

# RHEOBUILD® 2000M

(Replaces Atroment 10)

## A high range melamine based superplasticiser

### Description

A chloride free, admixture based on melamine formaldehyde, formulated for the production of rheoplastic concrete. Available as a liquid, or in powder form which must be dissolved in water prior to use.

A rheoplastic concrete is a fluid, but cohesive mix with a slump value of at least 200mm. It is virtually self compacting, but at the same time free from segregation and with a water/cement ratio as a no-slump concrete with an admixture.

### Primary uses

- For the production of rheoplastic concrete
- To produce high early strength concrete
- Precast concrete
- Concrete with white cement

### Typical applications

For the production of flowing, self compacting concrete with high early strengths. Where reduced striking times would be of benefit such as precast and steam cured concrete. For the production of high early (12-16 hours) and high long term strength concrete.

### Packaging

Supplied in 220 kg. drums. Bulk deliveries available on request. Powder version is available in 25kg bags.

### Typical properties\* (liquid form)

\* Properties listed are only for guidance and

are not a guarantee of performance.

Colour:	Clear to turbid liquid
Specific gravity:	1.1 at 25°C
Air entrainment:	Nil
Chloride content:	Nil to BS 5075:1982
Nitrate content:	Nil
Freezing point:	0°C. Can be reconstituted if stirred after thawing.

### Standards

ASTM C-494-92: Type A, C, E & F  
BS 5075: Part 1

### Compatibility

RHEOBUILD 2000M can be used with all types of Portland cement, including sulphate resisting. For use with other special cements, contact Degussa Technical Services Department. RHEOBUILD 2000M should not be premixed with other admixtures. If other admixtures are to be used in concrete containing RHEOBUILD 2000M, they must be dispensed separately.

### Action

RHEOBUILD 2000M dramatically increases the workability of concrete by its powerful deflocculating and dispersing effect. It also acts catalytically to increase the rate of hardening of the cement particles thereby leading to higher early strength.

These combined effects can be utilised to obtain a significant reduction in free water content or to produce self compacting, high workability flowing concrete which has increased early strengths.

### Benefits

- Translucent colour enables use with white cement concrete.
- Produces highly impermeable, dense concrete with enhanced durability.
- Enables higher strength and high workability concrete to be produced with normal cement contents.
- Enables precast units to be demoulded in 12 to 16 hours.

Can be used to produce self compacting flowing concrete which requires little or no vibration.

### Method of use

RHEOBUILD 2000M should be added to the mix during the mixing cycle at the same time as the water or aggregates. Never add RHEOBUILD 2000M to the dry cement. No extension to the mixing time is necessary.

Alternatively, when using RHEOBUILD 2000M to produce rheoplastic concrete at site using ready mix trucks, it can be added to the concrete via the feed hopper at the rear of the truck, a few minutes before placing. Ensure at least 3 minutes mixing before use at a minimum drum revolution of 10 rpm to produce a fully homogeneous mix.

When using RHEOBUILD 2000M to obtain very high early strengths, advantage must be taken of its water reducing properties.

### Mix designs

When using RHEOBUILD 2000M to produce rheoplastic concrete, it is essential for concrete mixes to be designed to accommodate an increase in workability. A

conventional pumped concrete mix design with a further addition of 2-3% fine sand, will normally accommodate this, depending on overall fines content and sand grading. For water reduced or high early strength concrete, adjustment must be made to account for volume changes.

### Dissolving powder

RHEOBUILD 2000M Powder in water:

Ensure that water is clean, fresh and free of chlorides and other contaminants.

To dissolve quantities on a small scale use a clean, open top 210 litre container. The container should be made of plastic or stainless or coated steel.

To produce 200 kg (approximately 181 litres) of a 20 % solution, first pour 160 litres of water into the container and slowly add 40 kg of 2000M powder whilst stirring. If larger amounts are to be dissolved, the use of a mechanical slow speed stirrer is recommended.

Stir until all the powder is dissolved. RHEOBUILD 2000M Powder dissolves very rapidly, however if lumps do form continue to stir and reduce the speed of addition of the powder.

### Dosage

Field trials should be conducted to determine the optimum addition of rates of RHEOBUILD 2000M. As a guide to these trials, the following figures are recommended as a starting point:

% water reduction	Dosage cc per 100 kg cement
10-15	1500
15-20	2000
20-25	3000

## Flowing concrete

An addition of 1000-1500 cc per 100 kg cement is usually required to produce flowing concrete from a concrete with an initial slump in the range of 50-100 mm. Consideration should be given to the effect of increases in formwork pressures.

## High early strength, high workability concrete

Concrete mixes can be produced with a reduction in water in the region of 10-15% and an increase in workability of between 50-100% by an addition rate of RHEOBUILD 2000M at the rate of 1000-3000 cc per 100 kg cement.

## Effects of over dosage

A severe over dosage of RHEOBUILD 2000M will result in:-

- Slight retardation of initial set.
- Increase in workability.

Providing the concrete is properly cured, the ultimate strength of the concrete will not be adversely affected and will be generally higher than for normal concrete.

Care should be taken to allow for the effect of fluid concrete pressure on formwork and stripping times should be monitored.

## Safety precautions

RHEOBUILD 2000M contains no hazardous substances requiring labelling. For further information refer to Product MSDS.

## Storage

Store under cover, out of direct sunlight and protect from extremes of temperature. Powder should be protected from rain and stored off the ground on pallets. Shelf life is up to 1 year when stored as above.

Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging. For specific storage advice consult Degussa's Technical Services Department.

## Note

Field service, where provided, does not constitute supervisory responsibility. For additional information contact your local Degussa representative.

Degussa reserves the right to have the true cause of any difficulty determined by accepted test methods.

## Quality

All products produced by Degussa certified manufacturing facilities, are produced to conform to systems designed to meet internationally recognised quality standards.

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