



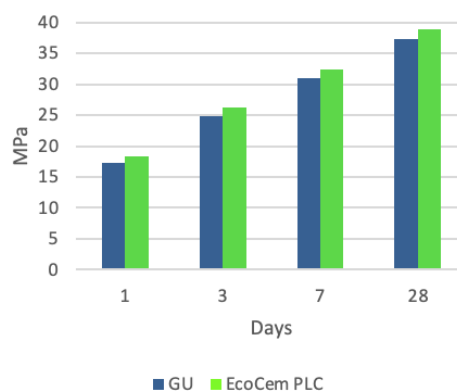
## PRODUCT DESCRIPTION

Lehigh EcoCem®PLC is portland limestone cement (PLC) type GUL manufactured by Lehigh Cement Company to comply with all applicable requirements of the CSA A3001 Cementitious Materials for Use in Concrete. EcoCem®PLC is a hydraulic interground portland cement containing between 5% and 15% limestone that has the performance equivalent to GU cement in strength and durability. It has the same qualities as ordinary portland cement while producing less greenhouse gases. Request current material certificate from a Lehigh representative.

## APPLICATIONS

Using EcoCem®PLC is an environmentally responsible choice. Production of this earth-friendly cement generates about 10% less CO<sub>2</sub> than other portland cements, while still delivering the consistency, versatility and performance Lehigh customers expect. EcoCem®PLC can be used in any application where portland cement Type I is normally used and it allows for the production of a more sustainable concrete product for owners and designers. GUL cement is equivalent to GU cement in compressive and flexural strength, durability and it is allowed in sulfate exposure classes, the same as GU cements (CSA A23.1/A23.2). GUL cement is a cost-effective, basic building material that is suitable for use in a wide range of concrete applications including: cast-in-place, pre-cast, tilt-up, tanks, bridges, pavements, concrete masonry units, prestressed concrete members, masonry mortars and grouts. GUL hydraulic cement is approved by most of the Provincial Transportation Agencies across Canada and it is included in the National Building Code of Canada. EcoCem®PLC is suitable for use with a wide range of additives and admixtures to extend the properties and uses of concrete. Chemical admixtures (ASTM C494 & C260) behave similarly in use and dosage as with GU cements. Setting characteristics of EcoCem®PLC are also comparable to typical portland cements.

## Compressive Strength



## KEY FEATURES/BENEFITS

- Improved concrete workability
- Better concrete finishing properties
- Reduced slab bleeding
- May increase durability
- Equivalent performance
- Environmentally sensible use of natural resources



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EcoCem®PLC is compatible with supplementary cementitious materials and blended supplementary cementitious materials as per CSA A3001. Fly ash, as well as slag cements are at equal replacement levels to portland cements. In concrete mixes using SCMs (slag & fly ash), you will find a synergistic effect with our interground limestone cement and achieve a slightly higher concrete strength. Studies have shown that concrete containing portland limestone cement with the appropriate mix design and proportions of fly ash, slag cement or silica fume will produce denser concrete with more desirable concrete ability to resist chloride ion penetration.

When EcoCem®PLC is used to make concrete with the proper design, it can significantly improve the workability, pumpability, and overall finishability of concrete – resulting in easier handling and placing of the concrete, either by hand or machine.

### CONCRETE: COLOR

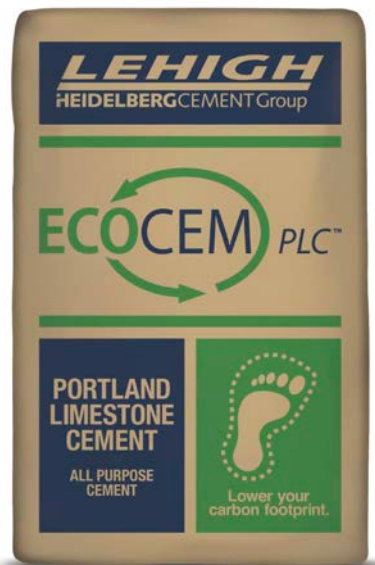
Concrete produced with EcoCem®PLC may be lighter in color.

### DELIVERY/STORAGE

Shipped, handled and stored similar to other portland cements, EcoCem®PLC is a moisture sensitive material that must be kept dry in order to retain its quality. Bulk EcoCem®PLC should be stored in a weather-tight bin or silo. Product is also available in multi-walled bags in select markets.

### HISTORY

EcoCem®PLC is new to North America; however, it is not a new product. Portland limestone cements have been around for decades in Europe. Lehigh's parent company, HeidelbergCement, developed cement with 20% limestone content for special applications in 1965. Today, in Europe, the standards allow up to 35% limestone and portland limestone cement is used regularly. As a result of the work of standards groups in Canada and the United States, cement with up to 15% limestone and equivalent performance to ordinary or general use cement is being used throughout North America.



### CAUTION

Portland Cement when dry is non-hazardous. When in contact with water (such as in eyes or skin) or when mixed with water to make fresh portland cement concrete, mortar or grout, it becomes highly alkaline and can irritate or burn the skin and injure the eyes when not properly handled. Direct contact should be avoided and if it does occur, the affected area should be washed with water immediately. If fresh portland cement concrete or portland cement gets into the eyes, rinse them thoroughly with water and seek medical attention. Inhalation of dry portland cement can irritate the upper respiratory system. For additional safety information please reference our Safety Data Sheets (SDS) available online at [www.lehighhanson.com](http://www.lehighhanson.com)

### WARRANTY

The information and statements herein are believed to be reliable, but are not to be construed as the warranty or representation for which we assume legal responsibility. Lehigh Portland limestone cements shall conform to the current CSA A3001 Cementitious Materials for Use in Concrete, and no other warranty, representation or condition of any kind, expressed or implied, (including no warranty of merchantability or fitness for a particular purpose) shall apply. Having no control over the use of cement, seller will not guarantee finished work, nor shall seller be liable for consequential damages.