

## PRODUCT INFORMATION

### **BLOCK EMULSION**

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**Manufacturer's code:** RPBE

**Updated:** 01/01/2008

**Product Name:** BLOCK EMULSION

**Description:** BLOCK EMULSION is an innovative admixture for pressed concrete. When BLOCK EMULSION is incorporated into pressed concrete products, the permeability to water and the occurrence of unsightly efflorescence is virtually eliminated. The use of BLOCK EMULSION enhances the intrinsic quality of pressed concrete products by reducing the damage caused by weathering-related water uptake and efflorescence.

**Recommended Uses:** BLOCK EMULSION is designed to be a water-repellent admixture during the manufacture of pressed concrete products including load-bearing blocks, decorative blocks, coloured blocks and blocks for retaining walls and basements. It may also be added into concrete pavers or other pressed concrete masonry or similar procedures. However, it is not recommended to be used in aerated concrete masonry or wet-mix concrete product. Some of the features of BLOCK EMULSION pressed concrete include:

- Reduces water absorption and efflorescence by over 80%.
- Product remains permanently bonded to the substrate and cannot be washed out.
- Does not leave an oily residue on the masonry substrate.
- Easy to use in any existing processes.
- The degree of water resistance can be varied by changing the rate of addition.
- Water-based technology with no hazardous material emitted during use.

As masonry materials vary, it is always recommended that a test must be carried out prior to application to find out the suitability of this product for the purpose.

**Use Instructions:** 1. Dosage

The rate of addition depends on the specific mix design and the level of water repellency required. The usual dosage rate is about 1.0 litre of BLOCK EMULSION per tonne (1000kg) of dry mix ingredients.

2. Addition

BLOCK EMULSION is designed to be added as part of the gauging water during the mixing process.

If a typical mix has 1000kg of dry ingredients, the procedure to incorporate 1.0 litre of BLOCK EMULSION into this 1000kg of dry mix would be as follows:

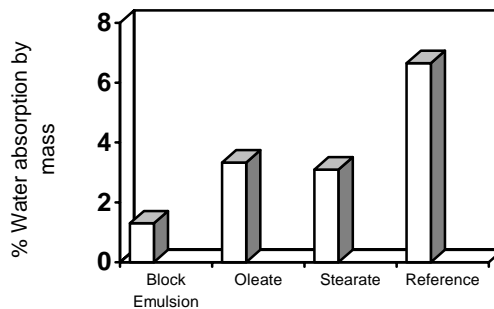
- 1) Thoroughly mix all the concrete dry ingredients (1000kg) in a batch mixer.
- 2) Stir or mix BLOCK EMULSION before use.
- 3) Measure out 1.0 litre of BLOCK EMULSION and dilute it with 5 litres of clean water.
- 4) Spray this diluted emulsion into the dry mix while blending.
- 5) Blend the mix thoroughly while adding clean water to attain the desired consistency. The mix can now be processed as usual.

If your process is substantially different to that described above, please do not hesitate to contact the manufacturer or the sales agent for assistance.

**Performance tests**      1. Reduction in Water Absorption

The pressed concrete substrate used for testing contains 18% cement and 82% graded sand and aggregates with BLOCK EMULSION at a dosage rate of 1.0 lt/tonne. Commercial oleate and stearate water repellent admixtures were used as comparisons. The test substrates were initially covered with plastic for 24 hours in ambient conditions for obtaining initial strength followed by 28 days curing at ambient conditions before testing. Sponge capillary water absorption was conducted. The test results are shown in Figure 1. The performance of BLOCK EMULSION is far superior to that of the reference and is much better than those of the substrates with oleate and stearate.

**Figure 1. Reduction in Water Absorption**



2. Controlling Efflorescence

The efflorescence test is conducted by laying the above test substrates on a wet sponge placed in a solution containing 10% sodium sulfate. The top surface of the substrate was visually monitored for occurrence of efflorescence for 7 days. Table 1 indicates that efflorescence of the substrate treated with BLOCK EMULSION was found to be virtually eliminated during the test period.

**Table 1. Efflorescence Occurrence**

Substrates	After 1 day	After 3 days	After 7 days
With BLOCK EMULSION	No efflorescence	No efflorescence	Very limited efflorescence
Reference	100% saturated with the salt solution	-	-

**Typical Data:**

Appearance:	Milky white liquid with slight odour
Solids content:	<50% by weight
Specific Gravity:	0.975 gm/ml
pH value:	7-8
Solubility in water:	Miscible
VOC content:	Nil
Flash point:	>61°C

**Important Note:** As conditions vary, it is recommended that a pilot trial should be carried out prior to using BLOCK EMULSION to determine the suitability of this product for the purpose.

**Handling & Storage:** BLOCK EMULSION is a non-hazardous material. However, good industrial hygiene procedures should be followed when handling it. The product should be stored in closed containers in a cool dry place away from any fire sources. The product has a shelf life of 12 months in a sealed container stored at a temperature below 25°C.

**Packaging:** BLOCK EMULSION is available in 20 and 200 litre plastic drums or 1,000 litre plastic bulky bins. Other size containers may be available on request.

**Disclaimer:**

The information given in this data sheet is based on many years of experience and is correct to the best of our knowledge. As the storage, handling and application of this material is beyond our control; we can only be responsible for the quality of our product at the time of dispatch. We reserve the right to alter certain product parameters within the spectrum of properties in order to keep abreast of technical advances. It is the responsibility of the end user to determine the suitability of this material for any particular application.