**EN 934-2 TABLE: 9**

**WATER STOP**

**Water resisting admixture**

**Admixtures for concrete;** Material added during the mixing process of concrete in a quantity not more than 5 % by mass of the cement content of the concrete, to modify the properties of the mix in the fresh and /or hardened state. **Water resisting admixture;** Admixture which reduces the capillary absorption of hardened concrete

**Description**

Concrete admixture that provides viscosity by reducing the amount of mixture water of concrete, improves imperviousness of concrete against capillary water absorption and entrains limited amount of air.

**Chemical Properties**

**EN 934-2 Çizelge 1 - General requirements**

|  |  |  |
| --- | --- | --- |
| **Characteristics** | **Specification** | **Test Method** |
| Homogeneity | Homogeneous when used. Segregation shall not exceed the limit stated by the manufacturer. | AY-TA.001  Visual |
| Color | Uniform and similar to the description declared by the manufacturer. | AY-TA.001  Visual |
| Relative Density | D ± 0.03 if D > 1,10  D ± 0.02 if D ≤ 1,10  Where D is the manufacturer's stated value of density. | TS 781 ISO 758 |
| pH Value (20 0 C) | Manufacturer's stated value ± 1 or within manufacturer's stated range. | TS 6365 EN 1262 |
| Dry Content (%) | 0.95 T ≤ X < 1.05 T, if T ≥ 20 %  0.90 T ≤ X < 1.10 T, if T < 20 %  T is manufacturer's stated value % m/m.; X is test result % by mass on dry material content. | TS EN 480-8 |
| Chloride Content (%) | Either ≤ 0.10 % by mass or not above the manufacturer's stated range. | TS EN 480-10 |
| Alkali Content (%) | Not above the manufacturer's stated maximum. | TS EN 480-12 |
| Effective Component (%) | Infrared spectra to show no significant change with respect to the effective component when compared to reference spectrum provided by the manufacturer. | TS EN 480-6 |
| Freezing Point (%) | Not above the manufacturer's stated maximum. | AY-TA.011 |
| Corrosion Behavior | Contains only components according to EN 934-1:2008, Annex A.1 | |
| Dangerous Substances | Comply with annex ZA | |
| Dosage | Dosage of contribution is based on the aggregate properties, water quality, concrete class, water-cement ratio and temperature of place. | |
| Shelf Life | 12 Months | |

**Performance requirements**

**EN 934-2 Table 9 Specific requirements for water resisting admixtures (at equal consistence or equal w/c ratio)**

|  |  |  |  |
| --- | --- | --- | --- |
| Essential Characteristics | Performance | | Harmonised  Technical Specification |
| Capillary absorption | Tested for 7 days after 7 days curing | Test mix ≤ 50 % by mass of control mix | EN 480-5 |
| Tested for 28 days after 90 days curing | Test mix ≤ 60 % by mass of control mix |
| Compressive strength | At 28 days; Test mix ≥ 85 % of control mix | | EN 12390-3 |
| Air content in fresh concrete | Test mix ≤ 2 % by volume above control mix unless otherwise stated by the manufacturer | | EN 12350-7 |

**Areas Of Application**

Where it is desired to ensure imperviousness of the concrete which will be exposed to water all the time,

In dams, water treatment plants, water tanks and channels,

Used in tunnels, ports, culverts and swimming pools.

**Properties / Advantages**

Ensures achieving concrete with impervious and excellent surface.

Increases workability.

Ensures producing strong and high-quality concrete.

Increases pumpability.

Improves freeze-thaw resistance of concrete.

Reduces carbonation rate of concrete, improves its mechanical properties such as shrinkage and creep.

**Application/Warning**

Is used by adding into the mixture water of concrete or directly mixing into the fresh low-slump concrete.

Should not be directly added onto the dry mixture.

After adding 70% of the water to be added into the mixture, should be mixed with the remaining water and then added into the mixture.

In case of directly adding into the fresh concrete, the mixing time should be prolonged for minimum 1-2 minutes at high speed and such mixing time should be determined during laboratory tests.

Concrete components may differ by their structures. The admixture to be added into the mixture to prevent segregation of the concrete should be applied in the suitable doses. Prior tests should be performed to check whether the admixture is suitable for the design of a certain concrete.

In case of using the admixture in the amount exceeding the specified use range, the setting time of the concrete may be prolonged. In such cases, the concrete should be kept humid to allow for curing until it hardens.

Does not contain chloride or any other components that result in corrosion in the reinforcements. Therefore, it is suitable for use in reinforced concrete structures.

**Suitability**

Suitable for use with all types of concretes with or without admixtures.

In case it is desired to use high amounts of cements, it is used along with mineral additives such as fly ash, micro silica and cinder.

In order to increase the freezing-thawing resistance, it is used together with air entraining It is not recommended to use the product together withproducts that contain polycarboxylate.

Products that contain polycarboxylate.

The product is used together with Concrete antifreeze in order to speed up the setting time by increasing the hydration temperature of concrete under cold weather conditions.

The product is used together withStabilizer at worksites in order to increase viscosity of concrete.

At high temperatures and in case of drafts, make sure to prevent the mixture water within the concrete from evaporating. At the curing stage, curing may be used to prevent fast evaporation of the humidity within the concrete and formation of cracks.

Steel, polypropylene and organic fibers may be used against shrinkage cracks.

It is recommended to perform tests prior to using the products.

In case of mixing with other admixtures, the performance of the product decreases.

Admixtures should not be stored by mixing together.

Mixing and storage equipment should be properly cleaned.

**Storage/Shelf Life**

Original, unpacked and undamaged products (drums, barrels, containers IBC) should be stored away from direct sunlight and frost at temperatures from +5ºC to +35ºC. In case the product is stored in an unsuitable environment and it freezes, the product should be thawed at ambient temperature without using direct heat and should be stirred using mechanical methods until it is homogenous. When stored under suitable conditions, the shelf life of the product is 12 months from the date of production.

**Health and Safety**

Please use protective clothing, protective gloves, full goggles and a face mask according to Occupational Health and Safety Regulation. Avoid contact with skin and eyes. In case of contact, rinse with plenty of water. In case of digestion, please seek medical attention. For transportation, storage, disposal of the product, its physical, ecological, toxicological information and other details and recommendations please refer to the Safety Data Sheet of the product.