



Oreworld trade (Tangshan) co., Ltd.

## CSA Expansive Additive

### CSA expansive additive description:

The CSA expansive additive is obtained by blending natural anhydrite with clinker powder which consists of calcium sulfoaluminate and CaO. This CSA expansive additive is always mixed with ordinary cement. When mixed in the proper proportion with ordinary cement and hydrated, cement mortar or concrete expands during the early stages of hydration. It is developed to reduce and compensate the hydraulic shrinkage of cement based construction products. Its performance is similar to Denka CSA #20, which is now widely used in the formulation of different mortars in Europe countries.

We offer two types of these CSA expansive additives, the main specifications are according to JC476-2001

### CSA expansive additive technical data:

Parameters		CSA Expansive additive I	CSA Expansive additive II
MgO %		$\cong 5.0$	$\cong 5.0$
Water content %		$\cong 3.0$	$\cong 3.0$
Total Alkali %		$\cong 0.75$	$\cong 0.75$
Chloride ion %		$\cong 0.05$	$\cong 0.05$
Specific Surface Area		$\cong 200\text{m}^2/\text{kg}$	$\cong 200\text{m}^2/\text{kg}$
Fineness	1.18mm residue	$\cong 12$	$\cong 12$
Setting time	Initial setting time	$\cong 0:45$	$\cong 0:45$
	Final setting time	$\cong 10:00$	$\cong 10:00$
Limited Expansive Rate (%)	7 days in water	$\cong 0.025$	$\cong 0.05$
	21 days in air	$\cong -0.020$	$\cong -0.010$
Compressive strength (MPa)	7days	$\cong 25$	$\cong 25$
	28days	$\cong 45$	$\cong 45$
Bending strength (Mpa)	7days	$\cong 4.5$	$\cong 4.5$
	28days	$\cong 6.5$	$\cong 6.5$

### CSA expansive additive performance:

(1) As making shrinkage compensated concrete, if the ratio of reinforcement is 0.2%-1.0%, the limited expansive rate will be in the range of 0.02-0.04%, and a



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prestress of 0.2-0.7Mpa exists in the concrete.

(2) Comparing with the concrete without Expansive Additive, in the condition of defined mixing amount, the free strength of the concrete with Expansive Additive is roughly equal to that of concrete without Expansive Additive. The limited strength is 10~15% higher than free strength.

(3) The impermeability grade of mortar and concrete can reach over S30. The elastic ratio closes to that of common concrete.

(4) Anti freezing: D150.

(5) Sulphate resistance of concrete is increased. No pollution to water.

### **CSA expansive additive application::**

(1) For structural self-waterproofing construction. Effectively preventing cracking or leakage of concrete.

(2) To extend the space length of post casting zone of cast-in-place overlength structure.

(3) To control the crack producing result of temperature difference in large sized structural concrete.

(4) For rigid roofing.

(5) Making non-shrinkage cements.

### **CSA expansive additive packing::**

By 50kgs bags or jumbo bags.

### **CSA expansive additive Storage::**

Store in dry place, guard against damp. Warranty period: 1 year.