Harvey Cement Products, Inc.

High Quality Building Block and Masonry Material

16030 Park Avenue ♦ Harvey, Illinois 60426-5069
P: 708.333.1900 ♦ F: 708.333.1910
www.harveycement.com ♦ sales@harveycement.com

Manufacturer of

- SavannaStone
- CMU/Splitface
- Turlington Block/Brick

Strength
Value
Beauty
Longevity

TABLE OF CONTENTS

SavannaStone®

By Harvey Cement Products, Inc.

Strength
Value
Beauty
Longevity

"SIMPLIFYING CAST STONE DESIGN"

- 2FT INDUSTRY STANDARD SIZES ARE STOCKED, WITH CUSTOM UNITS DESIGNED AND PRODUCED IN THE EXACT SAME MIX DESIGN
- CUSTOMIZED STONE COLORS/PALETTES AVAILABLE UPON REQUEST
- VIRTUALLY UNLIMITED DESIGN CAPABILITIES: MEDALLIONS, ARCHES, ETC.
- EXCEPTIONALLY LOW 2.2% AVERAGE INTEGRAL WATER ABSORPTION RATE
- COMPLETE IN-HOUSE CAD DRAWINGS PROVIDED TO THE MASON CONTRACTOR

SavannaStone® Specification for ASTM C1364 and ASTM C90

ASTM C1364 Specifications for Cast Stone

Property	Test	Target Value	SavannaStone®
Compressive Strength	ASTM C1194	More than 6500 PSI @ 28 days	7504 PSI @ 28 days
Absorption	ASTM C1195	Less than 6% @ 28 days	2.2% @ 28 days
Freeze/Thaw	ASTM C666	Less than 5% @ 300 cycles	CPWL 4.16% @ 300 cycles

ASTM C90 Specifications for Load Bearing Concrete Masonry Units

Property	Test	Target Value	SavannaStone®
Compressive Strength	ASTM C140	More than 1900 PSI	6158 PSI
Absorption	ASTM C140	Less than 13 lbs./cu.ft.	4.65 lbs./cu.ft.
Density	ASTM C140	More than 125 lbs./cu.ft.	134 lbs./cu.ft.

Construction Information for Cast Stone Veneer Systems

Please note the following "design considerations" for masonry wall assemblies: When considering shrinkage and volume for masonry wall assemblies, the concerns for cast stone can be divided into two categories: (1). Shrinkage and cracking of cast stone veneer assemblies and (2). Shrinkage and cracking of individual cast stone elements.

The first category applies to cast stone used as a veneer or in combination with concrete masonry veneers. In this case, the recommendations from the National Concrete Masonry Association (NCMA) seem appropriate. **NCMA recommends that control joints be placed at a maximum spacing of 25 feet and that the aspect ratio of the wall is such that the length of the wall is no more than 1-1/2 times the height of the wall.** Thus for example, a 12-foot wall would have vertical control joints placed at 18 feet. These recommendations from NCMA also take into account reversible thermal and moisture movements and are based on extensive research and field experience.

The second category is crucial to wall construction as **shrinkage is always expressed as a percentage, individual cast stone elements will experience actual shrinkage depending on their length.** For example, a 24-inch long unit with a linear dry shrinkage of 0.065% will experience a total shrinkage of 0.016 inches. A 144-inch long unit with the same shrinkage will experience a change in length of 0.094 inches.

SAVANNASTONE®
BY HARVEY CEMENT PRODUCTS, INC.

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16030 Park Avenue, Harvey, Illinois, 60426-5069 Phone 708.333.1900 Fax 708.333.1910

SavannaStone® Colors

#3 Limestone

#7 Light Buff

#49 Dark Buff

Custom Color Matching Available

Limitless Options*

**Harvey Cement has the ability to match virtually any natural color presented with minimal or no associated increase in cost. With our state of the art technology, HCP technicians can efficiently produce color additives at the point of manufacture in order to insure quality and consistency throughout the entire process.*

Harvey Cement Products, Inc.

www.HarveyCement.com

16030 Park Avenue, Harvey, Illinois, 60426-5069 Phone (708)333-1900 Fax (708)333-1910

Concrete masonry can make a significant contribution meeting LEED Green Building certification. Leadership in Energy and Environmental Design (LEED) is a voluntary rating system developed by the United States Green Building Council (USGBC) to evaluate a buildings environmental impact and performance. LEED provides a design guideline as well as national third-party certification for defining what constitutes a "green" building. LEED's overall goals are to improve occupant well-being, environmental impacts and economic returns of new buildings. Buildings are LEED – certified if they can be shown to attain at least 26 points (out of a possible 69). The certification awards system is further refined into three categories: Silver (33-38 points), Gold (39-51 points), and Platinum (52 points or more). Ref.1
To learn more about the LEED system and the certification process, visit the USGBC's website at *www.USGBC.org*.

The following sections briefly describe how Harvey Cement Products concrete masonry units and cast stone units can contribute to earning LEED points.

Materials and Resources Credit – Recycled Content Credit 4.2
Increase demand for building products that incorporate recycled content materials, therefore reducing impacts resulting from extraction and processing of new virgin materials.

Materials and Resources Credit – Regional Materials Credit 5.2
Using materials and products that are extracted and manufactured within the region support the use of indigenous resources and thereby reduce environmental impacts of transportation.

SAVANNASTONE®

Harvey Cement Products' ***SavannaStone*** qualifies for **2** LEED points:
2 PTS. Regional Materials Section 5.2: 20 %+ Manufactured Regionally

MEDIUM AND LIGHWEIGHT [EZ-107] CMU

Harvey Cement Products Medium Weight CMU and ***"E Z 107"*** Lightweight CMU both qualify for a combined **4** LEED points:
2 PTS. Regional Materials Section 5.2: 20 % Manufactured Regionally
2 PTS. Recycled Content Section 4.2: 20 % (Post-Consumer and ½ Post-Industrial)

Reference:
1. Concrete Masonry & the LEED Program. NCMA TEK 6-9B 2006

SavannaStone®
Harvey Cement Products, Inc.
16030 Park Ave.
Harvey, IL 60426

Division 04 – Masonry

04720 Cast Stone

The following specification has been written for SavannaStone®, which is a Portland cement based cast stone manufactured by Harvey Cement Products, Inc. in accordance with the Dry Tamp Casting Method. The methods and standards shown below are strictly adhered to and ultimately represent a product free of bug holes, natural in appearance, with virtually limitless coloring potentials. Every unit is manufactured with an integral water repellent [Rainbloc®] which results in a water absorption rate of less than 3% on average when combined with the other aggregates and additives within our proprietary mix design.

Part 1 – General

1.1 Section Includes – Dry Tamp, Architectural Cast Stone

A. Scope includes all labor and materials used in the production of the cast stone units as shown within the architectural (CAD) drawings provided.
B. Mason contractor shall unload, store, furnish all anchoring devices, install, patch, clean and seal the stone as required by the project architect.

1.2 Design Considerations

A. Cast stone shall comply with ASTM C1364, *Standard Specification for Cast Stone* unless made by machine. Machine vibrant tamp should be tested according to ASTM C90.
B. NCMA and Cast Stone Institute recommendations: unit should not exceed 15 times their smallest dimension. While larger sizes are available and frequently produced, it is recommended that an individual units design not exceed a volume 2.0 cubic feet, or an overall length of 6 feet. [This will insure that the cast stone works within the limits of manufacturing, transport, handling, installation, and structural integrity.]

