

## Description

Optomix 42 is a specially formulated cement set retarding admixture based on a blend of high grade polyhydroxycarboxylic acid derivatives and synergistic active ingredients which provides controlled set of portland cements in Ready Mixed Concrete, mortars, screeds and renders. It is normally used in building mortars in conjunction with an Oscrete Air Entrainer to produce a pre-mixed ready-for-use mortar with extended setting time and workable life.

## Application

Optomix 42 is used to control and extend the setting time of cement based materials:

- Concrete with a workable life of 2 - 6 hours.
- Mortars with a workable life of up to 48 hours, enabling advantages of ready-to-use mortar systems to be maximised.
- Screeds can be produced and delivered with a workable life of a full working day providing savings on plant, labour and transport.
- One and two coat render systems can be supplied ready for use.
- Problems of long haulage times and high temperatures can be reduced.

## Benefits

- Controlled cement set allows up to 48 hours mortar life.
- Site mixing plant, storage and wastage eliminated
- Allows increased usage of truck mixers.
- Water reducing properties improve durability by decreasing water demand, reducing shrinkage and improving frost resistance.
- When used with an Oscrete Air Entrainer a high resistance to freeze/thaw cycling is achieved.

## Standards

Optomix 42 complies with the requirements of BS EN 934-2 : Table 8 for Set Retarding admixtures.

All Christeyns products are produced in accordance with the ISO 9001:2000 Quality Management Standard and the ISO 14001 Environmental Management Standard.

## Addition Rates

The natural variations in cements and cement replacements, aggregate types and grading, mixer type



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and ambient temperature all affect the dosage required for a given workability and retardation period. Trials should, therefore, be carried out to determine the correct addition rate for the materials to be used.

As an initial guide;

#### Mortar

1.5% by weight of cementitious binder should retard building mortar for approximately 30 - 36 hours (2.25% for cement: lime mortar mixes)

#### Concrete

0.1-0.6% by weight of cementitious binder will retard initial set of concrete for approximately 2 - 6 hours

Optomix 42 should be accurately measured, preferably by dispensing unit. It should be added to the mix either with or immediately after the mixing water.

Overdosing with Optomix 42 will result in increase of workability and set retardation. The amount of increase will depend upon the actual over-dosage, a double dose may retard mortar for several days. Over-retarded mortar, if used, must be cured properly and protected from water loss by evaporation to allow full hydration to take place. If proper precautions are taken, the ultimate strength and durability will not be impaired.

Severe overdosing could permanently prevent cement hydration and such mortars must not be used.

#### Mix Designs

Ready-to-use mortars and screeds should be designed to comply with the relevant table of BS 4721. BS 5262 and BS 5492 give advice on render mix design. Prescribed, designated and design concrete mixes should comply with BS EN206-1 and BS8300-2.

#### Disclaimer

The physical properties quoted are typical, and should not be taken as a specification. The information supplied in our literature is based on data and experience and is given in good faith. Our policy is one of continuous research and development and we reserve the right to update this information at any time; customers should therefore ensure they have the latest issue. Whilst we guarantee the consistent high quality of our products, we have no control over the circumstances in which our materials are used, site conditions or the execution of the work and are therefore unable to accept any liability for any loss or damage which may arise as a result thereof. Materials are supplied in accordance with our standard conditions of sale.

#### Typical Properties

##### Appearance

Pale straw liquid

##### Relative Density

1.16 gcm<sup>-3</sup> at 20°C

##### Water Soluble Chloride to EN 480-10

Nil to BS 5075

##### Alkali Content to EN 480-12

2.6% as Na<sub>2</sub>O equivalent

##### Corrosion Behaviour

No performance determined

##### Air Entrainment

Less than 1% additional air entrained

##### Compatibility

Optomix 42 is compatible with all portland cement binders, including ggbs, pfa and hydrated, quick and putty limes. Optomix 42 is compatible with all Oscrete Air Entrainers but should be added separately to the mix and never premixed.

##### Handling

Optomix 42 is a non-hazardous product but in line with general handling precautions to avoid contact with skin or eyes, protective goggles should be worn.

Refer to the Material Safety Data Sheet for Optomix 42 for full details.

##### Packaging

200 litre drums, 1000 litre IBCs and bulk deliveries.

**OSCRETE is a division of Christeyns UK Ltd.**  
Rutland Street  
Bradford  
West Yorkshire  
BD4 7EA  
United Kingdom

**Telephone:** +44 (0)1274 393286

**Fax:** +44 (0)1274 309143

**e-mail:** [info@oscrete.co.uk](mailto:info@oscrete.co.uk)

**Website:** [www.oscrete.co.uk](http://www.oscrete.co.uk)