

## TYPICAL CEMENT CERTIFICATE

Portland Cement type

I

### Physical tests

#### Time of Set Vicat (minutes)

*Initial*..... 115

*Final*..... 245

#### Fineness

##### Specific surface

*(Blaine) (m<sup>2</sup>/kg)*..... 393

##### Retained on 45 µm

*sieve (%)*..... 5

#### False set (%)

*final penetration (%)*..... 63

#### Autoclave

*expansion (%)*..... 0.10

*Air content (%)*..... 6

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

*3 days*..... 26.4 [3830]

*7 days*..... 30.9 [4480]

*28 days*..... 37.8 [5480]

#### Expansion of mortar bars

*at 14 days (%)*..... 0.008

### Chemical analysis (%)

*SiO<sub>2</sub>*..... 19.1

*Al<sub>2</sub>O<sub>3</sub>*..... 4.8

*Fe<sub>2</sub>O<sub>3</sub>*..... 3.6

*CaO*..... 60.2

*Free calcium oxide*..... 1.5

*MgO*..... 2.6

*SO<sub>3</sub>*..... 3.8

*Loss on ignition*..... 1.9

*Insoluble residue*..... 0.5

#### Alkalies

*(Na<sub>2</sub>O equivalent)*..... 0.92

*Carbon dioxide (CO<sub>2</sub>)*..... 1.7

*Limestone*..... 4.5

#### Calcium carbonate(CaCO<sub>3</sub>)

*in limestone*..... 84

#### Mineralogical Composition (Potential)

*C<sub>3</sub>S*..... 47

*C<sub>2</sub>S*..... 18

*C<sub>3</sub>A*..... 7

*C<sub>4</sub>AF*..... 11

**We hereby certify that the cement delivered complies  
with the ASTM Standard C 150 and AASHTO M 85, Type I.**

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

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