1.3 Related Sections

A. Section -01 33 00: Submittal Procedures.
B. Section -04 05 13: Masonry Mortaring.
C. Section -04 05 16: Masonry Grouting.
D. Section -04 05 19: Masonry Anchorage and Reinforcing.
E. Section -07 9000: Joint Protection.

1.4 Definitions

A. Cast Stone –architectural concrete building units manufactured with a fine grain texture, completely free of bug holes, with the intention of simulating natural cut stone used in unit masonry applications.
    1. Vibrant Dry Tamp (VDT) casting method: Vibrating fine, moist aggregates with zero-slump against a solid mold until compaction is extremely dense in nature.
    2. Casting by Machine Method: Manufactured with fine, moist aggregates from zero-slump concrete by use of machinery which utilizes vibration and pressure to densely consolidate the materials against the mold.

1.5 References

A. ASTM A36: Standard Specification for Carbon Structural Steel
B. ASTM A136: Standard Specification for Zinc [Hot Dipped Galvanized] Coatings on Iron and Steel Products
C. ASTM A615/A615M: Standard Specification for Deformed and Plain Billet-Steel Bars for Reinforced Concrete.
D. ASTM C33: Standard Specification for Concrete Aggregates.
E. ASTM C140: Methods of Sampling and Testing Concrete Units.
F. ASTM C150: Standard Specification for Portland Cement.
G. ASTM C270: Standard Specification for Mortar in Unit Masonry.
H. ASTM C426: Standard Test Method for Linear Shrinkage of Concrete Masonry Units.
I. ASTM C476: Standard Specification for Grout for Masonry
J. ASTM C494/C 494M: Standard Specification for Chemical Admixture for Concrete.
K. ASTM C666: Standard Test Method for Resistance to Rapid Freezing and Thawing.
L. ASTM C979: Standard Specification for Coloring Pigment for Integrally Pigmented Concrete.
M. ASTM C1194: Standard Test Method for Compressive Strength of Architectural Cast Stone.
N. ASTM C1195: Standard Test Method for Absorption of Architectural Cast Stone.
O. ASTM C1364: Standard Specification for Architectural Cast Stone.
P. Cast Stone Institute Technical Manual: Most Recent Edition

1.6 Submittal Procedures

A. Comply with Section 01 33 00: Submittal Procedures.
B. Product Data: Submit Manufacturer's Data Including:
    1. Physical Samples which represent the color and finished texture requested.
    2. Mockup Samples for site panel up to 3 CuFt/9 SqFt.
    3. Shop Drawings including building elevations, unit locations, dimensioned profiles, exposed face side, annotation of components, details of reinforcement if required, and location of control joints.
C. Test Reports: Submit manufacturer's test results in accordance with all C1364 requirements [NOTE: Submit for ASTM C90 for machine-made wall units].

1.7 Quality Assurance

A. Manufacturer Qualifications: Producer with a minimum of 10 years experience which maintains the technical and physical capacity to meet all quantities, sizes, and quality required by the scope of the project.
B. Cast stone shall be from one manufacturer to avoid dissimilarity in color, texture, and bonding characteristics.

1.8 Delivery, Storage, and Handling

A. Delivery:
   1. All stone shall be delivered on pallets, covered in a waterproof sheeting material to avoid damage and discoloration prior to installation.
   2. Pallets should not be stacked in any instance other than level ground areas with flat units, on full cubes. Pallets should never be stacked on one another.
   3. Pieces shall be individual marked with easily removable label to match the shop drawings.
   4. Provide an itemized list of products to confirm all delivered units.
B. Storage:
   1 Cast stone should be stored on flat ground above grade.
   2 Avoid contact with other onsite aggregates by storing stone and mortar where contamination will not occur.
C. Handling:
   1. If direct contact with the stone is required due to lifting heavy weight units, use wide-belt slings if lifting inserts are not accessible.
   2. Female threaded inserts shall be installed in every unit over 150 lbs. that allows for vertical lifting of the cast stone unit to its final destination. Installer is responsible for furnishing the (male) swivel hoist ring in the size required. Hoist rings should be used in the lifting process. Eye bolts are not recommended.
   3. Protect all cast stone units during the installation to prevent unnecessary chips, scratches, and/or breakage.
   4. Delivery ticket should be signed by accepting contractor after inspection and confirmation that all cast stone units are present and in proper condition.

1.9 Project Conditions

A. During construction, cover the tops of walls with waterproof sheeting at the end of each day's work. [Manufacturer's Note: Materials with integral water repellents will lock the water *inside* the wall as well as work to keep the water out. If water is allowed inside the wall do not apply sealer until wall is completely dry.]
B. Stain Prevention: Prevent grout, mortar, and soil from staining the face of masonry to be left exposed or painted. Immediately remove grout , mortar, and soil that come in contact with such masonry.
   1. Protect base of walls from rain-splashed mud and from mortar splatter by coverings spread on ground and over wall surface.
   2. Protect sills, ledges, and projections from mortar droppings and other rubble falling down the wall.
   3. Turn scaffold boards near the wall on edge at the end of each day to prevent rain from splashing mortar and dirt onto completed masonry.

C. Cold Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Remove and replace unit masonry damaged

by frost or by freezing conditions. Comply with cold-weathered construction requirements contained in ACI530.1/ASCE 6/TMS 602.

1. Cold-Weather Cleaning: Use liquid cleaning methods only when air temperature is 40 degree F and above and will remain so until masonry has dried, but not less than 7 days after completing cleaning.

D. Hot-Weather Requirements: Comply with hot-weather construction requirements contained in ACI530.1/ASCE 6/TMS602.

1. When ambient temperature exceeds 100 deg F, or 90 deg F with a wind velocity greater than 8 mph, do not spread mortar beds more than 48 inches ahead of masonry. Set masonry units within one minute of spreading mortar.

Part 2 – Products

2.1 Manufacturer

A. SavannaStone® by Harvey Cement Products, Inc. 16030 Park Ave., Harvey-IL 60426
Ph: 708-333-1900
Fax: 708-333-1910
Email: sales@harveycement.com
Website: www.harveycement.com

2.2 Dry-Tamp Cast Stone

A. Comply exclusively with ASTM C1364 [ASTM C90 when referring to machine made stone]

B. Physical properties:

1. Color to be determined by architect and integral throughout unit.
2. Compressive strength of units: >7500 p.s.i. at 28 days.
3. Absorption: ASTM C1195-03 <2.5% at 28 days.
4. Density: ASTM C140 > 120lbs/ft3
5. Freeze-Thaw: ASTM C666 < 4.0% at 300 cycles.
6. Curing: in exposed chamber at 95%RH and 95 to 120 degrees F for 12 to 18 hours.
7. Water Repellant: Integral throughout units entirely.

C. Cast Stone Materials:

1. Portland Cement: ASTM C150, Type I or III, white or grey as required to match specified color.
2. Coarse Aggregates: ASTM C33 except for gradation, granite, quartz or limestone.
3. Fine Aggregates: ASTM C33 except for gradation, manufactured or natural sands.
4. Pigments: ASTM C979, except do not use carbon black pigments, inorganic iron oxide.
5. Water Reducing, Retarding and Accelerating Admixtures, inherent throughout the unit; ASTM C494
6. Water: Potable.
7. Reinforcing Bar: ASTM A 615/A 615M. Grade 40 or 60 steel galvanized or epoxy coated when cover is less that 1.5 inches or 37mm.

