**EN 934-2 TABLE: 12**

**QUİCKSET-RACA**

**Set accelerating / water reducing / plasticizing 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. **Set retarding admixture;** Admixture which produces the combined effects of a water reducing/plasticizing admixture (primary function) and a set accelerating admixture (secondary function)

**Description**

Setting accelerant, water reducing and normal plasticizing concrete admixture that ensures fast setting of concrete in cold weather, improves workability of concrete by reducing the water/cement ratio and allows for ease of pumping. When mixed into the concrete, it acts as a plasticizer in time and reduces the amount of water by 5-12%. It speeds up the hydration of cement, thus shortening the setting time and improving the first compressive strengths.

**Chemical Properties**

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

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| **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 > 1,10D ± 0.02 if D ≤ 1,10Where 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 12 Specific requirements for set accelerating/water reducing/plasticizing admixtures (at equal consistence)

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| --- | --- | --- |
| **Essential Characteristics** | **Performance** | **Harmonised** **Technical Specification** |
| Compressive strength | At 28 days | Test mix ≥ 100 % control mix | EN 12390-3 |
| Initial setting time | At 20 °C | Test mix ≤ 30 min | EN 480-2 |
| At 5 °C | Test mix ≥ 60 % control mix |
| Water reduction | In test mix ≥ 5 % compared with control mix | EN 12350-2EN 12350-5 |
| 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 required to speed up the setting of the concrete,

In concretes where high early strength is required due to cold climatic conditions,

In production of worksite concretes, precast and prefabricated concretes where fast molding is required,

When pouring concrete is difficult under the risk of frost or when it is cold.

In flooring and field concretes,

In foundation, apron, beam, column and shear concretes,

In bridge, viaduct, tunnel, airport and dam concretes,

In ready-mix concrete, in pouring precast and prefabricated concrete.

**Properties / Advantages**

Ensures controlled prolongation of setting of concrete.

Does not have adverse effects on final strengths.

Reduces creeping and contraction.

Increases workability.

Minimizes the effects of temperature.

Reduces segregation and bleeding of concrete.

Ensures easy pumping.

Prevents the concrete from losing its viscosity fast, provides for extended viscosity protection depending on the type of cement used.

Prevents shrinkage cracks that may result from high hydration temperatures.

**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

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.