GreenCanvas

Expansive Component for Sustainable Concrete

Shrinkage-Compensating Concrete VS SRA's

SRA's (shrinkage-reducing agents/ admixtures) have been available to the concrete and construction industry for approximately fifteen years in the US. These products were created as a means of diminishing the potential for early drying shrinkage associated with any concrete mix, and given this narrow scope, they can perform as stated.

Due to the chemistry of SRA's, there is always the tendency for strength loss when used, usually in the range of 10% to 20%. It is always suggested that additional cementitious (Portland cement) be used when SRA's are specified. A rule of thumb is if a 3000PSI concrete is specified, the concrete producer should use his or her standard 3500PSI concrete at the minimum and the standard 4000PSI mix would be better and safer.

Finally, SRA's, while diminishing shrinkage initially, actually only delays this phenomenon. This will in some instances, give the concrete adequate time to develop enough tensile strength to overcome the stress induced into the concrete by drying if control jointing is applied as suggested by the American Concrete Institute.

Components, such as the Type "G" Expansive component (GreenCanvas), have been used not just in shrinkage-compensating concrete, but also to reduce the expected shrinkage of concrete for over thirty years. By definition, shrinkage-compensating concrete is a specialty concrete that will not just reduce, but will totally compensate for the expected drying-shrinkage of a conventional concrete mix when added at a rate of 8% to 10% of the cementitious. Slabs-on-ground for instance, require the lesser percentages in order to totally compensate for the shrinkage. Since GreenCanvas is a cementitious material, it will not reduce the concrete strength, but will raise it slightly, which means there is no need to increase cement content.

If comparing a shrinkage-compensating component such as GreenCanvas with any SRA, the percentage of GreenCanvas should be reduced to a level that would make it comparable, such as 3% to 6%. At these levels of GreenCanvas, shrinkage will be reduced, and that reduction will be permanent, not delayed. Again, at these reduced percentages, concrete slabs should be jointed as per American Concrete Institute recommendations.

In conclusion, when comparing the shrinkage-compensating component GreenCanvas and SRA's, one can determine that the component GreenCanvas will perform as an SRA at lower percentage levels, less cost, and higher quality and consistency than any documented SRA's. The true advantage of GreenCanvas is its use at the 8% to 10% level in order to totally compensate for expected drying-shrinkage. This specialty concrete can be used without the need for contraction (control) joints, with areas placed normally in the 10,000 to 20,000 square feet range.

Jason Barnes
Chief Consultant
870-917-2054

www.GreenCanvasConcrete.com

©08/21

Made in the USA