2.3 Mortar & Grout Materials

A. Mortar-Follow Cast Stone Institute Standard Specification under Section 04 0513.

B. Provide mortar and grout complying with ASTM C270 or ASTM C476 (for reinforced masonry) and requirements of architect of record. Type N based on proportion specification, unless type S is mandated by the engineer of record.
C. Water-Potable.

2.4 Accessories

A. Anchors: type and size indicated, fabricated from stainless steel complying with ASTM A 240, ASTM A 276, or ASTM A 666, Type 304.
B. Dowels: Round steel bars complying with ASTM A 36, or ASTM A 615, ½ inch diameter, and hot-dip galvanized to comply with ASTM A 123, or stainless steel.

C. Cleaner: Use general-purpose cleaner designed for removing mortar and grout stains, efflorescence, and other construction stains from new masonry surfaces without discoloring or damaging masonry surfaces. [Must be approved for intended use by Harvey Cement Product's, Inc. and by the cleaner manufacturer for use on cast stone and adjacent masonry materials.]

2.5 Manufacturing Tolerances

A. Cross section dimensions shall not deviate by more than ± 1/8" (3mm) from approved dimension.
B. Length of units shall not deviate by more than length/ 360 or ±1/8" (3mm), whichever is greater, not to exceed ± ¼" (6mm).
C. Warp, bow or twist of the unit shall not exceed length/ 360 or ±1/8" (3mm), whichever is greater.
D. Location of dowel holes, anchor slots, flashing grooves, false joints and similar features on formed sides of unit, 1/8" (3mm), on unformed sides of unit, 3/8" (9mm) maximum deviation.

2.6 Production Quality Control

A. Testing
    1. Test compressive strength and absorption from specimens selected at random from plant production.
    2. Perform tests in accordance with ASTM C1194 and C1195.
    3. New and existing mix designs shall be tested for strength and absorption compliance prior to producing units.

2.7 Delivery, Storage & Handling

A. Label production units with identification that can be referenced to the shop drawings.
B. Package units and protect them from staining or damage during shipping and storage.
C. Provide an itemized list of product to support the bill of lading.

Part 3 – Execution

3.1 Examination

A. Installing contractor shall check Cast Stone materials for fit and finish prior to installation. Never set unacceptable units.
    1. Report in writing any conditions in which do not comply with specified requirements.
    2. Do not proceed with installation until surfaces and conditions meet requirements for acceptable installation.
    3. Visually inspect cast stone components for fit and finish in accordance with ASTM C 1364 before installation.
    4. Notify architect if construction is unacceptable.

3.2 Jointing

A. At stone/brick joints 3/8" (9.5mm)
B. Joint materials
    1. Mortar: Type N, ASTM C270.
    2. Full bed of mortar at all bed joints.
    3. Flush vertical joints full with mortar.
    4. Leave all head joints, ajoining joints with exposed tops, and joints under relieving angles open for sealant.
C. Location of Joints
    1. As shown on HCP produced shop drawings,
    2. At control and expansion joints unless otherwise shown.
    3. Comply with NCMA guidelines for control joints of no farther than 1-1/2 times the height of the wall, no greater than 25 LF.
    4. Provide control joints at edges of window openings over 4' long and at the center of openings 20' long or greater.

4.3 Setting/Installation

A. General: Install cast stone components in conjunction with masonry, complying with Section 04 7200 Cast Stone Masonry.
B. Fill dowel holes and anchor slots completely with mortar or non-shrink grout.
C. Sponge face of each stone to remove excess mortar.
D. Fill vertical joints with mortar.
E. Produce joints of 3/8" (9mm), unless otherwise indicated on the drawings.
F. Leave head joints in copings and similar situations open for sealant.
G. Set cast stone components in a full bed of mortar unless otherwise indicated on the drawings.

4.4 Joint Protection

A. Comply with requirements of Section 07 9000.
B. Provide sealant joints at cast stone components with exposed tops, joints at relieving angles, and control/expansion joints.

4.5 Repair and Cleaning

A. General: Clean all cast stone components as the work progresses. Perform final cleaning as soon as possible after mortar has set and been tooled. Clean faces of stone at pointed joints

immediately. Remove soiled areas, streaks and stains from prefinished panels using clean water and soft bristle brush, followed by clear water rinse.

B. Repair all chips with patch furnished by manufacturer.
C. Protect units and surrounding masonry prior to cleaning.
D. Saturate all units with water prior to applying an approved masonry cleaner.
E. Consult with manufacturer for appropriate cleaners.
F. Do not use wire brushes, acid-type cleaning agents, cleaning compounds with caustic or harsh fillers, or other materials or methods which could damage, discolor, or etch the surface.
G. Remove cleaner promptly by rinsing thoroughly with water.

4.6 Field Quality Control

A. Inspections and Acceptance: Cast Stone Institute Standard Specification.
    1. Inspect finished installation according to Bulletin #36
    2. Do not field apply water repellant until repair, cleaning, inspection and acceptance is completed.
    3. Verify that on-going and completed cast stone work meets specified tolerance appearance requirements.
    4. Remove and replace work that is broken, chipped, stained, or otherwise damaged; including work that does not match approved samples or approved mock-up.

4.7 Water Repellant

A. Apply water repellant after pointing, repair, cleaning, inspection, and acceptance are completed.
B. Apply water repellant for weatherproofing cast stone in accordance with repellant manufacturer's instructions.

4.8 Protection

A. Protect cast stone components from splashing and other damage to finished surfaces by on-going construction, until acceptance by owner.

END OF SECTION

NELSON TESTING LABORATORIES

EXPERIENCED | INNOVATIVE | AUTHENTIC

February 8, 2015

Harvey Cement Products, Inc.
16030 Park Avenue
Harvey, Illinois 60426-5069

REPORT OF TESTS

SUBJECT:	**Physical Analysis of Architectural Cast Stone**
PROJECT:	Harvey Cement – Architectural Cast Stone
SPECIFICATION:	ASTM C 1364-10b, "Standard Specification for Architectural Cast Stone"
TEST METHODS:	ASTM C 426, "Test Method for Linear Drying Shrinkage of Concrete Masonry Units" ASTM C 666, "Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing" ASTM C 1194, "Test Method for Compressive Strength of Architectural Cast Stone" ASTM C 1195, "Test Method for Absorption of Architectural Cast Stone"
MATERIALS:	Delivered to NTL in December 2014
NTL PROJECT #:	14-1291
PAGE:	1 of 3

February 8, 2015
Harvey Cement
NTL Project #14-1291

TEST RESULTS

Dates of Testing: December 2014 and January 2015

ASTM C 1364 – Physical Analysis of Architectural Cast Stone

Specimen ID	A	B	C	Average
Average Dimensions (in)				
Height	3.7	3.7	3.7	**3.7**
Width	11.7	11.7	11.7	**11.7**
Length	23.7	23.7	23.7	**23.7**
Linear Drying Shrinkage (%)	0.024	0.010	0.024	**0.019**
*Absorption, Cold Water (%)	2.7	1.7	2.0	**2.1**
*Absorption, Boiling Water (%)	8.1	6.8	7.3	**7.4**
*Compressive Load (lbs)	48,820	50,420	50,170	**49,800**
*Compressive Strength (psi)	12,210	12,610	12,540	**12,450**
**Freeze-Thaw Resistance (%) Mass loss @ 300 cycles	0.87	0.64	0.75	**0.75**

**specimens cut down to 2.0-in cubes for testing*
***specimens cut down to 3 x 4 x 16-in prisms for testing*

SUMMARY

The above-listed test results from the Harvey Cement units met or exceeded their corresponding requirements as set forth in ASTM C 1364-10b.

