

PCA-AWAP

Powdered Anti-Washout Admixture and Viscosity Modifier for Concrete

PRODUCT INFORMATION

PACKAGING

Packaged in water soluble bags.

SHELF LIFE

12 months in original unopened container.

STORAGE

Protect **PCA-AWAP** from temperatures under 32°F. Store in a dry, well-ventilated location.

SPECIFICATIONS/COMPLIANCES

DESCRIPTION

PCA-AWAP is a water-soluble polymer that prevents concrete from washing out by dramatically increasing the cohesiveness and viscosity of the concrete mix during underwater concrete placements. **PCA-AWAP** is manufactured under rigid quality control measures to provide uniform, reliable results.

PERFORMANCE BENEFITS

- Reduces washout and mass loss of the concrete mortar fraction
- Dramatically increases the cohesiveness of the mix consistency
- Reduces segregation in high w/cm and high slump mixes
- Reduces concrete bleed water

DOSAGE RATES AND DIRECTIONS FOR USE

PCA-AWAP is recommended for use at a dosage rate of 2/10 (.2) – 4/10 (.4) lb. per cubic yard.

PCA-AWAP dosage rate depends on desired performance characteristics, mix variables, and conditions at time of placement. Higher dosages are acceptable with prior testing and confirmation of the desired performance with specific materials used.

PCA-AWAP should be incorporated into the mix after all other ingredients have been added and completely mixed. **PCA-AWAP** can be added at the batch plant or jobsite.

For best results, each admixture must be batched at separate intervals with the initial or final batch water, and should not come in direct contact with any other admixture until they are mixed in the concrete batch. Admixtures should not come in contact with any dry cementitious material.

TECHNICAL NOTES

PCA-AWAP is compatible with Portland cements, Portland limestone cements, blended cements, class C and F fly ash, slag cements, silica fume, calcium chloride, and fibers. **PCA-AWAP** can be used in all white, colored, and architectural concrete.

MIX PERFORMANCE DATA: U. S. Army Corps of Engineers specification, CRD C 61, Test Method for Determining Resistance of Freshly Mixed Concrete to Washing Out in Water, is a method to determine a concrete mix design's ability to resist mass loss during underwater placements from washout. Concrete containing **PCA-AWAP** exhibits excellent anti-washout performance when compared to concrete with no anti-washout admixture.

Compressive Strengths: **PCA-AWAP** has little effect on the compressive strength of the concrete. If concrete mix design is proportioned according to ACI 304 R, test specimens will produce higher compressive strengths than the specification usually requires. If a lower water-cementitious ratio or higher compressive strength is necessary, the use of additional high-range water reducer, such as UltraFlo 2000, will be needed. Do not use a naphthalene-based high range water reducer with **PCA-AWAP**.

Bleed Water: Bleed water is significantly reduced and may be eliminated in concrete mixes, neat mixes, and grout mixes.

Slump: Underwater concrete mix designs should be batched to an 8-10 inch slump and a decrease in slump should be expected after the addition of **PCA-AWAP**. An additional dose of high-range water reducer may be necessary to meet specified slump for placement. Slump retention will be similar to normal concrete mixes.

Initial Set Time: **PCA-AWAP**, when used within the recommended dosage range, has very little effect on set time.

Air Entrainment: When using **PCA-AWAP** in a mixture, the air entraining admixture dosage requirement may be slightly decreased to reach specified air content.

RECOMMENDATIONS: ACI-304R, Chapter 8 (Concrete Placed Underwater), suggests certain mix proportions for underwater placements. Here are some examples:

- Slump range 6 to 9 in. (150 to 230 mm)
- Air content – 5%
- Minimum cementitious of 600 lbs/yd³ (356 kg/m³)
- 45% to 55% fine aggregate by volume all aggregates
- Pozzolanic admixtures, such as fly ash, should be used at rate of 15% of total cementitious.

PRECAUTIONS/LIMITATIONS

This product does not contain calcium chloride or chloride containing compounds, and any chloride ions present are in trace amounts resulting from municipal water used during the manufacturing process.

This product is compatible with most other admixtures when added to the mix separately. Always conduct trial batches, prior to job applications, to confirm compatibility and to verify mix results. Contact your technical sales representative before dosing outside of recommended ranges or for assistance with specialty applications.

In all cases, consult the safety data sheet prior to use.

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