



The Chemical Company

# RHEOMAC® 701

## Modified Lignin Sulphonate Based impermeable Water Reducing Plasticizer Concrete Admixture

### Description of Product

**RHEOMAC® 701** is limited air entraining concrete admixture that improves concrete's impermeability against capillary water absorption and reduces concrete's mixing water.

**Ministry of Public Works Pos. No: 04.613/1-C**

### Fields of Application

- Used in all kinds of concretes that will be temporarily or permanently exposed to water.

### Features and Benefits

- Improves impermeability against capillary water absorption compared to concrete without admixture.
- Improves permanency by reducing water / cement ratio without decreasing workability.
- Reduces segregation and bleeding.
- Enables easy setting and pumpability of concrete.
- Makes it easier to obtain surface finish.
- **RHEOMAC® 701** does not contain chloride.

### Working Mechanism of Admixture

Admixtures generally go into reaction only with the binder. When the admixture is added to the concrete, it is absorbed by the particles of the binder. The particles of the binder push each other by electrostatic force. Thus, the desired workability is obtained by less amount of water. Proportional with the decrease of mixture's water amount, mechanic strength increases.

### Application Procedure

Binder (cement-micro silica-fly ash) and aggregate must be mixed until a homogenous mixture is obtained. After adding 50%-70% of the water to be added to the mixture, **RHEOMAC® 701** must be added to the mixture along with the remaining water. **RHEOMAC® 701** must be mixed for 60 sec. or for the duration determined in laboratory experiments in the mixture for a homogenous diffusion.

### Dosage

**RHEOMAC® 701** is suggested to be used as 0.5 - 0.8 kg for 100 kg binder (cement-micro silica-flyash). The dosage to be used must be determined beforehand by laboratory experiments

### Technical Data

Structure of the Material	Surface active materials and lignin sulphonate
Color	Brown
Density	1.06 - 1.08 kg/liter
Chloride Content% (EN 480-10)	< 0.1
Alkaline Content % (EN 480-12)	< 10

Obtained in +20°C, 50% relative humidity conditions



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according to concrete class and properties. **BASF Yapı Kimyasalları San. A.S.** Technical Service must be consulted for detailed information.

## Compatibility

**RHEOMAC® 701** can be used with the following materials:

1. Can be used with all cement types.
2. Can be used with mineral admixtures like silica, flyash and slag.
3. Used with **Pozzolith®** series and **Rheobuild®** series admixtures.
4. Can be used with air entraining **Micro Air® 200** to increase Freezing - Thawing resistance.
5. Used against fissures from plastic shrinkage with synthetic fibers **Meyco® FIB. SP 530/540/550** and steel fibers.
6. In environments with high temperature and wind, must be used with a suitable curing membrane or material like **Masterkure® 101**, **Masterkure® 107**, **Masterkure® 176** or **Masterkure® 181** to prevent the water of the mixture inside the concrete from evaporating.

## Watchpoints

- Concrete design and admixture dosage must be determined by prior laboratory trials according to concrete class and properties.
- The determined binder (cement-micro silica-fly ash), at the end of laboratory trials, coarse and fine aggregate must be mixed until a homogenous and dry mixture is obtained. If admixture is added to the dry mixture before adding mixing water, then it will be absorbed by the fine aggregate and uniform distribution will not be obtained. Even if all the mixing water is added on top of this, aimed concrete class and properties cannot be obtained. Since the mixture will need extra water, the water amount in design values will be exceeded and the concrete's mechanical properties will be below the aimed value. For this reason, concrete

admixtures must not be added directly to the dry mixture.

- In impermeable concrete production, amount of binder is also an important parameter. If **RHEOMAC® 701** is used in concretes with low binder, performance will be low. It is suggested to use with 350 kg/m<sup>3</sup> binder.
- To produce impermeable concrete, concrete with low water/cement ratio (0.4 - 0.6) has to be used, and concrete has to have workable consistency. Concrete must be protected from shrinkage and cracks by suitable curing and maintenance.

## Packaging

30 kg can  
230 kg drum  
1000 kg tank  
Bulk

## Storage

Must be stored in original packing, in +5°C environment and protected from direct sunlight. If the material freezes because of storing in undesirable environments, it must be thawed by keeping it in room temperature without direct heating, and mixed by mechanical methods until it becomes homogenous. Pressured air must not be used when mixing.

## Shelf Life

12 months after the production date under appropriate storing conditions. Opened packages can be used throughout the shelf life if the package cover is well closed.

## Health and Safety Precautions

Work cloth, protective gloves, goggles and masks concordant with Work and Worker Health rules must be used during the application. Avoid contact

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to skin and eyes during storing and application. If such a contact occurs, it must be washed by soap and plenty of water. Consult a physician urgently if swallowed. Food and drink must be kept outside the application areas. Must be stored away from children. Please look at the Material Safety Data Sheet for detailed information.

## **Disclaimer**

This information given here is true, represents our best knowledge and is based not only on laboratory work, but also on field experience. However, BASF Yapı Kimyasalları San. A.S. is only responsible from the quality of the product. BASF Yapı Kimyasalları San. A.S. cannot be hold responsible from the results caused by applications of the product not in accordance with the written suggestions of how and where to use the product and/or faulty applications. This technical document is valid until a new one is printed and abates the previous editions. 01/2008.