Respectfully submitted,

NELSON TESTING LABORATORIES

Mark R. Nelson
President

Nelson Testing Laboratories is certified and inspected by AASHTO and CCRL under ASTM C1093.

Turlington® Structural Brick

By Harvey Cement Products, Inc.

Strength
Value
Beauty
Longevity

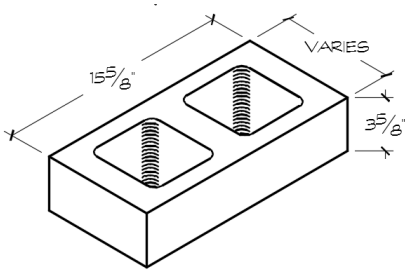
STONE-FINISH SINGLE WYTHE WALL CONSTRUCTION

- SIGNIFICANTLY REDUCED LABOR COSTS DUE TO CONSTRUCTION OF A SINGLE WALL SYSTEM
- CUSTOMIZED STONE COLORS / PALETTES / BLENDS AVAILABLE UPON REQUEST
- MADE IN 4” THRU 12” SIZES / SMOOTH AND SPLITFACE FINISH)
- EXCEPTIONALLY LOW 6.15% AVERAGE INTEGRAL WATER ABSORPTION RATE VS. COMPETING SINGLE WYTHE PRODUCTS
- DOUBLE-SIDED FINISH CREATES AN EQUALLY ATTRACTIVE INTERIOR WALL
- TURLINGTON MEETS AND EXCEEDS ALL ASTM C90 TESTS

Turlington® Structural Brick Specifications for ASTM C90

ASTM C90 Specifications for Load Bearing Concrete Masonry Units

Property	Test	Target Value	Turlington Brick®
Compressive Strength	ASTM C140	More than 1900 PSI	3089 PSI
Absorption	ASTM C140	Less than 15 lbs./cu.ft.	6.15 lbs./cu.ft.
Density	ASTM C140	105 - 125 lbs./cu.ft.	126.44 lbs./cu.ft.
Linear Shrinkage	ASTM C140	Less than .065%	.05%



Turlington® Brick Sizes

Width	Height	Length
4”	**4”**	**16”**
8”	4”	16”
10”	4”	16”
12”	4”	16”

TURLINGTON® STRUCTURAL BRICK
BY HARVEY CEMENT PRODUCTS, INC.

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Turlington Brick

Harvey Cement Products, Inc.
16030 Park Ave.
Harvey, IL 60426

Division 04 – Masonry / Cement Brick

The following specification has been written for Turlington Brick, which is a Portland cement based cement brick manufactured by Harvey Cement Products, Inc. The methods and standards shown below are strictly adhered to and ultimately represent a product free of bug holes, natural in appearance, with virtually limitless coloring potentials. Every unit is manufactured with an integral water repellent [Rainbloc®] which results in a water absorption rate of less than 13 lbs. per cubic foot on average when combined with the other aggregates and additives within our proprietary mix design.

PART 1: GENERAL

Submittal:
Submit full size color samples of each color specified from the manufacturer's color selection. Submit product literature, test reports, and letter of certification.

Quality Assurance:
All pre-finished concrete masonry units shall be "Turlington Brick" masonry units manufactured by Harvey Cement Products, Inc. All units shall conform to ASTM C-90 Load bearing Concrete Masonry Units and shall have a smooth finish as shown on the drawings.

Sample Panels:
Construct a separate sample panel (not part of the actual building) no less than 4' x 4' of units of each color and size to be used in the project. The cleaning agent and method should be performed at the time the sample panel is constructed. Walls built without approved field mock-ups constitute acceptance.

Delivery, Storage, and Handling:
Turlington Brick units shall be delivered to the job site on skids. Store in single-stacks on level ground and cover with waterproof covering to protect the units from weather. Units must be handled carefully to avoid breakage and chipping to the finished surfaces. Cover tops of walls each day after installation to keep open walls dry.

Part 2: Products

Product: **Turlington Brick**

Manufacturer: **Harvey Cement Products, Inc.**
16030 Park Avenue
Harvey, IL 60426

Part 3: Execution

Laying Masonry Walls:

Lay units using good concrete masonry practices***.*** Install only quality units, reject all defective units. Use uniform, carefully-tooled 3/8" wide joints on each finished side of the wall. Type N mortars are recommended, unless specifications are requiring type M or S mortars.

Installation:

Sills, copings, and caps of solid masonry units, or cast stone, are to be used. To be most effective, masonry, cast stone, and sills, copings and chimney caps should project beyond the face of the wall. They should have drips that are at least 1 inch (25mm) from the face of the wall, and have functional flashing and weep holes. In addition, all sills, copings and caps should be sloped a minimum ratio of 1:4 and be mechanically anchored to the wall. They should have properly sized, located, and sealed control joints when necessary.

Control Joints:

Control joints are recommended approximately every eighteen (18) feet, at inside corners, 4 ft. from one of the exterior corners, at jambs of windows or at change of heights. Application of Dow Corning sealant #495 is recommended at vertical joints. Listed below are some instances when control joints are necessary.

- When wall height changes.
- When wall thickness changes.
- Above movement joints in foundations and floors.
- Below movement joints in roofs and floors.
- Near one or both sides of door and window openings. A control joint

is usually placed at one side of an opening less than 6 ft wide and at both jambs of openings over 6 ft wide. Control joints can be away from the opening if adequate
tensile reinforcement is placed above, below, and beside wall openings.

Grouting Procedures:

High lift grout is not to be used under any circumstance with this product. High lift grouting is considered any grouting over 5'. Low lift grouting is required to prevent blowouts due to hydrostatic/lateral pressure. Furthermore, masonry standards require that the contractor never grout through a bondbeam. It is proper procedure to grout below the bondbeam course then separately above.

Horizontal Joint Reinforcement:

Continuous horizontal ladder joint reinforcement is required in the exterior wythe every 16 inches. **This is in addition to the adjustable joint reinforcement.**

Weep Holes and Vents:
Install weep holes and vents at proper intervals (32" O.C. and 2" high) at flashing, as well as at flashing over windows, doors, beams, and bond beams.

Veneer Anchors:
Use anchors that allow for vertical and horizontal movement.

Flashing:
Install flashing at locations shown in the plans and in strict accordance with the details and the best masonry flashing practices. Functional, non-punctured flashing and weep holes are to be used in the following circumstances: base of wall above grade, above openings in wall, shelf angles, lintels, wall-roofing intersections, chimneys, bay windows, and below window sills and copings. The flashing should be extended beyond the exterior face of the wall. The flashing should have end dams at its discontinuous ends, and properly sealed splices and laps at its joints.

Lighting:
Provide necessary lighting for masonry installation by placing all lighting a reasonable distance from the wall for even illumination. Do not use trough permanent lighting.

Cutting:
Make all unit cuts, including those for bonding, holes, boxes, etc., with motor-driven masonry saws, using either an abrasive or diamond blade. Cut neatly for best end results.

Mortar Joints:
All mortar joints should be tooled, concave, or v- joints.

