

# MasterEase<sup>®</sup> 3704

## Low Viscosity Concrete Concept

New superplasticizer technology imparts advanced rheological properties delivering a significant decrease in the viscosity of concretes and extended rheology maintenance

### DESCRIPTION

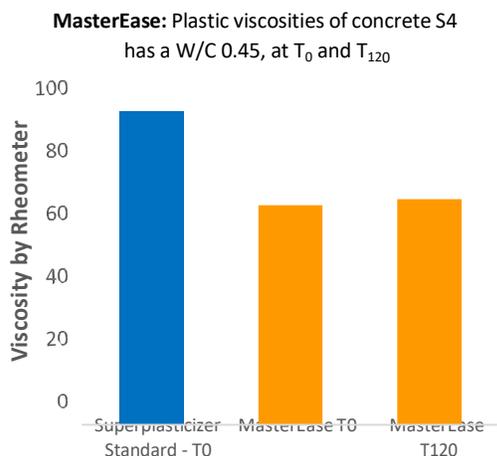
The **MasterEase 3704** is a superplasticizer, high range water reducer from recent research work of R & D laboratories of Master Builders Solutions. The **MasterEase 3704** is designed to impart exceptional rheological properties to fresh concrete. It improves considerably the placing and finishing of concretes and enhances the ease of concrete pumping for all construction activities.

### INNOVATION

The **MasterEase 3704** is based on an innovative polymer chemistry and it is patented by Master Builders Solutions. Its action differs from traditional superplasticizers, to the extent that the adsorption of polymers of **MasterEase 3704** on binder particles is provided by a flexible chemical bond which does not impede the flow of concretes. This innovation significantly improves rheological behaviour of concretes treated by **MasterEase 3704**, they have a low yield stress, low viscosity with additional feature of long workability retention

### LOW VISCOSITY CONCRETE

Low Viscosity Concrete is an innovative concept dedicated to the viscosity (rheology) of concretes. It is based on the use of **MasterEase** polymer with dedicated technical services of **Master Builders Solutions**. This concept not only allows the achievement of a significant reduction in concrete viscosity but also optimizing the performance of concrete.



### FEATURES AND BENEFITS

The **MasterEase 3704** is recommended for the production of self-compacting concrete requiring low viscosity, long workability retention and high compressive strength.

The **MasterEase 3704** is specially formulated for the concrete industry. It is also suitable for applications in the general Civil and building sites.

It can be used for the realization and achievement of the following:

- Concrete complying to EN 206-1 / CN
- Precast and Site Mix concretes
- Superior Concrete pumping
- Reduction of Concrete waste
- Ease of compacting and finishing concrete
- High performance and ultra-high strength concrete
- Concrete for low environmental impact and high in mineral additions
- Architectural concrete

### PROPERTIES

The **MasterEase 3704** delivers many advantages both in the fresh concrete on hardened concrete.

At fresh state, optimizing the rheology:

**Decrease in the viscosity of concretes at constant W/C**

Improvement of the implementation of concretes

- Improved pumping (lower pressure and longer distance)
- Better response to vibration
- Greater Ease of Pumping
- Superior finishing, floating and smoothing operations
- Excellent flexibility, mobility and flow of self-compacting concrete.

**Reduction possible to the W/C ratio without affecting the viscosity of concretes.**

- New windows for technical and economic optimization of concrete mix designs (addition and types of binder, choice of aggregates)
- High strength and resistance to segregation
- Workability retention over 120 minutes without retardation.
- Good compatibility with all types of cement and mineral additions.

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## In the cured state, improvement of sustainability

- i. Excellent early and late compressive strength
- ii. Improvement of quality of surface finishes
- iii. As part of a reduction of W/C
  - Increased mechanical resistances
  - Decreased porosity and permeability
  - Decreased shrinkage and cracking
  - Enhanced durability

### APPLICATION

The optimal effect is generally achieved by dosing **MasterEase 3704** in the concrete mix after addition 70% of water in the mixer.

### DOSAGE

Recommended range: 300ml to 1500ml per 100kg cementitious material.

For other uses, please contact your local Master Builders Solutions representative.

To use in synergy and combination with another Master Builders Solutions' product range, please consult your local Master Builders Solutions representative.

### CHARACTERISTICS

Aspect	Reddish brown liquid
Relative Density	1.09 ± 0.02 @ 25°C
pH	≥6 @ 25°C
Solid Content	34.00 ± 5% (5% of the specified value of solid content)

### TEST CERTIFICATION/APPROVALS

- ASTM C494 Types G
- IS 9103

### PACKAGING

The **MasterEase 3704** is available in 245 kg drum and bulk delivery.

### SHELF LIFE

**MasterEase 3704** 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 Master Builders Solutions representative.

### PRECAUTIONS

**Health:** **MasterEase 3704** 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.

**TDS Ref. No.: MasterEase3704/04/082020**

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