

## TYPICAL CEMENT CERTIFICATE

[Silica Fume]-modified Portland Cement type

**GU**

### Physical tests

#### Time of Set Vicat (minutes)

*Initial*..... 130  
*Final*..... 290

#### Fineness

*Specific surface*  
*Blaine (m<sup>2</sup>/kg)*..... 617  
*Retained on 45 µm*  
*sieve (%)*..... 4

#### Autoclave

*expansion (%)*..... 0.04  
*Air content (%)*..... 8

#### Compressive strength (MPa[psi])

*3 days*..... 25.8 [3740]  
*7 days*..... 33.5 [4860]  
*28 days*..... 47.5 [6890]

#### Expansion of mortars bars

*at 14 days (%)*..... 0.009

#### Accelerated pozzolanic Strength Activity

*Index at 7 days (%)*..... 137

### Chemical Analysis (%)

*SiO<sub>2</sub>* ..... 24.4  
*Al<sub>2</sub>O<sub>3</sub>* ..... 4.3  
*Fe<sub>2</sub>O<sub>3</sub>* ..... 3.1  
*CaO* ..... 54.1  
*Free Lime* ..... 1.2  
*MgO* ..... 2.3  
*SO<sub>3</sub>* ..... 3.8  
*Loss on ignition* ..... 2.8

#### Silica Fume addition

*(% by mass)*..... 8.3

**We hereby certify that the cement delivered complies  
with the current requirements ASTM standard C 1157 Type GU.**

For any information regarding this certificate, please contact our technical service at (418) 329-2100, ext. 3276.

*Michel Chabot, Eng.  
Chemist Engineer*