Mortar Admixtures:
An integral liquid polymeric admixture designed specifically for use in a mortar mix, which becomes an integral part of the cement matrix being locked into the mortar to provide resistance to water penetration, should be added to the mortar to achieve a Class E rating when tested in a wall section in accordance with ASTM 514. The same brand of water repellent should be used in the mortar as is used in the cement brick to ensure compatibility. See manufacturer for further details.

Cleaning:

Clean cement brick components as the work progresses. Perform final cleaning as soon as possible after mortar has set and been tooled. Clean faces of brick at pointed joints immediately. Remove soiled areas, streaks and stains from prefinished panels using clean water and soft bristle brush, followed by clear water rinse. Protect units and surrounding masonry prior to cleaning. "Thoroughly pre-wet the area to be cleaned prior to applying an approved masonry cleaner. Consult with manufacturer of cleaner prior to using any harsh chemical cleaners in order insure that it will not damage the brick**.** Pre-wet any masonry below. Do not allow the masonry to dry before applying the diluted cleaning solution.

Inadequate pre-wetting of masonry has been proven to cause efflorescence and can also result in discoloring the units due to the removal of the cement/pigment paste." **Always** test the cleaner on a sample that is not part of the actual wall prior to using on the building for final cleaning. Do not use wire brushes, cleaning compounds with caustic chemicals, or other materials or methods which could damage, discolor, or etch the surface. Remove cleaner promptly by rinsing thoroughly with water.

Inspection:

The finished facing should be free from chips, cracks, crazing, and any imperfections that would take away from the overall appearance of the finished wall when viewed from a distance of twenty (20) feet at right angles to the wall with normal lighting.

Maintenance:

Turlington Brick units, once properly installed and cleaned need almost no maintenance other than routine cleaning with standard commercial grade cleaning agents. Graffiti, paint or dye stains may need special cleaning methods and products. Contact manufacturer for specific cleaning recommendations.

Turlington Brick Report of Tests:

Absorption	7.34 lbs./cu.ft.
Compressive Strength	2970 PSI
Density	126.26 lbs./cu.ft.

Turlington Brick units conform to ASTM C-90-02, Standard Specification for Load-Bearing Concrete Masonry Units.

NELSON TESTING LABORATORIES

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Harvey Cement Products, Inc.
16030 Park Avenue
Harvey, Illinois 60426-5069

June 10, 2009

Attn: Mr. Phil Steck

REPORT OF TESTS

SUBJECT: **Physical Analysis of Concrete Masonry Units**

PROJECT: Plant Research – Harvey Cement Products, Inc.

SPECIFICATION: ASTM C 90, "Specification for Loadbearing Concrete Masonry Units"

TEST METHODS: ASTM C 140, "Test Methods for Sampling and Testing Concrete Masonry Units and Related Units."

ASTM C 426, "Test Method for Linear Drying Shrinkage of Concrete Masonry Units"

NTL PROJECT #: 1072-09

TEST DATA

Test Date: May 27, 2009
Solids: 49.92%
Net Area: 59.00 sq.in.
Dimensions: Length (in.) 15.5 Width (in.) 7.625 Height (in.) 3.75

TEST RESULTS

Physical Properties	A	B	C	Average
Weight Dry (lbs.)	15.23	15.49	15.32	15.35
Absorption (%)	10.56	9.69	10.31	10.19
Absorption (lbs/cu.ft.)	12.58	11.69	12.35	12.21
Compressive Strength (PSI)	3200	3250	3360	3270
Density (lbs/cu.ft.)	119.08	120.69	119.80	119.86
Linear Shrinkage (%)	0.05	0.05	0.05	0.05

These tests show compliance with ASTM C 90, "Specification for Loadbearing Concrete Masonry Units".

Respectfully submitted,

NELSON TESTING LABORATORIES

Mark R. Nelson
President

NELSON TESTING LABORATORIES

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Harvey Cement Products, Inc.
16030 Park Avenue
Harvey, Illinois 60426-5069

May 1, 2007

Attn: Mr. Skip Steck

REPORT OF TESTS

SUBJECT:	**Physical Analysis of 8"x 8"x 16" Thru Wall Cast Stone**
PROJECT:	Plant Research – Harvey Cement Products
SPECIFICATION:	ASTM C 90, "Specification for Loadbearing Concrete Masonry Units"
TEST METHOD:	ASTM C 140, "Test Methods for Sampling and Testing Concrete Masonry Units and Related Units."
DATE OF TESTS:	April 27, 2007
NTL PROJECT #:	1057-07 (g)

TEST DATA

Solids: 52.3%
Net Area: 62.10 sq.in.
Dimensions: Length (in.) 15.5625 Width (in.) 7.625 Height (in.) 7.625

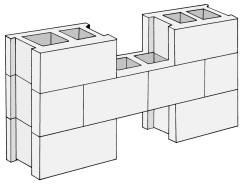
TEST RESULTS

Physical Properties	A	B	C	Average
Weight Dry (lbs.)	34.40	34.85	34.70	34.65
Absorption (%)	5.81	4.30	4.47	4.86
Absorption (lbs/cu.ft.)	7.34	5.46	5.64	6.15
Compressive Strength (PSI)	3100	3190	2977	3089
Density (lbs/cu.ft.)	126.27	126.80	126.26	126.44

