

## Technical Data Sheet K<sup>100</sup>®

### Liquid Concrete Admixture

Based on the USA PATENT 5,728,208

#### DESCRIPTION

K<sup>100</sup>® is a liquid version of KALMATRON® KF-A as chemically active admixture to cement-containing mixes that increases the cementitious value and volume of cement paste. K<sup>100</sup>® functioning as an inorganic oxidizer of micro-metal elements contained in the cementitious materials to provide extension of cement gel surface by decay-hydration of the cement grain from 100 µm to 10 µm. K<sup>100</sup>® is a cost-effective solution that provides a transformation of conventional concrete mix to High Performance concrete. K<sup>100</sup>® makes concrete strong and durable without the need of any other admixture and/or supplement materials or future applications.

#### ASTM CLASSIFICATION

K<sup>100</sup>® 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.

#### APPLICATIONS

Recommended for use in:

- Production of high performance concrete;
- Production of liquid impermeable concrete, including crude oil;
- Fineness and corrosion resistant precast concrete;
- Abrasion and salt resistant trafficable concrete;
- Non-shrinking concrete for flat works;
- Pervious concrete;
- Waterproofing.

#### TECHNICAL DATA

- Appearance: Light Milky Liquid;
- Density: ~ 930 Kg/m<sup>3</sup> or ~58 LB/CF;
- pH: ~5÷7.

#### FEATURES AND BENEFITS

- Cost reductions. For conventional concrete mixes, K<sup>100</sup>® will solely replace the following admixtures and supplementary materials:
  - Water reducers;
  - Superplasticizers;
  - Pozzalons;
  - Silica fume;
  - Fly ash;
  - Membranes;
  - Fine fillers;
  - Fibers;
  - Density and strength gainers.
- Dosage reduction of water at the rate of 10%-30% in conventional concrete mixes;
- No surface preparation (remove loose materials);
- High cement hydration;
- Yield of mixed batch is higher by 8% to 14% of cement gel.
- Early strengthening at 3<sup>rd</sup> to 7<sup>th</sup> day;
- Compressive strength is increased by up to 25%;
- Shrinkage is lower at 2 to 3 times;
- Exothermic heat is lower at 30% to 50%;
- 100% water impermeability at 2 inch concrete thick layer;
- Strong adhesion to any porous material;
- Works with concrete in ambient temperature range of -4°F to 104°F;
- Increased pumpability;
- Increased workability;
- No shrinkage cracks;
- No cracks, flakes, efflorescence and slid areas;
- No bleeding;
- Highest resistance to chemical and climate corrosions;
- Highest freeze-thaw resistance;
- Mixing for up to 5 hours keeps concrete batch revived with approximately 20% slump reduction; however, workability will be the same;
- No curing is required.

**Product technical data: K<sup>100</sup>®****DIRECTION FOR USE/INSTRUCTIONS****Dosage:**

1. K<sup>100</sup>® is applicable by the volumetric ratios as 0.41 GL/CY (2 OZ/CF), or 2 Liter/m<sup>3</sup> of conventional concrete mix.
2. K<sup>100</sup>® is applicable by the weight's ratios as 10 OZ per 100 LB of cement or 0.75 Kg per 100 Kg of cement.

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 such cases, contact KALMATRON CORPORATION Representative.

**PACKAGING**

K<sup>100</sup>® is packaged by 5 GL buckets or 264 GL totes.

**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;
- K<sup>100</sup>® 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 K<sup>100</sup>® is similar to cement mixing jobs. Always, use rubber gloves. In case K<sup>100</sup>® is swallowed or gets in contact with eyes, rinse and wash abundantly with water. Refer to the MSDS for additional health and safety information.

**KALMATRON CORPORATION**

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**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 K<sup>100</sup>® performance for specified project, known application requirements and concrete/mortar mix designs before the registered date of K<sup>100</sup>® application. KALMATRON CORPORATION warrants K<sup>100</sup>® 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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