

# AQURON<sup>®</sup> 300-MWC™

CONCRETE WATERPROOFING ADMIXTURE



Water-Borne | Non-Hazardous | Non-Volatile | Non-Toxic | No Isocyanates

## PRODUCT DESCRIPTION

AQURON 300 Mix Water Conditioner (MWC) is a transparent, amorphous, VOC free, CATALYZED colloidal silica liquid additive used to create affordable, high performance concrete. It does this by significantly increasing the effectiveness and percentage of hydration of the cement particle.

## PRODUCT PERFORMANCE

**INCREASED CEMENT PARTICLE HYDRATION** – 300 MWC optimizes concrete mix water /cement particle hydrolysis during concrete production related to cast in place, Portland cement based concrete applications. **300 MWC achieves up to 96% overall hydration rates, while acting as an internal cure.** This reduces bleed water eliminating channeling. 300 MWC also achieves increased hydration without increased heat.

**RH AND POROSITY-** 300 MWC is used to produce the highest levels of permanent, internal (PRAH) Hydrophilic performance without crystalline technology, creating a >90% reduction in concrete porosity alone. 300 MWC is effective in controlling internal RH (+/- 11) and concrete alkalinity.

**CONCRETE SHRINKAGE, SLAB CURL, AND SURFACE CRACKING** are reduced or eliminated.

**INTERNAL PROTECTION** – 300 MWC internally enhances concrete performance providing protection for reinforcing steel, aggregates, sands, and concrete paste. 300 MWC preserves critical components with a natural, steric hindrance (insulating hydrogel paste) within the micro-tunneling of concrete. In extremely aggressive environments, subject to 0-2.7 pH acids, the surface will still be subject to attack, although it is slowed. The acid cannot attack the matrix of the concrete to the same extent as untreated concrete extending the service life of any concrete.

**COMPATABILITY-** 300 MWC is 100% compatible for use in any Portland concrete application. It is also fully compatible with any paint, coatings or adhesives designed for bare concrete.

**ASR REDUCTION/ELIMINATION-** 300 MWC hydrogel paste significantly reduces and /or prevents ASR, AAR, ACR, DEF, incipient anode production, and carbonation by eliminating constant internal moisture.

**EASE OF USE-**300 MWC adds workability and flowability by producing increased lubricity. This makes it very useful for awkward placements and pumping into small cavities. It produces a higher slump while maintaining strength.

**WATER-PROOFING-** 300 MWC reduces permeability and porosity within the matrix of the concrete.

**FREEZE THAW** – 300 MWC significantly increases freeze thaw resistance by tying up high percentages of existing moisture in the amorphous gel membrane and preventing the ingress of new moisture.

## BENEFITS DURING CONSTRUCTION AND LONG-TERM

**COST EFFECTIVE-**AQURON 300 MWC works as a stand-alone performance enhancement replacing similar components.

**EARLY AND PERMANENT STRENGTH-** Increased cement particle hydration produces increased CSH (concrete paste). 300MWC produces early and permanent strength allowing access to the slab sooner. This reduces overall project cost with better timelines which **saves time and money.**

**REDUCED CARBON FOOTPRINT-**This is accomplished by reducing cementitious waste and by-products.

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**USER FRIENDLY-** Because the 300 MWC is CATALYZED, it produces significant workability and flowability making pumping much easier.

**PERMANENT INTERNAL PROTECTION-** Once the catalyzed hydrogel has formed, it cannot be reversed or removed. That means the internal components of the concrete will have life of the concrete protection against adverse damaging chemicals and processes that are prevalent when internal moisture is not controlled.

## ASTM STANDARDS

**ASTM C494** Low Range Water Reducer Type A&S

**EN-934-2** Water Proofing Properties for Admixtures

**ASTM F1869** Moisture Vapor Emission Rate of Concrete sub-floor using Anhydrous Calcium Chloride

**ASTM C779** Abrasion Resistance

**ASTM F710** Standard practice for preparing Concrete Floors to Receive Resilient Flooring

**ASTM C78** Strength increase

**ASTM D 5084-16** Permeability reduction

**ASTM C1567** Improves ASR resistance

**ASTM C1218** No added chloride

**ASTM C138** Increased density

**ASTM C143** Slump reducer

**ASTM C231** Reduced air voids

**ASTM C1064** Reduced overall temperature

**ASTM C42-94** Increased strengths

**ASTM C666** Increased resistance to freeze thaw

**ASTM C3916** Compatibility with glass fibers

## PHYSICAL PROPERTIES

Flammability.....	None
Physical.....	Liquid
Color.....	Clear
Odor.....	None
Flash Point.....	None
Toxicity.....	None
Hazardous Vapors or Powders.....	None
VOC/VOS.....	None
Specific Gravity.....	1.1 to 1.3
Freeze.....	32F
Crystalline Content.....	None
Spill Cleanup.....	Dilute /Flush with Water

## PRECAUTIONS

Use water to remove spills in contact with glass or glazed surface immediately, as distortion of surface may occur. Shiny aluminum may be dulled if contacted, metal is otherwise unaffected. **All ACI guidelines must be strictly adhered to including curing. Failure to do so can affect warranty.** For best curing results, use **AQURON® 2000** Cure and Seal. When adjusting slump, note that very little added water usually significantly increases slump, compared to a standard mix. We recommend adding no more than 1 gallon of water per yard of concrete to adjust the slump. **AQURON® 300** mixes can appear to have a lower slump, but still have the workability of higher slump concrete. **DO NOT ALLOW TO FREEZE.**

## HEALTH AND SAFETY

To avoid allergic reactions or skin irritation, it is recommended to wear gloves and eye protection when handling. Attention should be made to watches, eyeglasses etc., as **AQURON® 300** can etch glass or discolor aluminum if allowed to dry. Clean all equipment using water and mild soap. Never store dosing equipment without cleaning and maintain **AQURON® 300** in a sealed container between usages.