Respectfully submitted,

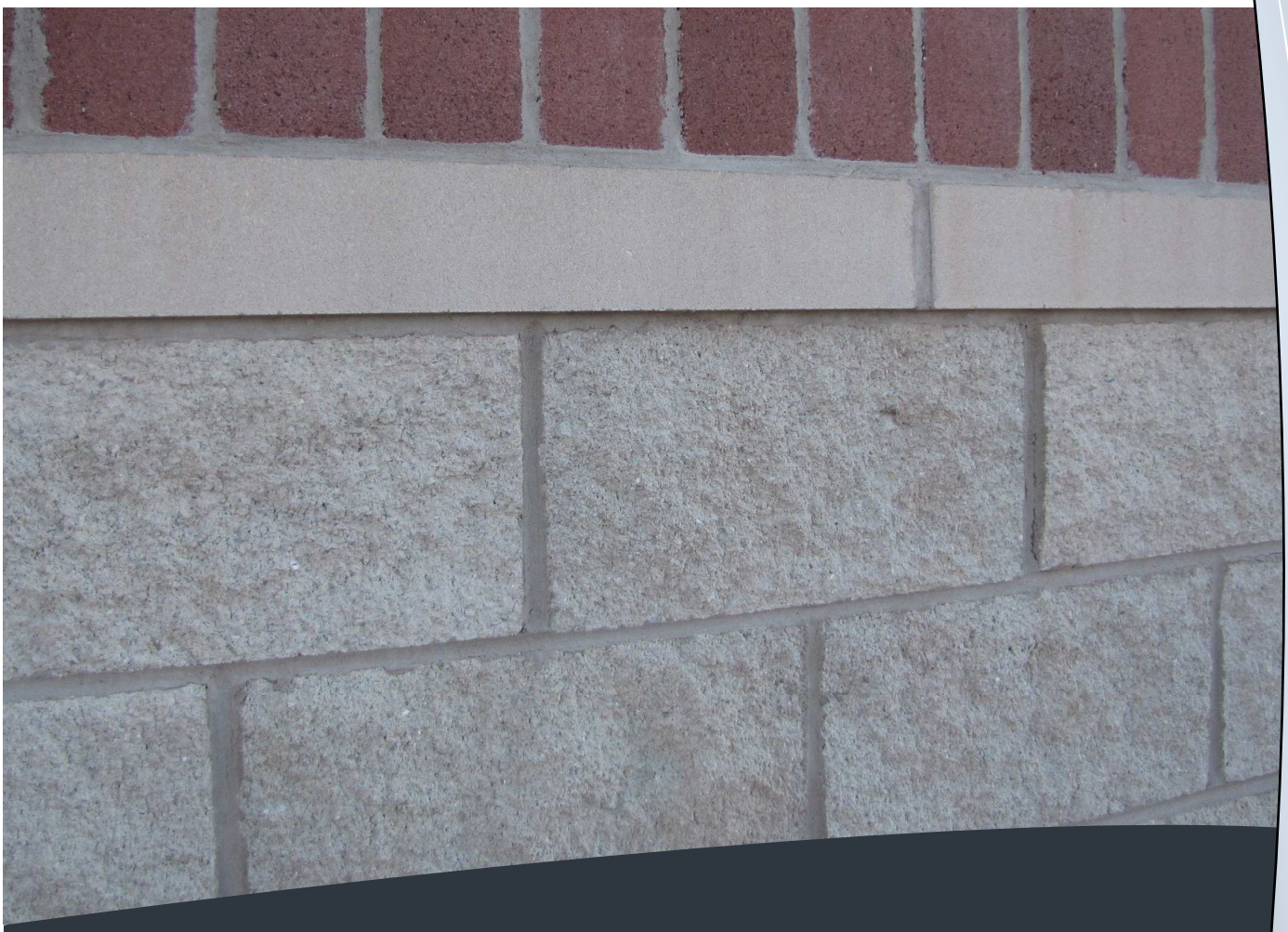
NELSON TESTING LABORATORIES

Robert L. Nelson
Principal



Concrete Masonry Units
Splitface & Smooth

By Harvey Cement Products, Inc.



Strength
Value
Beauty
Longevity

MANUFACTURERS OF HIGH QUALITY CMU PRODUCTS SINCE 1947

- AVAILABLE IN REGULAR OR LIGHTWEIGHT
- ALL UNITS MEET AND EXCEED ALL REQUIRED ASTM C90 TESTING
- ERGONOMIC CENTER WEB FORMED IN UNITS AS “HANDLE” FOR IMPROVED LIFTING
- REGULAR AND LIGHTWEIGHT CMU ARE LEED QUALIFIED FOR A TOTAL OF 4 POINTS
- CUSTOM COLOR MATCHING AVAILABLE.
- 24 STANDARD COLORS AVAILABLE
  (12 qty. Regular / 12 qty. Premium)

CMU/SPLITFACE & SMOOTH: Regular and Lightweight

ASTM C90 Specifications for Load Bearing Concrete Masonry Units

Property	Test	Target Value	ALL CMU SIZES
Compressive Strength	ASTM C140	More than 1900 PSI	Passed: see website for individual reports
Absorption	ASTM C140	Less than 13 lbs./cuft	Passed: see website for individual reports
Freeze/Thaw	ASTM C140	More than 125 lbs./cuft	Passed: see website for individual reports

LEED QUALIFICATIONS

MEDIUM AND LIGHTWEIGHT (EZ-107) CMU

All of the CMU manufactured by Harvey Cement Products (Medium Weight CMU and ***"E Z 107"*** Lightweight CMU) qualify for a combined **4** LEED points:

The following sections briefly describe how Harvey Cement Products concrete masonry units and cast stone units can contribute to earning LEED points.

Materials and Resources Credit – Recycled Content Credit 4.2
Increase demand for building products that incorporate recycled content materials, therefore reducing impacts resulting from extraction and processing of new virgin materials.

Materials and Resources Credit – Regional Materials Credit 5.2
Using materials and products that are extracted and manufactured within the region support the use of indigenous resources and thereby reduce environmental impacts of transportation.

2 PTS. Regional Materials Section 5.2: 20 % Manufactured Regionally
2 PTS. Recycled Content Section 4.2: 20 % (Post-Consumer ½ Post-Industrial)

Concrete Masonry Units
By Harvey Cement Products, Inc.

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Harvey Cement Products, Inc.
16030 Park Avenue
Harvey, Illinois 60426-5069

May 1, 2007

Attn: Mr. Skip Steck

REPORT OF TESTS

SUBJECT:	**Physical Analysis of 4"x 8"x 16" Normal-Weight Concrete Masonry Units**
PROJECT:	Plant Research – Harvey Cement Products
SPECIFICATION:	ASTM C 90, "Specification for Loadbearing Concrete Masonry Units"
TEST METHOD:	ASTM C 140, "Test Methods for Sampling and Testing Concrete Masonry Units and Related Units."
DATE OF TESTS:	April 27, 2007
NTL PROJECT #:	1057-07 (a)

TEST DATA

Solids:	76.9%				
Net Area:	43.40 sq.in.				
Dimensions:	Length (in.)	15.5625	Width (in.)	3.625	Height (in.) 7.625

TEST RESULTS

Physical Properties	A	B	C	Average
Weight Dry (lbs.)	25.00	24.55	24.85	24.80
Absorption (%)	7.00	7.13	6.84	6.99
Absorption (lbs/cu.ft.)	9.06	9.25	8.84	9.05
Compressive Strength (PSI)	3092	3046	3120	3086
Density (lbs/cu.ft.)	129.46	129.82	129.22	129.50

The tests show compliance with ASTM C 90, "Specification for Loadbearing Concrete Masonry Units".

Respectfully submitted,

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Robert L. Nelson
Principal

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Harvey Cement Products, Inc.
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May 25, 2007

Attn: Mr. Skip Steck

REPORT OF TESTS

SUBJECT:	**Physical Analysis of 4"x 8"x 16" Split-Faced Concrete Masonry Units**
PROJECT:	Plant Research – Harvey Cement Products
SPECIFICATION:	ASTM C 90, "Specification for Loadbearing Concrete Masonry Units"
TEST METHOD:	ASTM C 140, "Test Methods for Sampling and Testing Concrete Masonry Units and Related Units."
DATE OF TESTS:	May 24, 2007
NTL PROJECT #:	1072-07 (d)

TEST DATA

Solids:	93.5%				
Net Area:	54.80 sq.in.				
Dimensions:	Length (in.)	15.625	Width (in.)	3.75	Height (in.) 7.625

TEST RESULTS

Physical Properties	A	B	C	Average
Weight Dry (lbs.)	28.50	30.60	30.00	29.70
Absorption (%)	8.07	8.50	8.33	8.30
Absorption (lbs/cu.ft.)	10.11	10.67	10.40	10.39
Compressive Strength (PSI)	2843	2734	2783	2787
Density (lbs/cu.ft.)	125.24	125.62	124.80	125.22

The tests show compliance with ASTM C 90, "Specification for Loadbearing Concrete Masonry Units".

Respectfully submitted,

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Robert L. Nelson
Principal

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May 1, 2007

Attn: Mr. Skip Steck

REPORT OF TESTS

SUBJECT: **Physical Analysis of 4"x 8"x 16" Split-Faced, Lightweight Concrete Masonry Units**

PROJECT: Plant Research – Harvey Cement Products

SPECIFICATION: ASTM C 90, "Specification for Loadbearing Concrete Masonry Units"

TEST METHOD: ASTM C 140, "Test Methods for Sampling and Testing Concrete Masonry Units and Related Units."

