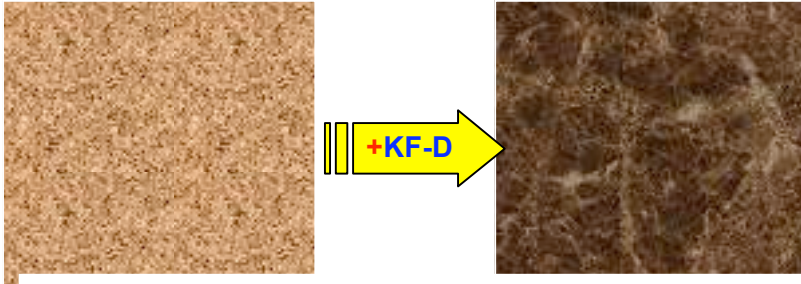




KALMATRON KF-D



Soil before treatment with KF-D and after.

KALMATRON®KF-D

INTRODUCTION

- KALMATRON® KF-D is a compactor of crumbled concrete and densifier of disintegrated and/or soggy soils.
- KF-D is applicable as an admixture of 2.5 Kg per 100 Kg of cement to get cementitious Earth Material Sealant.
- Provides stable consolidation of injected structures with increasing of compressive strength up to 40%.
- Improves liquid impermeability of Earth-Material's structures and concrete/masonry building's elements.
- Stabilizes the flowing of soggy soils of the fields, offshore, sinkholes, foundations, and etc.

TECHNICAL DATA of KF-D

Light gray powder with specific smell. After application, the smell disappears. The non-organic compound works as an admixture to the cement containing EMS

APPLICATION

- Add 2.5 Kg of KF-D per 100 Kg of cement and mix for **no less** than 5 min.
- Mix of EMS with KF-D is applicable as an injection, premix, gunite, strewing, and grinding.

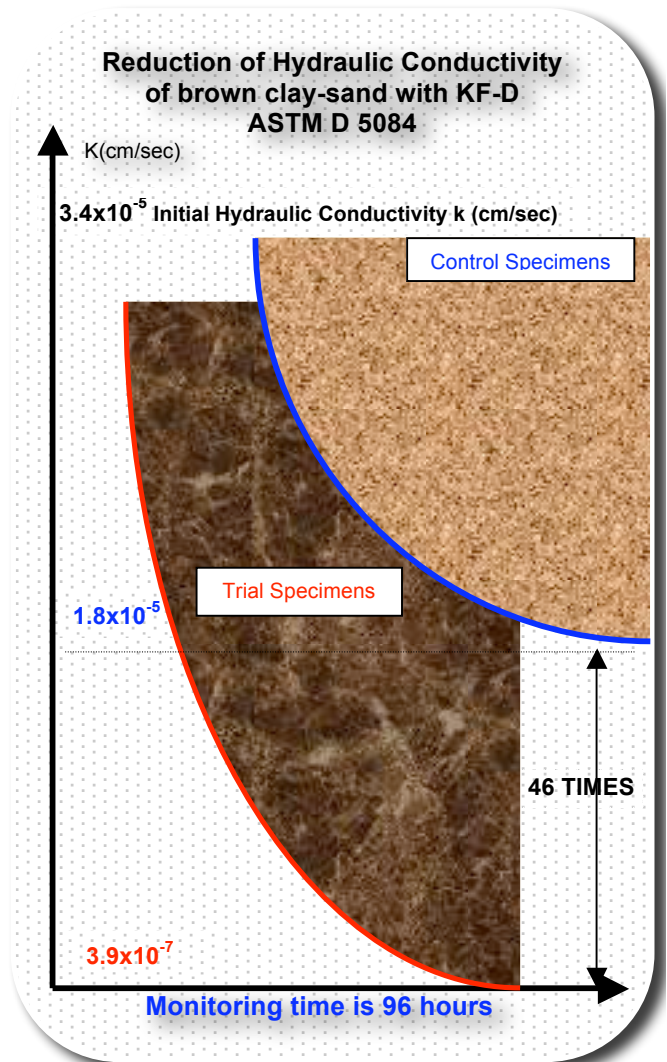
TEST RESULTS OF CRUMBLLED CONCRETE DENSIFYING

- Final hardening was adjustable **at 10 min to 60 min**
- Minimum temperature of cooled debris **-15°C (5°F)**
- Water to Cement ratio **0.39**
- Shrinkage **300 m strain**
- Comparative Compaction **94%**
- Decreasing of Hydraulic Conductivity **98.2%**
- Tensile strength at 28 days **11 Kg/cm²**
- Freeze-Thaw resistance **350 cycles**
- Compressive strength:

TIME	Kg/cm ²	PSI
7 days	210	3000
28 days	300	4260

BENEFITS

- Initial Solubility of KF-D with water is 100% .
- The final product of hardening is insoluble even by acid or water containing salts.
- Completely reduces Bubbling of standard mix.
- The time of hardening is adjustable by W/C ratio.
- KF-D is chemically passive with environmental mineralogy.
- Applications of KF-D by injection, premix, gunite or sorption treatment forms a chemically structured mass where consolidated particles involved as coarse filler.



Notice: brown clay sand with initial density 12 pcf (ASTM 698) and moisture 9.7%
% of compaction

Specimens	Untreated	Treated
Brown Clay Sand	86	97
Gravelly Clay	88	95
Gravel & Sand	79	96
Masonry	66	89
Light Concrete	69	98

COMMENTS: The application of KF-D and EMS treatment creates a chemically changed structure of soil and building materials liner with a reduction in hydraulic conductivity. The degree of improvement depends on initial density of the structure. For crumbling soil it is almost 100 times more effective than for untreated soil in stopping of leaks and moisture flow or seeping.

TECHNICAL NOTICE

The technical data provided by testing of preliminary crushed materials. Concrete was with compressive strength 2500 PSI or 175 Kg/cm² and samples of soil with density at 750 Kg/m³ to 1800 Kg/m³ or 1260 LB/ft³ to 3000 LB/ft³