

# MasterRheobuild<sup>®</sup> 1100

(Formerly Known as Rheobuild 1100)

High range water reducing, superplasticiser for Rheoplastic concretes

## DESCRIPTION

**MasterRheobuild 1100** is composed of synthetic polymers specially designed to impart Rheoplastic qualities to concrete.

A Rheoplastic concrete is a fluid concrete with a slump of at least 200 mm, easily flowing, but at the same time free from segregation and having the same water/cement ratio as that of a no-slump concrete (25 mm) with admixture.

**MasterRheobuild 1100** is chloride free.

## RECOMMENDED USES

- Precast/pre-stress concrete
- Site batched concrete
- Pumped concrete
- Wet Shotcrete Mixes
- Concrete containing microsilica/ metakaolin
- Concreting in low temperatures
- High performance grouts/tunnel backfills
- Cementitious injection suspensions

## FEATURES AND BENEFITS

- Controlled set times
- Produces flowable concrete at reduced W/C ratios
- High early strengths – Accelerated construction
- Least dependence on consolidation energy
- Improved bond strength to concrete
- Higher modulus of elasticity
- Increased compressive, tensile and flexural strengths as a benefit of its water reducing action
- Reduced permeability - Improved durability
- Reduced thermal peaks – reduced cracking
- Highly reliable in-place structural integrity

## PERFORMANCE TEST DATA

Aspect	: Dark brown free flowing liquid
Relative Density	: 1.21±0.02 at 25° C
pH	: ≥6
Chloride ion content	: <0.2%

## TEST CERTIFICATION/APPROVALS

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

## DOSAGE

Optimum dosage of **MasterRheobuild 1100** should be determined with trial mixes. As a guide, a dosage range of 500ml to 1500ml per 100kg of cementitious material is normally recommended. This dosage range applies for most concrete mixtures using typical concrete ingredients. However, variations in job conditions and concrete materials, such as silica fume, may require dosages outside of the recommended range.

For additional information on **MasterRheobuild 1100** admixture or on its use in developing concrete mixes with special performance characteristics, contact your local BASF representative.

### Effects of over dosage

A severe over-dosage of **MasterRheobuild 1100** can result in the following:

- Increase in air entrainment
- Bleed/segregation of mix, quick loss of workability
- Increased plastic shrinkage
- Delayed setting

A slight overdose may not adversely affect the ultimate strength of the concrete and can achieve higher strengths than normal concrete, provided it is properly compacted and cured. Due allowance should be made for the effect of fluid concrete pressure on form work, and stripping times should be monitored.

In the event of over dosage, consult your local BASF representative immediately.

## APPLICATION

**MasterRheobuild 1100** 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 **MasterRheobuild 1100** to dry aggregate or cement is not recommended.

When using **MasterRheobuild 1100** to produce flowing concrete at site using ready mix trucks, it

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can be added to the concrete via the feed hopper at the rear of the truck. Mix before discharge for 5 minutes at 10 rpm to produce a fully homogenous mix.

## COMPATIBILITY

**MasterRheobuild 1100** 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.

**MasterRheobuild 1100** also compatible with slag and pozzolans such as fly ash and silica fume

## CORROSIVITY – NON CORROSIVE

**MasterRheobuild 1100** 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 **MasterRheobuild 1100** admixture. In all concrete application, **MasterRheobuild 1100** admixture will conform to the most stringent or minimum chloride ion limits currently suggested by construction industry standards and practices.

## WORKABILITY

**MasterRheobuild 1100** ensures that rheoplastic concrete remains workable for 30 to 90 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

**MasterRheobuild 1100** is supplied in 250kg drums or in bulk on request.

## STORAGE /SHELF LIFE

**MasterRheobuild 1100** 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 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.

## PRECAUTIONS

As with all chemical products, care should be taken during use and storage to avoid contact with eyes, mouth, skin and food stuffs (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.

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## STATEMENT OF RESPONSIBILITY (Disclaimer)

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.