

## High-performance viscosity modifying agent (VMA) and water reducer for fluid concretes

### Description of Product

RheoMATRIX<sup>®</sup> 233 is part of the innovative latest generation range of polycarboxylic ether polymer superplasticizers. It also contains a high-molecular weight synthetic copolymer particularly designed for the precast industry.

The particular molecular configuration of RheoMATRIX<sup>®</sup> 233 accelerates the cement hydration by allowing rapid adsorption of the molecule onto the cement particles, this, combined with an efficient dispersion effect, exposes increased surface of the cement grains to react with water exposing increased surface of the cement grains to react with water. As a result, it is possible to obtain earlier development of the heat of hydration, rapid development of the hydration products and, as a consequence, higher strengths at very early age.

The polymer structure of RheoMATRIX<sup>®</sup> 233 is specially designed to improve the rheology of precast concrete, making it very flowable and with low viscosity even at very low water/cement ratios, without increasing stickiness. Robustness is a distinctive feature of the precast concrete produced with RheoMATRIX<sup>®</sup> 233.

Thanks to its tailored mode of action in concrete, RheoMATRIX<sup>®</sup> 233 imparts a level of viscosity within a mix enabling the right balance between fluidity, passing ability and resistance to segregation - apparently opposing properties - to be achieved. The balance is lacking when the fluidity of the concrete is obtained by adding water.

### Fields of Application

RheoMATRIX<sup>®</sup> 233 is suitable for making precast concrete elements with highly-fluid concrete without segregation but low water cement ratio and, consequently, high early and final strengths. ecological and ergonomic precast production. RheoMATRIX<sup>®</sup> 233 is optimised for use with the X-Seed 100 Crystal Speed Hardening concept.

### Features and Benefits

RheoMATRIX<sup>®</sup> 233 offers the following benefits for the concrete industry:

- Production of highly flowable, robust self-compacting concrete having a low water cement ratio along with an optimal rheology.
- Enhanced robustness and consistency in concrete quality with low stickiness.
- Environmentally friendly, CO<sub>2</sub> reduced mix-design optimization.
- Potential elimination or reduction of heat curing.
- Improved surface appearance.
- Durable precast concrete elements as per EN 206-1.
- Elimination or reduction of the energy required for placing, compaction and curing (ZERO ENERGY).
- Optimization of the curing cycles by reducing curing time or curing temperature. Increased productivity, particularly in combination with X-Seed 100 Crystal Speed Hardening.
- SCC (Self-compacting concrete) with a low Fines content (material passing the 0.125 mm sieve).

### Technical Data/Typical Properties

Appearance	Pale brown liquid
Specific gravity @ 20°C	1.05 g/cm <sup>3</sup>
pH-value @ 20°C	5.5
Chloride ion content	< 0.1%

## Application Procedure

RheoMATRIX<sup>®</sup> 233 is a ready-to-use liquid admixture, which should be added to the concrete during the mixing process together with the water. This is particularly important in order to obtain maximum efficacy. For best performance it is advisable to continue mixing until the mix is completely homogeneous.

## Dosage Rate

RheoMATRIX<sup>®</sup> 233 is batched on the total cementitious material content & is recommended at between 0.3 - 1.2% by weight. Other dosages may be recommended in special cases according to specific job site conditions. In this case please consult our Technical Services Department.

## Compatibility

RheoMATRIX<sup>®</sup> 233 is compatible with all types of cements. The rheological behaviour induced by RheoMATRIX<sup>®</sup> 233 may not require additional superplasticiser but should further workability be required it should be achieved with a GLENIUM superplasticizer. It is incompatible for use with naphthalene sulphonate based superplasticizers.

## Packaging

RheoMATRIX<sup>®</sup> 233 is supplied in 205 litre drums, 1,000 litre containers or in bulk.

## Shelf Life

12 months if stored according to manufacturer's instructions in original unopened packaging.

## Storage

RheoMATRIX<sup>®</sup> 233 must be stored at temperatures above 5°C. Store under cover, out of direct sunlight and protect from extreme temperatures. Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging. For special storage advice consult our Technical Services Department.

## Handling and transportation

No special requirements must be observed while the product is used. Protection gloves and glasses are recommended. Do not eat, drink or smoke during the application. RheoMATRIX<sup>®</sup> 233 is non-flammable, non-toxic or irritant and is not subject to special transport requirements.

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## Health and Safety

\*For full information on Health and Safety matters regarding this product the relevant Health and Safety Data Sheet should be consulted.

The following general comments apply to all products.

As with all chemical products, care should be taken during use and storage to avoid contact with eyes, mouth, skin and foodstuffs, (which may also be tainted with vapour until the product is fully cured and dried). Treat splashes to eyes and skin immediately. If accidentally ingested, seek medical attention. Keep away from children and animals. Reseal containers after use.

## Spillage

Chemical products can cause damage; clean spillage immediately.

## DISCLAIMER

"BASF Construction Chemicals (UK) Limited" (the Company) endeavours to ensure that advice and information given in Product Data Sheets, Method Statements and Material Safety Data Sheets (all known as Product Literature) is accurate and correct. However,

the Company has no control over the selection of its products for particular applications. It is important that any prospective customer, user or specifier, satisfies him/her-self that the product is suitable for the specific application. In this process, due regard should be taken of the nature and composition of the background/base and the ambient conditions both at the time of laying/applying/installing the material and when the completed work is to be brought into use.

Accordingly, no liability will be accepted by the Company for the selection, by others, of a product, which is inappropriate to a particular application.

Products are sold subject to the Company's standard conditions of sale and all customers, users and specifiers, should ensure that they examine the Company's latest Product Literature.