

# RHEOBUILD<sup>®</sup> 2000PF

**Superplasticiser for high performance concrete and as a dispersing agent for RHEOCEM<sup>®</sup> microcements for ground injection**

## Description

RHEOBUILD 2000PF is an admixture containing multifunctional, water soluble sulphonated polymers of various chemical composition, thus specifically affecting the different mineralogical components of cement.

When RHEOBUILD 2000PF is added to concrete the molecules of the polymer, having a negative charge, absorb onto the surface of the cement grains. This causes an electrostatic repulsion to occur amongst the cement grains making their dispersion in water easier and consequently the mix more flowable. The action of RHEOBUILD 2000PF occurs even when Portland cement clinker is mixed with other materials (e.g. pozzolans, fly ash, slag & microsilica) in the production of blended cements.

## Uses

- Precast concrete tunnel linings, track-bed concrete, segment and structural members cured at normal or elevated temperatures.
- Cast in-situ concrete tunnel linings
- Pre-stressed and post-tensioned concrete
- Annulus grouts for back-fill grouting in tunnels
- Sprayed concrete
- High early strength, high workability concrete
- For dispersing RHEOCEM microcements for injection applications
- Underwater concrete
- Structural concrete where early strength are required

## Advantages

- Provides for high early and ultimate strengths
- Allows the improvement of all hardened concrete properties such as permeability, bond to steel, dimensional stability and durability.
- Chloride free (Zero added chloride)

## Typical Properties

Aspect	: Dark Brown liquid
Relative Density	: 1.15 ± 0.02 at 25°C
pH	: ≥ 6
Chloride ion content	: < 0.2%

## Standards

- ASTM C-494 Type F
- EN 934-2: T3.1/3.2
- IS 9103: 1999

## Direction for use

RHEOBUILD 2000PF is a ready-to-use liquid which is dispensed into the concrete together with the mixing water. The plasticising effect and water reduction are higher if the admixture is added to the damp concrete after 50 to 70% of the mixing water has been added. The addition of RHEOBUILD 2000PF to dry aggregate or cement is not recommended.

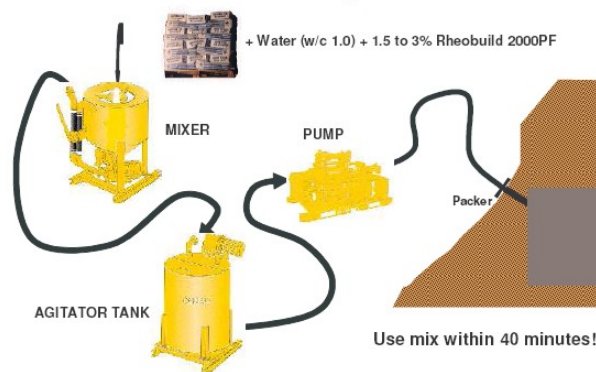
## Dosage

Optimum dosage of RHEOBUILD 2000PF should be determined with trial mixes. As a guide, a dosage range of 500ml to 1200ml per 100kg of cementitious material is recommended as a starting point. In high performance concrete, a dosage up to 1800ml per 100kg of cementitious material can be added subject to prior site trials. Because of variations in concrete materials, job site conditions, and/or applications, dosages outside of the recommended range may be required. In such cases, contact your local BASF representative. For dosage as microcement injection additive please refer the separate note in the datasheet.

## As Cement Injection additive

RHEOBUILD 2000PF has been found to be particularly beneficial in dispersing the RHEOCEM microcements to allow enhanced penetration properties. In these applications RHEOBUILD 2000PF should be dosed at 1.5 – 3 % on cement weight (with 2% being typical), with stable mixture to penetrate the finest groundmass cracks.

## RHEOCEM<sup>®</sup> microcement injection



## Mixing

The best results are obtained when all the dry components are mixed with 25 – 30% of the water into a stiff homogeneous mixture, followed by the RHEOBUILD 2000PF and mixed for 30 – 60 seconds, followed by the rest of the water.

For additional information on RHEOBUILD 2000PF admixture or on its use in developing concrete mixes with special performance characteristics, contact your local BASF representative.

#### Compatibility

RHEOBUILD 2000PF is compatible with most admixtures used in the production of quality concrete including normal, other mid-range and high-range water-reducing admixtures, air entrainers, accelerators, retarders, extended set-control admixtures, corrosion inhibitors, and shrinkage reducers.

RHEOBUILD 2000PF is also compatible with slag and pozzolans such as fly ash and silica fume.

Do not use RHEOBUILD 2000PF with the MEYCO® Total Consistency Control system without consulting your local BASF representative.

#### Corrosivity – Non Corrosive

RHEOBUILD 2000PF admixture will neither initiate nor promote corrosion of reinforcing steel embedded in concrete, prestressed concrete or concrete placed on galvanized steel floor and roof systems. Neither calcium chloride nor any calcium chloride-based ingredients are used in the manufacture of RHEOBUILD 2000PF admixture. In all concrete application, RHEOBUILD 2000PF admixture will conform to the most stringent or minimum chloride ion limits currently suggested by construction industry standards and practices.

#### Workability

RHEOBUILD 2000PF ensures that rheoplastic concrete remains workable in excess of 45 minutes at +25°C. Workability loss is dependent on temperature, and on the type of cement, the nature of aggregates, the method of transport and initial workability.

It is strongly recommended that concrete should be properly cured particularly in hot, windy and dry climates.

The use of MASTERKURE 111CF, evaporation reducer to prevent quick moisture loss from the surface of the flat works such as pavements in the dry, windy and hot climates is highly recommended.

#### Packaging

RHEOBUILD 2000PF is supplied in 235 kg drums or in bulk on request.

#### Storage and Shelf life

RHEOBUILD 2000PF must be stored where temperatures do not drop below +5°C. If product has frozen, thaw at +5°C or above and completely reconstitute using mild mechanical agitation. Do not use pressurized air for agitation. Store under cover, out of direct sunlight and protect from extremes of temperature.

Shelf life is at 12 months 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 your local BASF representative.

#### Safety precautions

As with all chemical products, care should be taken during use and storage to avoid contact with eyes, mouth, skin and foodstuffs (which can also be tainted with vapour until product fully cured or dried). Treat splashes to eyes and skin immediately. If accidentally ingested, seek immediate medical attention. Keep away from children and animals. Reseal containers after use. Do not reuse containers for storage of consumable item. For further information refer to the material safety data sheet. MSDS available on demand or on BASF construction chemicals web site.

#### Note

All BASF Technical Data Sheets are updated on regular basis; it is the user's responsibility, to obtain the most recent issue.

Field services where provided, does not constitute supervisory responsibility, for additional information contact your local BASF representative.

#### Disclaimer

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