BASF
The Chemical Company

RHEOBUILD® 878

Naphthalene Sulphonate Based High Range Water Reducing Super Plasticizer Concrete Admixture

CE
1305-CPD-0097
1305-CPD-0292
1305-CPD-0293

Description of Product

RHEOBUILD® 878 is a naphthalene sulphonate based, high range water reducing/super plasticizer admixture that improves the early and final strengths of concrete by giving it Rheoplastic property.

Consistent With the Ministry of Public Works Pos. No: 04.613/1-A3 TS EN 934-2 Table 3.1 and Table 3.2: High Range Water Reducing / Super Plasticizer Concrete Admixture ASTM C 494 Type F: High Range Water Reducing and Superplasticizers Concrete Admixture Standards.

Fields of Application

- In the production of pumpable and non-pumpable high quality readymix concrete,
- In the production of precast and prefabricated concrete.
- In the production of Rheoplastic* concrete that can easily set to densely reinforced concrete elements.
- In the production of prestressed concrete with low water/cement ratio

Features and Benefits

- Decreases the amount of water at least 12% by weight compared to concrete without admixture.
- Enables lower water/cement ratio or high workability in the same water/cement ratio and easy pumpability compared to concrete without admixture
- Increases early and final strengths compared to concrete without admixture.
- Improves concrete's compressive and flexural strengths compared to concrete without admixture.
- Reduces demolding time compared to concrete without admixture.
- Improves concrete's wear resistance by reducing segregation and bleeding.
- Improves concrete's strength to Freezing - Thawing cycle
- Improves concrete's other mechanical properties like impermeability, durability, contraction, and creeping.
- Enables setting with lesser vibration even in densely reinforced concrete structures.
- **RHEOBUILD® 878** 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

Technical Data

Structure of the Material	Naphthalene Sulphonate Based
Color	Brown
Density	1.15 - 1.21 kg/liter
Chloride Content% (EN 480-10)	< 0.1
Alkaline Content % (EN 480-12)	< 10

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

TÜV CERT DIN EN ISO 9001 Zertifikat: 01 100 012854
TÜV CERT DIN EN ISO 14001 Zertifikat: 01 104 052205
TÜV CERT OHSAS 18001 Zertifikat: 01 113 050239

Adding Value to Concrete

YKS®

RHEOBUILD® 878

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, **RHEOBUILD® 878** must be added to the mixture along with the remaining water. **RHEOBUILD® 878** must be mixed for 60 sec. or for the duration determined in laboratory experiments in the mixture for a homogenous diffusion.

Dosage

RHEOBUILD® 878 is suggested to be used as 1.0 - 2.0 kg for 100 kg binder (cement-micro silica-flyash). The dosage to be used must be determined beforehand by laboratory experiments according to concrete class and properties. **BASF Yapı Kimyasalları San. A.S.** Technical Service must be consulted for detailed information.

Compatibility

RHEOBUILD® 878 can be used with the following materials:

1. Can be used with all cement types.
2. Can be used with silica, flyash and slag where high binding material like Rheodynamic self-compacting concrete is needed to be used.
3. Can be used with air entraining **Micro Air® 200** (environment condition XF1-XF4 according to TS EN 206-1) to increase Freezing - Thawing resistance.
4. Used with **Meyco® MS 610** micro silica (environment condition XA1-XA3 according to TS EN 206-1) to improve the performance of concrete and its strength in aggressive environments.
5. Used with **Meyco® TCC 735** and **Binder® 5** to prevent shrinkage by preventing rapid losing of the water in concrete mixture.
6. Used against fissures from plastic shrinkage with synthetic fibers **Meyco® FIB. SP 530/540/550** and steel fibers.
7. 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 water, then it would be absorbed by 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 could not 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.
- The admixture amount in the mixture is calculated by multiplying the sum of cement and secondary binders (such as micro silica-flyash-slag) in the mixture by admixture dosage ratio.
- If higher doses are used than the suggested dosage, then set times of the mixture can increase. In such cases, reinforced concrete has to be cured by keeping it humid during stripping.

RHEOBUILD® 878

Packaging

30 kg can
250 kg drum
1200 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 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.

**Rheoplastic Concrete: Although has the same water/cement ratio with the reference concrete of approximately 7 cm slump, easily flowable (20 - 22 cm slump), non-segrating concrete*

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. 10/2006