Proven Performance Chemicals

Technical Data Sheet

Mix Water Max

1. Product:
Mix Water Max

2. Description/Basic Use:
Mix Water Max (MWM) is a water-clear, environmentally neutral, non toxic, odorless, non-VOC or non-VOS liquid.
Adding MWM to Portland cement concrete's mix water, produces an extraordinarily strong, dense, hard and more impermeable concrete. Mix Water Max accomplishes this in various ways. Initially it enhances the by-product quality of hydration's hydrolysis reaction. Mix Water Max provides mix water with the ability to initiate hydration without the usual cement potency loss which is normally ascribable to mix water dilution. It ensures that the freshly produced cement paste that first contacts and coats the concrete aggregates is the highest attainable quality. This improvement in quality of the concrete paste-to-aggregate bond further increases the strength and durability of the concrete.

The calcium hydroxide residue quality produced during hydrolysis is also improved through the use of Mix Water Max. It provides a more efficient calcium lamination of silicate polymer particles/strands/chains, thus further reducing the volume of unused calcium hydroxide in the finished concrete installation. It provides ingredients that prompt prolific formation/extending/branching of silicate polymer particles/strands/chains, which are vital constituents of tobermorite gel, the main strength component of concrete.

Mix Water Max increases usage of the cement in the mix, providing additional cement paste (cementitious material) volume per cement particle. Furthermore, Mix Water Mix produces an extremely homogenous fine textured cement paste containing smaller than usual, and more uniform pore sizes. This improves workability through increased lubricity while virtually eliminating surface bleed-water volume. Finally, Mix Water Mix precipitates a significant reduction in the size of leftover cement particle cores that are left to act as aggregates in the concrete. The smaller than usual particle cores ultimately become an unmatchable filler aggregate sized somewhere between sand and cement grain sizes. This provides extraordinary filler benefits similar to that of silica fume, resulting in a denser, stronger and more impermeable concrete. This higher integrity concrete is less susceptible to contaminate pollution, freeze damage, etc. Mix Water Mix provides to Portland cement concrete many unique benefits, yet requires no special handling, storage, mixing, finishing or curing techniques.

3. Some Advantages:
· Adds workability by increased lubricity
· Alleviates plastic cracking
· Greatly reduces bleed water volume
· Improves strengths
· Lowers internal chemical reaction potential
· Reduces capillary action potential
· Lowers potential for dusting
· Lowers chloride induced corrosion potential
· Lowers slab curl potential
· Increases acid/chemical resistance
· Decreases cementitious material waste

4. Technical Data:
Physical: Liquid
Color: Water-clear
Odor: None
pH: ± 10
Flash Point: None
Toxicity: None
Pollutants: None
Hazardous Vapors: None
Spill Cleanup: Dilute/Flush using water
Environmental Impact: None/neutral
User Status: Friendly

NOTE: Mix water is reduced by the amount of MWM that is added. **Example:** if 100 gallons of mix water is required and 10 gallons of MWM, the mix water is reduced to 90 gallons.

5. Dry Batching Directions:

a. Determine volume needed at 10 ounces of Mix Water Max per 100 pounds of Portland cement.
b. Prior to dry batching concrete, pour predetermined volume of Mix Water Max into rinsed, water evacuated transit mixer truck. (If truck is not clean, add 90% of water prior to adding MWM)
c. Pull truck under plant for loading.
d. With mixer turning in its mixing mode, load approximately 90% of the total mix water BEFORE loading cement and aggregate.
e. Load cement, aggregates (in any order) and balance of mix water.
f. There must be at least 110 revolutions on the transit mixer before concrete is placed at pour site or product may not perform as it should!
g. Slump may be adjusted at job site using plain water, followed by 5 minutes of additional mixing.

6. For Central Batch Mixing:

a. Determine volume needed at 10 ounces of Mix Water Max per 100 pounds of Portland cement.
b. Pour or pump the calculated volume of MWM into mix water pre-measuring tank as you add the mix water (additional blending or stirring of the mix water is not required). Then batch concrete as usual.
c. After concrete is batched, extra mixing time will be needed. You must add 50 percent more mixing time for best results. For example, if 3 minutes mixing time are normally required, then mix for 4-1/2 minutes.
d. Slump may be adjusted at job site using plain water, followed by 5 minutes of additional mixing by transit mixer.

7. Dosage for Continuous Mixing:

Calculate volume needed at 10 ounces of Mix Water Max per 100 pounds of Portland cement. Calculate amount of mix water needed per 100 pounds of Portland cement. This will provide your ratio of Mix Water Max to mix water. (For example, if calculations show that 5 gallons of mix water are required per 100 pounds of cement, then the water in the tank should be treated at the rate of 10 ounces of product per 5 gallons of water.)