the curing agent application.

Jointing & Filling

All contacting and construction joints must be cut with saw cut machines in a right dimension, thickness and deepness after 48 hours later

Filling is very important specially its very difficulte to keep the joints in a good condition , under the heavy traffic circulation , These joints must be filled by using strong and industrial type of joint fillers. METOP- FILLEREX (Which is Epoxy /Polyurethane semi rigid special joint filler).



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application instructions must be complied with for any company guaranties to be applicable.

Cleaning

All tools should be washed with water after use.

Storage:

- Store in a dry and non humid area,
- No more than five bags should be stacked on top of each other,
- For cement based hardeners. preferably use in 8 months from production date and if properly stored this period can be as long as 1 year.

Packing;

All Metop TM-4 Series packed in 25 kg craft and laminated bags

Healt& Safety

*It is a Cementations material so, do not use on floors subjected to acids and other corrosive chemicals,

*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.

* METOP TM4 Series is a cementitious material and become alkaline when mixed with water therefore avoid contact with skin it can be harmful and wash thoroughly with water.

CAUTION:

Fire

METOP TM4- Series are not flammable.

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 (All METOP TM4 series) to be free of manufacturing defects and contains best quality ingredients. Since no control is exerted over it's application and use METOP LTD. 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

