

InterCem-HSb (HSb-30F)

Conforms to National Standards of Canada — CSA A3000-03

Property	InterCem	CSA Requirement
Sulphur Trioxide (SO ₃), %	2.0	3.0 max
LOI, %	1.0	6.0 max
SCM Content, %	30.0	50.0 max
Fineness, % Retained	7	24 max
Blaine, m ² /kg	470	N/A
Autoclave Expansion, %	0.02	0.8 max
Sulphate Resistance, % Expansion (6 months)	0.03-0.04	0.05 max
Compressive Strength, MPa		
3 days	18.0	10.5
7 days	24.0	16.0
28 days	38.0	28.5
Setting Time (minutes)	125.0	60 min 480 max

The table above compares the properties of Lehigh Inland's InterCem-HSb Cement with the requirements of the Canadian Standards Association A3001-03 specification for Blended High Sulphate resistant cements.

Lehigh Inland's **InterCem-HSb cement** is a blended high sulphate resistant cement (HSb-30F) that results in denser and more durable concrete. Created at the plant by intergrinding Class F fly ash and cement, InterCem-HSb reduces one step for the end user by eliminating the need to blend components on site. The result is a highly consistent product that is strong, economical and easy to use.

Note: Using a High Sulphate Resistant (HS) cement or a Blended High Sulphate Resistant (HSb) cement is only one ingredient in producing a durable concrete. End users need to ensure their specific mix designs meet all requirements of Tables 1 to 4 of CSA A23.1-04 for a given class of exposure.

Sulphate Action

Sulphates of sodium, magnesium and calcium (in combination with water) can cause a progressive deterioration of concrete — depending on factors such as the concentration of salts and the porosity and exposure condition of the concrete.

Sulphate attack on concrete is usually recognizable by random surface cracking, which is followed by surface scaling. A danger signal to watch for is a white deposit called efflorescence on the concrete surface that may accompany or precede cracking and deterioration.

Combat the Problem

To effectively achieve high quality concrete, here are a few simple steps to follow when building in sulphate-bearing soils.

1. Have the soil and water checked by a testing laboratory
2. Examine existing concrete structures in the area for signs of sulphate attack.
3. Discuss your proposed project with local construction officials.
4. Where sulphates exist or are suspected, follow all the rules for quality concrete and use Lehigh Inland's Type 50 (Type HS) Cement or Lehigh Inland's InterCem HSb cement.

Uses

The use of Lehigh Inland's InterCem-HSb Cement is strongly recommended in soils where the water – soluble sulphate content exceeds 0.1 per cent in soil samples, or 150 mg/L in water samples, or 0.20 per cent in recycled aggregate (See Table 3 CSA A23.1-04).

Specifications

Due to Lehigh Inland's rigid production standards, InterCem HSb Cement surpasses existing CSA specifications. The very latest methods, equipment and techniques, as well as constant and strict controls maintained during the manufacturing process, produces a consistently reliable product.

For further information on InterCem-HSb Cement, please contact your nearest Lehigh Inland Cement representative.

Important Note

Because of the chemical properties of all types of cement, it is important to be aware of the following: ***Freshly mixed cement, mortar, concrete or grout may cause skin injury. Avoid contact with skin where possible. In the event of contact, wash exposed skin areas promptly with water. If any cement or cement mixtures come into contact with the eyes, rinse immediately and repeatedly with water and get prompt medical attention.***