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KALMATRON® KF-A APPLICATION INSTRUCTION

USA Patent 5,728,208

KALMATRON® KF-A as a powdered admixture is designed and classified as a Concrete Class Upgrading Admixture for the cement containing mixes such as concrete, mortar, shotcrete, gunite, and grout to complete its liquid impermeability, compressive and tensile strengths, corrosion resistance, and conservation rebar from rusting.

■ BATCH

Minimal volume of the concrete/mortar batch is limited by $\frac{1}{4}$ CY ($\sim 0.2\text{m}^3$). Smaller volumes may perform lower concrete properties due to the degrading ratio of KF-A to the concrete batch volumes.

■ DOSAGE

1. KF-A applicable by:

- 8.5 Lbs/yd³ or 5Kg/m³ in the conventional concrete mixes;
- 13 Lbs/ yd³ or 7.5Kg/m³ in the pre-cast concrete mixes, floors, and liquids containing structures;
- 17 Lbs/yd³ or 10Kg/m³ in the plaster, gunite, and shotcrete mixes.
- It is in a practice to apply KF-A by 2 “Coca Cola” cans per every 94 Lbs sack of OPC or 2 Kg of KF-A per 100 Kg of OPC.

2. Do not dissolve KF-A with water. Just strew it into the batch.

■ SLUMP

1. Do not apply any other chemicals and supplementary materials.
2. Slump should be at 2 ½” to 3 ½” This slump provides stable pumpability over 150’.
3. Keep the water-to-cement ratio at 0.38% to 0.42%. To specify your W/C, send us your mix design.
4. If that batch is still stiff, add 4 oz of water per 1 CY and keep mixing.

■ EXPECTED RESULTS

1. Highest volume of cement hydration completes concrete formation without curing. **No curing is required.**
2. Exothermic heat is lower at 30% to 50%. There are no shrinkage cracks and slab’s curling. **No fibers are required.**
3. Yield of mixed batch is higher by 8% to 14% of cement gel. **No water reducer or plasticizer required.**
4. Water impermeability of plaster at ¾” thick and 2” of concrete thick is 100% respectively. **No isolations are required.**
5. Early strengthening at 1st to 3^d days at 25%. **No strength gainers and excessive rebar required.**
6. Highest resistance to chemical and climate corrosions due to complete **hydration of cement grains.**
7. Therefore, KF-A upgrade conventional concrete batch to the **High Performance Concrete.**

■ ESSENTIALS

1. Mixing up to 5 hours keeps concrete batch revived with ~20% slump reduction, but workability will be the same.
2. Applicable in the range of the ambient temperatures at -4°F to 104°F or -22°C to 40°C without isolating measures.
3. Concrete Curing is not required for the most climatic & environmental conditions.
4. During of lab tests do not place control and trial specimens into the same water tank.

■ SAFETY

Operation with KF-A is similar to the cement mixing jobs. Always use an approved respirator and rubber gloves like for jobs with cements. KF-A is not hazardous, not flammable, and not explosive for storage, transportation and application (ask for MSDS).

