

LIGHTWEIGHT CONCRETE

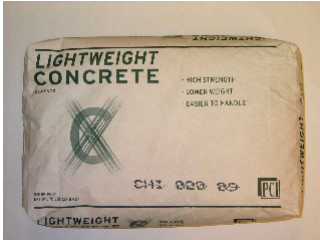
(5,000 psi)



PACKAGED CONCRETE, INC.
1S950 SOUTH LORANG ROAD
ELBURN, ILLINOIS 60119
(630) 557-8252
PCI-IL.COM

1. PRODUCT NAME

PCI Lightweight Concrete
Item # 407001



2. MANUFACTURER



Packaged Concrete, Inc.

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Elburn, IL 60119
Phone: (630) 557-8252
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3. PRODUCT DESCRIPTION

Basic Use

PCI STRUCTURAL LIGHTWEIGHT AGGREGATE CONCRETE uses Portland Cement, a blend of structural lightweight and normal weight aggregates to produce a structural lightweight aggregate concrete. This product has an Equilibrium Density of 110.8 lbs/cu.ft. This concrete is ideal for floor and roof slabs, balconies, floor under-bedding and multi-story construction to reduce the dead weight.

Product Size

-70 lb bag
-0.67 (2/3) cf
-2 sf @ 4" thickness

Composition and Materials

-Type I Portland Cement

(ASTM C 150) "Standard Specification for Portland Cement"

-Concrete Aggregate

(ASTM C 33) "Standard Specification for Concrete Aggregates"

-Lightweight Concrete Aggregate

(ASTM C 330) "Standard Specification for Lightweight Aggregates for Structural Concrete"

-Air Entraining Admixture

(ASTM C 260) "Standard Specification for Air-Entraining Admixtures for Concrete"

Benefits

- Easier to handle
- Reduced dead weight
- Lower thermal conductivity
- Increased fire ratings

4. APPLICABLE STANDARDS

- (ASTM C 33) "Standard Specification for Concrete Aggregates"
- (ASTM C 39) "Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens"
- (ASTM C 138) "Standard Test Method for Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete"
- (ASTM C 157) "Standard Test Method for Length Change of Hardened Hydraulic-Cement Mortar and Concrete"
- (ASTM C 173) "Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method"
- (ASTM C 260) "Standard Specification for Air-Entraining Admixtures for Concrete"
- (ASTM C 330) "Standard Specification for Lightweight Aggregates"
- (ASTM C 403) "Standard Test Method for Time of Setting of Concrete Mixtures by Penetration Resistance"
- (ASTM C 567) "Standard Test Method for Determining Density of Structural Lightweight Concrete"
- (ACI 302.1R-04) "Guide for Concrete Floor and Slab Construction"
- (ACI 308R-01) "Standard Specification for Curing Concrete"

5. INSTALLATION

Mixing

This material needs to be mixed longer than standard concrete to allow the lightweight aggregate time to absorb excess water.

- 1) Add one gallon of potable water to a mechanical batch type mixer.
- 2) Add one bag of PCI Lightweight Concrete.
- 3) Continually blend water and dry materials for 2 minutes.
- 4) Let material sit in mixer for 3 minutes.

5) Remix material and add enough water (1/4-1/2 gallon) to bring the material back to a proper working consistency.

-Note: Remove wet concrete from mixer within 10 minutes of blending. If concrete is unworkable, discard and make a new batch.

Placement

Follow the techniques required in ACI 304R-00 for placing lightweight concrete. Do not over manipulate placed material. Avoid separation by reducing water contents and limiting vibration.

Finishing and Curing

Follow ACI 308R-01, "Standard Specification for Curing Concrete"

Limitations

Follow the ACI Guidelines as referenced in the "Applicable Standards" in section 4 of this Data Sheet. Follow floor covering manufactures recommendations for anything installed on or over this material.

For evaporative considerations... Lightweight aggregate in lightweight concrete increases that amount of water by about a pound per square foot of finished floor area as compared to regular weight concrete.

Install PCI Structural Lightweight Aggregate Concrete from 2" to 4" thickness.

Admixtures can be added on-site per admixture manufacturers recommended dosage rate. Note that admixture dosages might be lost to (absorbed by) the lightweight aggregate.

Maintain concrete temperature between 40°F and 95°F. Do not allow mix water, ground temperature, air temperature, curing compounds or anything that comes in contact with concrete to vary by more than 20°F than the concretes temperature before the initial set has taken place.



6. LEED INFORMATION

Applicable Credits:

- MR Credit 4.1
- MR Credit 4.2
- MR Credit 5.1
- MR Credit 5.2
- Pre Consumer Recycled Content 50%
- Local Harvest Content 77%
- Production Location
 - City Elburn
 - State Illinois
 - Zip 60119
- 100% harvested w/in 500 miles

7. PHYSICAL PERFORMANCE

Minimum Compressive Strength (ASTM C 39)

- 7 Day 4,000 psi
- 14 Day 5,000 psi
- 28 Day 6,000 psi

Air Content (ASTM C 173)

5% - 7%

Setting Time @ 72°F (ASTM C 403)

Initial 9hr, 0 min.
Final 15hr, 30min.

Oven Dry Density (ASTM 567)

Oven Dry 106.9 lbs/cu.ft.

Equilibrium Density (ASTM 567)

110.8 lbs/cu.ft.

Unit Weight (ASTM C 138)(Wet)

116.2 lbs/cu.ft.

Length Change (ASTM C 157)

-0.016% @ 28 Days