DATE OF TESTS: April 27, 2007

NTL PROJECT #: 1057-07 (h)

TEST DATA

Solids: 93.5%
Net Area: 54.78 sq.in.
Dimensions: Length (in.) 15.625 Width (in.) 3.75 Height (in.) 7.625

TEST RESULTS

Physical Properties	A	B	C	Average
Weight Dry (lbs.)	24.25	23.55	24.05	23.95
Absorption (%)	12.99	13.38	13.27	13.10
Absorption (lbs/cu.ft.)	12.93	13.10	13.27	13.10
Compressive Strength (PSI)	2132	2163	2176	2157
Density (lbs/cu.ft.)	99.55	97.97	99.72	99.08

The tests show compliance with ASTM C 90, "Specification for Loadbearing Concrete Masonry Units".

Respectfully submitted,

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Robert L. Nelson
Principal

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Harvey Cement Products, Inc.
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Harvey, Illinois 60426-5069

May 1, 2007

Attn: Mr. Skip Steck

REPORT OF TESTS

SUBJECT:	**Physical Analysis of 6"x 8"x 16" Medium-Weight Concrete Masonry Units**
PROJECT:	Plant Research – Harvey Cement Products
SPECIFICATION:	ASTM C 90, "Specification for Loadbearing Concrete Masonry Units"
TEST METHOD:	ASTM C 140, "Test Methods for Sampling and Testing Concrete Masonry Units and Related Units."
DATE OF TESTS:	April 27, 2007
NTL PROJECT #:	1057-07 (b)

TEST DATA

Solids:	60.2%				
Net Area:	52.68 sq.in.				
Dimensions:	Length (in.)	15.5625	Width (in.)	5.625	Height (in.) 7.5

TEST RESULTS

Physical Properties	A	B	C	Average
Weight Dry (lbs.)	28.40	28.05	28.50	28.32
Absorption (%)	9.15	9.63	9.47	9.42
Absorption (lbs/cu.ft.)	11.35	11.91	11.74	11.66
Compressive Strength (PSI)	2728	2755	2718	2734
Density (lbs/cu.ft.)	123.93	123.70	123.93	123.85

The tests show compliance with ASTM C 90, "Specification for Loadbearing Concrete Masonry Units".

Respectfully submitted,

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Robert L. Nelson
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Harvey Cement Products, Inc.
16030 Park Avenue
Harvey, Illinois 60426-5069

May 25, 2007

Attn: Mr. Skip Steck

REPORT OF TESTS

SUBJECT:	**Physical Analysis of 6"x 8"x 16" Light-Weight Concrete Masonry Units**
PROJECT:	Plant Research – Harvey Cement Products
SPECIFICATION:	ASTM C 90, "Specification for Loadbearing Concrete Masonry Units"
TEST METHOD:	ASTM C 140, "Test Methods for Sampling and Testing Concrete Masonry Units and Related Units."
DATE OF TESTS:	May 24, 2007
NTL PROJECT #:	1072-07 (a)

TEST DATA

Solids:	59.8%				
Net Area:	52.54 sq.in.				
Dimensions:	Length (in.)	15.625	Width (in.)	5.625	Height (in.) 7.625

TEST RESULTS

Physical Properties	A	B	C	Average
Weight Dry (lbs.)	22.50	22.60	22.55	22.55
Absorption (%)	12.22	12.39	12.20	12.27
Absorption (lbs/cu.ft.)	11.88	12.05	11.88	11.93
Compressive Strength (PSI)	2703	2638	2667	2669
Density (lbs/cu.ft.)	97.16	97.26	97.38	97.27

The tests show compliance with ASTM C 90, "Specification for Loadbearing Concrete Masonry Units".

Respectfully submitted,

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Robert L. Nelson
Principal

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Harvey Cement Products, Inc.
16030 Park Avenue
Harvey, Illinois 60426-5069

August 14, 2007

Attn: Mr. Skip Steck

REPORT OF TESTS

SUBJECT: **Physical Analysis of 8"x 8"x 16" Concrete Masonry Units**

PROJECT: Plant Research – Harvey Cement Products, Inc.

SPECIFICATION: ASTM C 90, "Specification for Loadbearing Concrete Masonry Units"

TEST METHODS: ASTM C 140, "Test Methods for Sampling and Testing Concrete Masonry Units and Related Units."

ACI 216.1, "Standard Method for Determining Fire Resistance of Concrete and Masonry Construction Assemblies."

TEST DATA

Solids: 52.3%
Net Area: 62.28 sq.in.
Dimensions: Length (in.) 15.625 Width (in.) 7.625 Height (in.) 7.625

TEST RESULTS

Physical Properties	A	B	C	Average
Weight Dry (lbs.)	29.05	29.25	29.15	29.15
Absorption (%)	10.78	10.36	10.55	10.57
Absorption (lbs/cu.ft.)	11.28	10.92	11.10	11.10
Compressive Strength (PSI)	2346	2270	2455	2357
Density (lbs/cu.ft.)	104.61	105.33	105.15	105.03
Linear Shrinkage (%)	0.034	0.031	0.042	0.036

Fire Resistance Rating (ACI 216.1) ---------- 3 hours ----------

The tests show compliance with ASTM C 90, "Specification for Loadbearing Concrete Masonry Units".

Respectfully submitted,

NELSON TESTING LABORATORIES

Mark R. Nelson, Principal

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Harvey Cement Products, Inc.
16030 Park Avenue
Harvey, Illinois 60426-5069

May 1, 2007

Attn: Mr. Skip Steck

REPORT OF TESTS

SUBJECT:	**Physical Analysis of 8"x 8"x 16" Normal-Weight Concrete Masonry Units**
PROJECT:	Plant Research – Harvey Cement Products
SPECIFICATION:	ASTM C 90, "Specification for Loadbearing Concrete Masonry Units"
TEST METHOD:	ASTM C 140, "Test Methods for Sampling and Testing Concrete Masonry Units and Related Units."
DATE OF TESTS:	April 27, 2007
NTL PROJECT #:	1057-07 (c)

TEST DATA

Solids:	53.1%				
Net Area:	62.95 sq.in.				
Dimensions:	Length (in.)	15.5625	Width (in.)	7.625	Height (in.) 7.5

TEST RESULTS

Physical Properties	A	B	C	Average
Weight Dry (lbs.)	35.90	35.90	35.70	35.83
Absorption (%)	7.38	7.52	8.12	7.68
Absorption (lbs/cu.ft.)	9.70	9.85	10.64	10.07
Compressive Strength (PSI)	3150	3123	3167	3147
Density (lbs/cu.ft.)	131.39	131.00	131.04	131.14
Shrinkage (%)_	0.030	0.032	0.031	0.031

The tests show compliance with ASTM C 90, "Specification for Loadbearing Concrete Masonry Units".

Respectfully submitted,

NELSON TESTING LABORATORIES

Robert L. Nelson
Principal

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Harvey Cement Products, Inc.
16030 Park Avenue
Harvey, Illinois 60426-5069

May 1, 2007

Attn: Mr. Skip Steck

REPORT OF TESTS

SUBJECT:	**Physical Analysis of 8"x 8"x 16" Lightweight Concrete Masonry Units**
PROJECT:	Plant Research – Harvey Cement Products
SPECIFICATION:	ASTM C 90, "Specification for Loadbearing Concrete Masonry Units"
TEST METHOD:	ASTM C 140, "Test Methods for Sampling and Testing Concrete Masonry Units and Related Units."
DATE OF TESTS:	April 27, 2007
NTL PROJECT #:	1057-07 (f)

TEST DATA

Solids: 52.6%
Net Area: 62.47 sq.in.
Dimensions: Length (in.) 15.5625 Width (in.) 7.625 Height (in.) 7.625

TEST RESULTS

Physical Properties	A	B	C	Average
Weight Dry (lbs.)	27.75	28.10	27.65	27.83
Absorption (%)	11.35	10.85	11.21	11.14
Absorption (lbs/cu.ft.)	11.43	11.03	11.28	11.25
Compressive Strength (PSI)	3034	3083	3040	3052
Density (lbs/cu.ft.)	100.67	101.65	100.60	100.98
Shrinkage (%)	0.029	0.029	0.028	0.029

The tests show compliance with ASTM C 90, "Specification for Loadbearing Concrete Masonry Units".

