

PCA-SRA

Shrinkage-Reducing Admixture for Concrete

DESCRIPTION:

PCA-SRA is a liquid shrinkage-reducing admixture, designed for use in indoor concrete slab on grade construction. **PCA-SRA** can be used, in any Portland cement-based product to significantly decrease drying shrinkage. **PCA-SRA** is a powerful air detrainer so it should not be used in exterior concrete. Even when good plastic air readings are obtained the bubble structure will not likely be conducive to adequate freeze thaw resistance. **PCA-SRA** is not expansive material, but rather functions by blocking capillaries of pore water, which is the major mechanism that causes drying shrinkage in concrete. **PCA-SRA** when added to concrete at a rate of 2 % by weight of cementitious can reduce shrinkage (ASTM C 157) by up to 80% at 28 days of age and by up to 50% at one year of age.

ADVANTAGES:

- High level of shrinkage reduction that can eliminate cracking due to drying shrinkage in restrained concrete
- Reduces potential for cracking
- Improves aesthetics
- Increases water tightness of the mix
- Improves durability of the concrete
- Reduces creep and curling of slabs
- Decreases carbonation at the surface of slabs

DOSAGE RATE:

PCA-SRA is recommended for use at a dose of 1.0% to 2.5% by weight of cementitious. For maximum effectiveness, use 2% by weight of cementitious. For example, a mix containing 600 lbs/cubic yd, 2% equates to 12 lbs/cubic yd or 1.5 gals/yd. The shrinkage reduction is generally linear with the dosage within the recommended dosage range, so any dosage, within this range can be selected based on the degree of shrinkage reduction desired. Because local job conditions vary, contact your local technical sales representative for further assistance if using this product outside the recommended dosage ranges or when combining with other admixtures.

MIX WATER ADJUSTMENT:

A water adjustment must be made to allow for the **PCA-SRA** in the mix. The water in the mix should be reduced by as much as the volume added through the addition of the shrinkage- reducing admixture.

EFFECT ON FRESH CONCRETE:

If **PCA-SRA** is substituted in the mix with an equal amount of water reduced, there is little or no effect on the slump. The initial set times are typically retarded by about one hour and will improve slump retention.

EFFECT ON HARDENED CONCRETE:

Significantly reduces drying shrinkage, consequently reduces or possibly eliminates cracks. Compressive strength may be slightly less than normal. It is reasonable to expect a 0 to 10% strength loss, but this is usually not an issue. For mixes where strength must be maintained, mid-range water reducers can be incorporated to reduce water to offset any strength reduction.

TECHNICAL NOTE:

PCA-SRA does not contain calcium chloride or any chloride-based components. It will not promote or contribute to corrosion of reinforcing steel in concrete.



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SPECIFICATIONS:

Conforms to ASTM C-1240

AASHTO M-307

COMPATIBILITY:

PCA-SRA is compatible with all types Portland cement, class C and F flyash, silica fume, fibers, approved air entraining, water reducing, midrange water reducers, corrosion-inhibitors, silica fume and superplasticizing admixtures. For best results, each admixture must be introduced separately into the concrete mix.

STORAGE TEMPERATURE:

PCA-SRA is a potentially combustible material with a flash point of 97°C (207°F). This is substantially above the upper limit of 60°C (140°F) for classification as a flammable material, and above the limit of 93°C (200°F) where DOT requirements would classify this as a combustible material. Nonetheless, this product must be treated with care and protected from excessive heat, open flame, or sparks. For more information consult the Material Data Safety Sheet.

PACKAGING:

3.5-gallon pails, 5-gallon pails, 55-gallon drums, and 275-gallon totes

SHELF LIFE:

18 Months

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