

# RHEOBUILD<sup>®</sup> 1003

A superplasticising admixture to produce rheoplastic concrete

## DESCRIPTION

**RHEOBUILD 1003** is a superplasticising admixture that contains a sulphonated polymer. It is chloride free and specially formulated to impart rheoplastic qualities to concrete.

Rheoplastic concrete is a fluid concrete with a slump value of at least 200mm or higher that flows easily but at the same time is free from segregation and has the same water/cement ratio as that of a no-slump concrete without additive.

**RHEOBUILD 1003** has been formulated to meet the requirements of ASTM C494 for Type A & F & BS 5075 admixtures.

**RHEOBUILD 1003** is compatible with all cements meeting recognised international standards.

## FIELDS OF APPLICATION

**RHEOBUILD 1003** is recommended for:

- all types of concrete mixes in which high strength and very high flowability are essential.
- precast concrete.
- cold weather concreting.

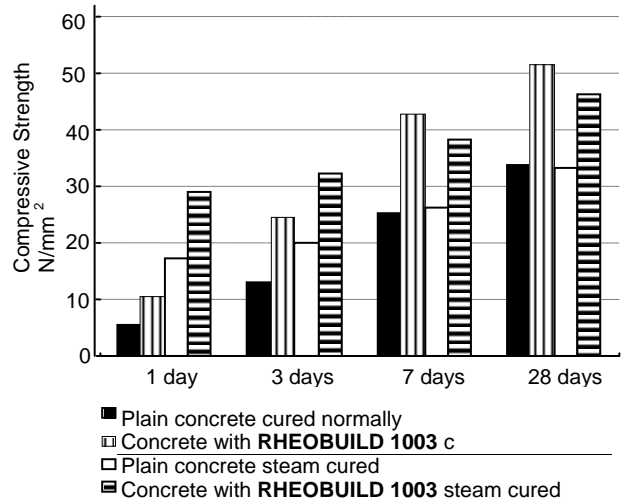
## FEATURES AND BENEFITS

<b>Very high workability</b>	Short placement time. Saves time and labour.
<b>High water reduction</b>	High impermeability and strength. Improved durability.
<b>Superior cohesion</b>	No segregation even at high workability. Excellent concrete quality.
<b>High early strength</b>	Early demoulding. Shorter steam curing cycles.
<b>Low shrinkage and creep</b>	Better dimensional stability.

## TYPICAL PERFORMANCE DATA

Compressive strength: **RHEOBUILD 1003** improves compressive strength at all ages considerably compared to plain concrete with the same workability.

Example of the influence of **RHEOBUILD 1003** on concrete strength development



Maximum size of aggregates: 20 mm,

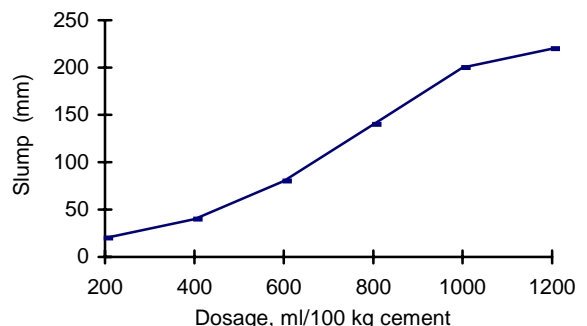
Cement content: 350 kg/m<sup>3</sup>,

Concrete cured for 1 hour at 20°C, heated by steam from 20°C to 60°C for over 1 hour, steam cured at 60°C for 3 hours, cooled to 20°C in 1 hour.

Typical results obtained when dosed at 1L per 100kg cement are illustrated above.

Workability: **RHEOBUILD 1003** increases the workability of concrete and the duration of workability retention considerably.

Typical influence of **RHEOBUILD 1003** on the workability of concrete is illustrated below.



Max size of aggregates - 20 mm

Cementitious content - 350 kg/m<sup>3</sup>

Temperature 23°C.

Slump retention: **RHEOBUILD 1003** increases the workability of concrete and the duration of workability retention considerably. The duration of workability

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retention depends on the ambient temperature, types of cement and aggregates used, dosage rate and method of transport. Higher dosages provide longer retention of workability.

## APPLICATION

Use **RHEOBUILD 1003** as supplied after thorough stirring, without any dilution.

### Materials condition

**Cement:** For optimum performance, always use fresh cement, since the reactivity of cement is reduced with ageing.

**Aggregates:** Use of properly graded, good quality, coarse aggregates and sand helps to achieve higher impermeability and strength.

### Dispensing

The addition of **RHEOBUILD 1003** to a dry mix is not recommended.

**RHEOBUILD 1003** provides optimal benefits when all materials have been batched and mixed.

## DOSAGE

Dosage depends upon the mix design, the ambient conditions and the degree of water reduction and

workability required. Typical dosage used is 0.7-1.2L per 100kg of cementitious materials.

Site trials are recommended to fix the dosage.

## PACKAGING

**RHEOBUILD 1003** is available in bulk and 205L drums.

## SHELF LIFE

**RHEOBUILD 1003** can be stored for 12 months if stored at temperatures above 5°C, in tightly sealed original drums. If found to be frozen, thaw it and reconstitute by stirring.

## PRECAUTIONS

**Health :** **RHEOBUILD 1003** does not contain any hazardous substances requiring labelling.

It is safe for use with standard precautions followed in the construction industry, such as use of hand gloves, safety goggles, etc.

For detailed Health, Safety and Environmental recommendations, please consult and follow all instructions on the product Material Safety Data Sheet.

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## STATEMENT OF RESPONSIBILITY

The technical information and application advice given in this **BASF Construction Chemicals** publication are based on the present state of our best scientific and practical knowledge. As the information herein is of a general nature, no assumption can be made as to a product's suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by law. The user is responsible for checking the suitability of products for their intended use.

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