

# Flocrete R50

Retarding and water reducing admixture



## Description

Flocrete R50 is formulated from selected polymers specially designed to enable the water content of the concrete to perform more effectively.

This effect can be used to improve workability, to increase ultimate strengths or to facilitate a reduction in the cement content while sustaining and improving mix properties.

Flocrete R50 has retarding properties; this effect can be used in concrete where high cement content or high temperatures are involved, or where extended setting time is required.

## Applications

- ▲ Roller compacted concrete (RCC).
- ▲ Hot weather concreting.
- ▲ Where workability retention or retardation are required.
- ▲ To produce high quality concrete of improved durability and water tightness.

## Advantages

- ▲ Improved workability reduces placing and compaction problems.
- ▲ Workability retention for long distance concreting.
- ▲ Cold joints can be avoided by extending initial and final concrete setting time.
- ▲ Higher strength with same cement content.
- ▲ Cement saving without affecting strength.
- ▲ More durable concrete as a result of reduction in permeability and lower water to cement ratio.

## Compatibility

Flocrete R50 can be used with all types of Portland cement and cement replacement materials. Flocrete R50 is compatible with other DCP admixtures used in the same concrete mix. If more than one type of admixture is to be used in concrete mix, they must be dispensed to the concrete separately.

## Standards

Flocrete R50 complies with ASTM C494, Type B and D and with BS 5075, Part 1.

### Technical Properties @ 25°C:

Colour:	Brown liquid
Freezing point:	-2°C
Specific gravity:	1.20 ± 0.01
Chloride content: BS 5075	Nil
Air entrainment:	Typically less than 2% additional air is entrained above control mix at normal dosages

## Method of Use

Flocrete R50 should be added to the concrete with the mixing water to achieve optimum performance.

An automatic dispenser should be used to dispense the correct quantity of Flocrete R50 to the concrete mix.

## Dosage

The guidance dosage of Flocrete R50 is 0.2 - 0.9 litre per 100 kg of cementitious materials in the mix, including GGBFS, PFA or microsilica.

Representative trials should be conducted to determine the optimum dosage of Flocrete R50 to meet the performance requirements by using the materials and conditions in actual use.

## Effects of Over Dosage

Over dosing of Flocrete R50 will cause the following:

- ▲ Significant increase in retardation.
- ▲ Increase in workability.

Ultimate concrete strength will not be adversely affected and will generally be increased provided that proper concrete curing is maintained.

## Setting Time

Although the setting time is dependent on the dosage of Flocrete R50, the following factors should be considered:

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Properties	ASTM Code	Control Mix*	Flocrete R50					
Flocrete R50 Dosage (kg/m <sup>3</sup> )		0.0	0.2	0.3	0.4	0.6	0.8	0.9
Flow/Slump (mm)	ASTM C143	200	200	210	190	205	200	190
Air Content by Pressure Method	ASTM C231	2.6	2.8	2.9	2.9	2.8	3.0	3.2
Initial Set (at 500 lb/in <sup>2</sup> ) (hr:min) at 25°C	ASTM C403	5.5	6.5	7.0	8.25	10.5	14.5	18.5
*320 kg/ m <sup>3</sup> , CEM I 42.5 R, concrete temperature 20°C								

- Retardation is increased with a lower level of tri-calcium in the cement.
- Lower temperatures will delay the setting time.
- SRC cement gives higher retardation level than ordinary cement.
- Using more than one type of admixture in the same concrete mix could affect the setting time.
- Retardation level is increased when cement replacement materials are used in the concrete mix.

#### Notes:

- ▲ Low dosage is recommended with low temperatures so as to avoid excessive unwanted setting time retardation.
- ▲ High temperatures affect setting time retardation adversely, so high dosages are recommended.

#### Cleaning

Flocrete R50 can be washed with fresh cold water.

#### Packaging

Flocrete R50 is available in 25 litre pails, 210 litre drums and 1000 litre bulks supply.

#### Storage

Flocrete R50 has a shelf life of 12 months from date of manufacture if stored at temperatures between 2°C and 50°C.

If these conditions are exceeded, DCP Technical Department should be contacted for advice.

#### Cautions

#### Health and Safety

Flocrete R50 is not classified as hazardous material. Flocrete R50 should not come into contact with skin and eyes.

In case of contact with eyes wash immediately with plenty of water and seek medical advice promptly.

For further information refer to the Material Safety Data Sheet.

#### Fire

Flocrete R50 is nonflammable.

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- ▲ Surface treatments
- ▲ Grouts and anchors.
- ▲ Concrete repair.
- ▲ Flooring systems.
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- ▲ Sealants.
- ▲ Waterproofing.
- ▲ Adhesives.
- ▲ Tile adhesives and grouts.
- ▲ Building products.
- ▲ Structural strengthening.

#### Note:

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