



OPAL® is a high-performance Water Reducer for ready-mix concrete. It is specially designed to improve the rheology of concrete in hot weather, to allow for very flowable and with low viscosity even at very low water/cement ratios.

Applications

- Enables production and transportation of concrete in normal weather conditions.
- Slabs, foundations, columns, shear and retaining walls, deck bridges, etc.
- Suitable for producing pumpable concrete with workability retention.

Approvals / Standards

- ASTM C494
- ASTM C494 M TYPE F
- EN 935
- INSO 2930

Advantages / Benefits

- Reduces water-cement ratio in the range of 12% to 20%
- Increases workability and workability retention of concrete
- Improves pumpability of concrete
- It can be used with all types of Portland cement
- Prevents creep and shrinkage of concrete
- Increases the compressive strength of concrete
- Reduces permeability
- Excellent handling properties

Guideline for Use

1. OPAL could be added to a part of concrete mixing water then added to the concrete mix.

2. OPAL could be added to the concrete mix during the mixing cycle at the same time as the water or the aggregate or it could be added to ready-mix concrete before placing concrete.

Admixtures must be weighed carefully.

Dosage

The optimum dosage of OPAL can be determined by trials in the site. Depending on concrete mix design (sizes and types of aggregates, cement content, water/cement ratio, ambient temperature and concreting conditions), a dosage of between 0.45 and 1.3 percent by weight of cement or cementitious material is recommended.

For use with other range of dosage, contact RAMKA Technical Services Department.

Compatibility

OPAL is compatible with concretes containing silica fume, fly ash, or ground granulated blast or slag cement. In case of requirement of utilizing other admixtures in concrete, it is highly recommended to add them separately. Always conduct trials before combining products in specific mixes and contact our Technical Service Department for information about specific combinations.

Effect of Overdosing

Over dosage may cause delay in the setting time, bleeding and segregation problems.

Product Information

State	Liquid
Packaging	20KG Plastic Can / 1100KG IBC Container
Chloride Content	Nil to EN 934
Appearance / Color	DARK BROWN
Shelf Life	12 months from date of production if stored properly in undamaged unopened, original sealed packaging
Storage Condition	Should be protected from direct sunlight and frost. Keep container in the temperature range between +10°C and +30°C
Density	1.04±0.05 g/cm ³

Storage

This product Should be protected from direct sunlight and frost. Keep container in the temperature range between +10°C and +30°C. Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging. For specific storage condition contact RAMKA Technical Services Department.

Basis Of Data

All technical data stated in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

Health and Safety

This product does not contain any substances hazardous to human health and the environment.

However, it should not be swallowed and contact with skin and eyes.

In case of contact with eyes, rinse immediately with plenty of water.

OPAL is not flammable.

Additional Information

For additional information on OPAL admixture, consult to our Technical Services Department.



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Important Notes: The information, and, in particular, the recommendations relating to the application and end-use of RAMKA products, are given in good faith based on RAMKA's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with RAMKA's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application and purpose. RAMKA reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.