

Technical Data Sheet KALMATRON® KF-SEA Powdered Concrete Admixture

DESCRIPTION

KALMATRON® KF-SEA is an admixture to the regular concrete mixes containing unwashed sea-sand and sea-gravel where hydration of cement may be provided with sea-water as well. **KALMATRON® KF-SEA** performs the best concrete quality being in the same environment where raw materials were taken from.

KF-SEA is a cost-effective solution that provides a transformation of conventional concrete mix to High Performance concrete. KF-SEA makes concrete strong and durable without the need of any other admixture and/or supplement materials or future applications.

ASTM CLASSIFICATION

KF-A falls under the classification of the following types of ASTM C 494:

- Type C – cement hydration accelerator;
- Type F – high range water-reducing admixture;
- Type S – specific performance admixture (containing unbalanced ionic implants).

APPLICATIONS

Recommended for use in:

- The concrete and reinforced concrete in the centrally loaded structures such as foundations, pillars, walls, columns, etc. except for bending elements with thickness less than 450 mm.
- Facilities for Industrial and Military hazardous wastes, dams, tunnels, heavy traffic roads, ramps, seaports, airports, etc.
- Oil industry, manmade islands, resorts, etc.
- Abrasion and salt resistant trafficable concrete;
- Non-shrinking concrete for flat works;
- Pervious concrete;
- Waterproofing.

TECHNICAL DATA

- Appearance: Grey to Light Grey powder;
- Density: 1300 Kg/m³ or 81 Lb/CF;
- Specific gravity: 2.16;
- pH: 11÷13.

FEATURES AND BENEFITS

- Cost reductions. Cost of ready mix concrete with KF-SEA drops up to 40% in comparison with salt resistant HP Concrete and at 25% with conventional one.
- For conventional concrete mixes, KF-SEA will solely replace the following admixtures and supplementary materials:
 - Anticorrosion admixes and coatings;
 - Water reducers;
 - Superplasticizers;
 - Pozzalons;
 - Silica fume;
 - Fly ash;
 - Membranes;
 - Fine fillers;
 - Fibers;
 - Density and strength gainers.
- Used with natural and unwashed sea-fillers for higher durability than any known HPC.
- Absolute resistance to salt corrosion of concrete structure with preventing of the metal anchors and rebar rusting as well.
- Highest liquid impermeability, resistance to vapor transmission, and advanced as radiation shielding material.
- Independence from concrete aggregates and fillers suppliers.
- Early strengthening by 3rd day;
- Compressive strength is increased by up to 30%;
- Shrinkage is lower at 2 to 3 times;
- Exothermic heat is lower at 30% to 50%;
- 100% water impermeability at ½" concrete thick;
- Strong adhesion to any porous material;
- Increased pumpability;
- Increased workability;
- No shrinkage cracks;
- No Flakes and no Core efflorescence;
- Highest resistance to chemical and climate corrosions;
- Highest freeze-thaw resistance;
- No curing is required.

Product technical data: KALMATRON® KF-SEA**DIRECTION FOR USE/INSTRUCTIONS**

Dosage: KF-SEA is normally used at rate of 12 Kg/m³ or 20 LB/CY of conventional concrete mixes based on sea-fillers. Due to variations in concrete materials, applications and/or jobsite conditions, it is suggested that dosages outside of normal usage range may be required. **In most cases** the seawater salinity on targeted shore as a construction site is not known that's why it is a necessity to recognize suitable dosage of KF-SEA admixture.

- As it is usual, we recommend testimonial dosages of KF-SEA by **9.5 Kg/m³**, **12 Kg/m³**, and **13.5 Kg/m³**
- Use three batches from sea shore by 200 Kg (0.105 m³) each, the samples of KALMATRON® KF-SEA should be at **0.95 Kg/m³**, **1.2 Kg/m³**, and **1.35 Kg/m³**.

In such cases, contact KALMATRON CORPORATION Representative for dosage recognition.

PACKAGING

KF-A is packaged in 50 Lbs plastic bags.

SHELF LIFE

Unlimited, when product is stored in the standard bags and designated industrial environment

PRECAUTIONS

- Test batches and sample testing must be performed by strict compliance with manufacturer's test instructions;
- KF-SEA is not hazardous, not flammable and not explosive for applications, transportation, and storage;
- In all cases, consult the Material Safety Data Sheet (MSDS) before use.

SAFETY

Operation with KF-SEA is similar to cement mixing jobs. Always, use rubber gloves. In case KF-SEA is inhaled, swallowed or gets in contact with eyes, rinse and wash

abundantly with water. Refer to the MSDS for additional health and safety information.

TECHNICAL SERVICES

KALMATRON CORPORATION provides technical assistance services for on-site jobs and on mix design, admixture selection and evaluation trials.

RELATED DOCUMENTS

Material Safety Data Sheet

WARRANTY

KALMATRON CORPORATION provides warranties on KF-SEA performance for specified project, known application requirements and concrete/mortar mix designs before the registered date of KF-SEA application. KALMATRON CORPORATION warrants KF-A against defects in material or workmanship as follows:

- 1) For a period of 12 calendar months from the registered date of application, KALMATRON CORPORATION will be responsible to replace determined to be the fault of product defect.
- 2) In addition, KALMATRON CORPORATION will supply another KALMATRON® product suitable for repair during a period of 12 calendar months from the registered date of application for additional charge.
- 3) This warranty does not cover any damage due to accident, natural disasters, environmental impact, misuse, abuse, or negligence.

In order to obtain warranty service, user must follow KALMATRON CORPORATION's application instructions, industry regulations and workmanship guidelines for specified projects only.

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KALMATRON CORPORATION

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