



CSA Cement

CSA Cement is a cementitious powder that increases the strength, shortens the set times, adds durability and decreases the shrinkage of standard concrete mix designs. CSA Cement is the perfect addition for mix designs that need to achieve high strengths quickly – as strong as 3,000 PSI in 60 minutes and an initial set time as fast as 20 minutes. CSA Cement can be used with retarder additives to provide longer workability, while still achieving high early strengths, making this an ideal product for time-sensitive projects.

What are the applications for concrete containing CSA Cement?

- Concrete repair and maintenance when fast reopening to traffic is needed of roadways, bridges , parking lots, airport runways and aprons, rail crossings or sidewalks.
- Self-leveling mortars with high early strengths.
- Pre-cast production requiring rapid demolding.
 - Water pipes, sewers, reservoirs, water tanks requiring high sulfate resistance and extremely low permeability.
- Stucco, Plaster, Guniting and Shotcrete (an accelerant for spray and injection products).
- Fast setting concrete at lower temperature

CSA is a clinker additive used with Portland cement concrete to enhance the physical and chemical properties related to ultra high early strength and durability.

Set times for different additions of CSA

The following table provides useful information regarding the average strength of CSA Cement mixes using different percentages with Greencastle Type I cement (except for 100% CSA test w/c=0.35). All data was obtained per ASTM C-109 for w/c=0.50.

CSA	Set Time	3 Hrs. (psi)	24 Hrs. (psi)	28 Days (psi)
20%	70 min.	N/A	1610	N/A
30%	40 min.	1060	2490	N/A
40%	30 min.	1770	2730	N/A
50%	20 min.	2840	4290	N/A
60%	17 min.	3560	4800	N/A
100%	11 min.	3720	4940	8700