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## Directions for Use

### Dosage

**AQURON® 300-MWC™ Concrete Mix Water Conditioner** is added to concrete's mix water at the rate of 10 fluid ounces per 100lb/6.5ml per Kg of cement, or if using a mix water tank for variable cement content batching, please contact your area distributor or the **AQURON** Corporation International for technical assistance.

### Normal Batching

**AQURON® 300-MWC™ Concrete Mix Water Conditioner** must be mixed into 90% of the batching mix-water before introduction of any other mix materials e.g. cement, aggregate, fines etc... When batching in a transit mixer, **AQURON® 300-MWC™ Concrete Mix Water Conditioner** must be utilized as follows:

- A. Place 90% of concrete's mix water in transit mixer.
- B. Place the designed amount of **AQURON® 300-MWC™ Concrete Mix Water Conditioner** in transit mixer.
- C. Rotate mixer drum 8-10 revolutions.
- D. Add cement sand and aggregate.
- E. Add remaining mix water.
- F. Mix batch for at least 15 minutes at no more than

10-15 rpm.

The total mix must be kept mixing for a minimum of 180 revolutions.

Using **AQURON® 300-MWC™ Concrete Mix Water Conditioner** allows for a water to cement ratio between .48 and .54. Slump is easily adjusted with very little additional potable water. We recommend adding no more than 1 gallon of water per yard of concrete to adjust the slump

Note: Very little added water dramatically increases slump.

### Continuous Mixing

**AQURON® 300-MWC™ Concrete Mix Water Conditioner** is added or injected into, mix water at the rate of 10 fluid ounces per 100 lbs. of cement, prior to combining the mix-water with cement. The same is for operations such as, Flow Crete, Shot Crete, Lightweight, and/or Gunite etc.

## Other Additives

If mix design requires other additives call your **AQURON®** representative to ensure and verify product compatibility.

## Test Cylinders

**AQURON® 300-MWC™ Concrete Mix Water Conditioner** Test must be taken after full mixing period only. Note **AQURON® 300-MWC™ Concrete Mix Water Conditioner** is one part of a potential two-part system which includes cure and sealing with **AQURON® Cure and Seal™**. Contact your representative for more information on the Aquron Complete System.

## SHELF LIFE

Shelf life is indefinite provided containers are kept tightly sealed when not in use.

## PACKAGING

**AQURON® 300-MWC™ Concrete Mix Water Conditioner** is available in 5 gal/18.9 liters and 55 gall/208.2-liter drums or 330 gal/1249.18-liter totes.

## MAINTENANCE

No special maintenance of concrete is required when using the **AQURON® 300-MWC™**.

## TECHNICAL SERVICES

Technical information and assistance may be obtained from your local dealer, or by calling the technical department of the **AQURON** Corporation at (972) 722-5444, (800) 342-4649 Office, or (972) 722-6412 FAX. Email [aquron@aquron.com](mailto:aquron@aquron.com)

## WARRANTIES AND LIMITATIONS OF LIABILITY

**ALL WARRANTY REMEDIES ARE LIMITED TO REFUND OF THE PURCHASE PRICE FOR THE AMOUNT OF PRODUCT COVERING THE AFFECTED AREA.**

It is the responsibility of the batch plant owner and/or operator and the **AQURON** trained **KEY APPLICATOR** to determine the merchantability and fitness for a particular purpose or use of the **AQURON® 300-MWC™** and/or the **AQURON® 2000 Cure and Seal™**. **AQURON** offers a product performance warranty for this **AQURON** mitigation system of **AQURON® 300-MWC™** concrete admixture and **AQURON® 2000 Cure & Seal™**.

The Aquron 300/2000 comes with a limited warranty against moisture migration through sound concrete, control of concrete pH, and anti-dusting performance. All eligibility requirements on the warranty must be met to receive the warranty.

1. The applicant must fill out a warranty of performance request form from the Aquron corporation for the specific job it will be used on.
2. The batch plant operator must be an Aquron trained **KEY APPLICATOR**, or an Aquron representative must be present during batching.
3. The contractor that places and finishes the concrete must be an Aquron trained **KEY APPLICATOR** as well as be **ACI certified in placement and finishing concrete**.

Failure to comply with these requirements holds harmless the Aquron Corporation of any liability arising from its use, and user assumes all risk and liabilities whatsoever in connection therewith. The terms of this paragraph may not be orally modified. There are no warranties express or implied which extend beyond the face herewith. **ALL OTHER WARRANTIES, INCLUDING BUT NOT LIMITED TO WARRANTIES FOR FITNESS FOR USE OR FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY DISCLAIMED, EXCLUDED AND WAIVED TO THE FULLEST EXTENT ALLOWED BY LAW.**