Respectfully submitted,

NELSON TESTING LABORATORIES

Robert L. Nelson
Principal

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Harvey Cement Products, Inc.
16030 Park Avenue
Harvey, Illinois 60426-5069

May 1, 2007

Attn: Mr. Skip Steck

REPORT OF TESTS

SUBJECT: **Physical Analysis of 8"x 8"x 16" Lightweight Concrete Masonry Units**

PROJECT: Plant Research – Harvey Cement Products

SPECIFICATION: ASTM C 90, "Specification for Loadbearing Concrete Masonry Units"

TEST METHOD: ASTM C 140, "Test Methods for Sampling and Testing Concrete Masonry Units and Related Units."

ACI 216.1-97, "Standard Method for Determining Fire Resistance of Concrete and Masonry Construction Assemblies."

DATE OF TESTS: April 27, 2007

NTL PROJECT #: 1057-07 (f)

TEST DATA

Solids: 52.6%
Net Area: 62.47 sq.in.
Dimensions: Length (in.) 15.5625 Width (in.) 7.625 Height (in.) 7.625

TEST RESULTS

Physical Properties	A	B	C	Average
Weight Dry (lbs.)	27.75	28.10	27.65	27.83
Absorption (%)	11.35	10.85	11.21	11.14
Absorption (lbs/cu.ft.)	11.43	11.03	11.28	11.25
Compressive Strength (PSI)	3034	3083	3040	3052
Density (lbs/cu.ft.)	100.67	101.65	100.60	100.98
Shrinkage (%)	0.029	0.029	0.028	0.029

Fire Resistance Rating (ACI 216.1) ---------- 3 hours ----------

The tests show compliance with ASTM C 90, "Specification for Loadbearing Concrete Masonry Units".

Respectfully submitted,

NELSON TESTING LABORATORIES

Robert L. Nelson, Principal

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Harvey Cement Products, Inc.
16030 Park Avenue
Harvey, Illinois 60426-5069

May 25, 2007

Attn: Mr. Skip Steck

REPORT OF TESTS

SUBJECT:	**Physical Analysis of 8"x 8"x 16" Split-Faced Concrete Masonry Units**
PROJECT:	Plant Research – Harvey Cement Products
SPECIFICATION:	ASTM C 90, "Specification for Loadbearing Concrete Masonry Units"
TEST METHOD:	ASTM C 140, "Test Methods for Sampling and Testing Concrete Masonry Units and Related Units."
DATE OF TESTS:	May 24, 2007
NTL PROJECT #:	1072-07 (e)

TEST DATA

Solids:	55.1%				
Net Area:	66.70 sq.in.				
Dimensions:	Length (in.)	15.625	Width (in.)	7.75	Height (in.) 7.625

TEST RESULTS

Physical Properties	A	B	C	Average
Weight Dry (lbs.)	37.95	37.60	37.40	37.65
Absorption (%)	7.91	7.58	7.62	7.70
Absorption (lbs/cu.ft.)	10.15	9.69	9.72	9.85
Compressive Strength (PSI)	3594	3820	3676	3696
Density (lbs/cu.ft.)	128.35	127.86	127.53	127.91

The tests show compliance with ASTM C 90, "Specification for Loadbearing Concrete Masonry Units".

Respectfully submitted,

NELSON TESTING LABORATORIES

Robert L. Nelson
Principal

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Harvey Cement Products, Inc.
16030 Park Avenue
Harvey, Illinois 60426-5069

May 1, 2007

Attn: Mr. Skip Steck

REPORT OF TESTS

SUBJECT: **Physical Analysis of 8"x 8"x 16" Split-Faced, Lightweight Concrete Masonry Units**

PROJECT: Plant Research – Harvey Cement Products

SPECIFICATION: ASTM C 90, "Specification for Loadbearing Concrete Masonry Units"

TEST METHOD: ASTM C 140, "Test Methods for Sampling and Testing Concrete Masonry Units and Related Units."

DATE OF TESTS: April 27, 2007

NTL PROJECT #: 1057-07 (i)

TEST DATA

Solids: 56.6%
Net Area: 68.23 sq.in.
Dimensions: Length (in.) 15.5625 Width (in.) 7.75 Height (in.) 7.5625

TEST RESULTS

Physical Properties	A	B	C	Average
Weight Dry (lbs.)	31.25	31.05	30.85	31.05
Absorption (%)	10.08	10.47	10.53	10.36
Absorption (lbs/cu.ft.)	10.51	10.90	10.90	10.77
Compressive Strength (PSI)	2415	2474	2597	2495
Density (lbs/cu.ft.)	104.28	104.17	103.50	104.98
Shrinkage (%)	0.028	0.031	0.030	0.029

The tests show compliance with ASTM C 90, "Specification for Loadbearing Concrete Masonry Units".

Respectfully submitted,

NELSON TESTING LABORATORIES

Robert L. Nelson
Principal

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16030 Park Avenue
Harvey, Illinois 60426-5069

May 1, 2007

Attn: Mr. Skip Steck

REPORT OF TESTS

SUBJECT: **Physical Analysis of 8"x 8"x 16" Split-Faced, Lightweight Concrete Masonry Units**

PROJECT: Plant Research – Harvey Cement Products

SPECIFICATION: ASTM C 90, "Specification for Loadbearing Concrete Masonry Units"

TEST METHOD: ASTM C 140, "Test Methods for Sampling and Testing Concrete Masonry Units and Related Units."

ACI 216.1, "Standard Method for Determining Fire Resistance of Concrete and Masonry Construction Assemblies."

DATE OF TESTS: April 27, 2007

TEST DATA

Solids: 56.6%
Net Area: 68.23 sq.in.
Dimensions: Length (in.) 15.5625 Width (in.) 7.75 Height (in.) 7.5625

TEST RESULTS

Physical Properties	A	B	C	Average
Weight Dry (lbs.)	31.25	31.05	30.85	31.05
Absorption (%)	10.08	10.47	10.53	10.36
Absorption (lbs/cu.ft.)	10.51	10.90	10.90	10.77
Compressive Strength (PSI)	2415	2474	2597	2495
Density (lbs/cu.ft.)	104.28	104.17	103.50	104.98
Shrinkage (%)	0.028	0.031	0.030	0.029

Fire Resistance Rating (ACI 216.1) ---------- 2 1/2 hours ----------

The tests show compliance with ASTM C 90, "Specification for Loadbearing Concrete Masonry Units".

Respectfully submitted,

NELSON TESTING LABORATORIES

Robert L. Nelson, Principal

NELSON TESTING LABORATORIES

Construction Materials
1210 REMINGTON ROAD
SCHAUMBURG, ILLINOIS 60173 USA
Phone (847) 882-1146 Fax (847) 882-1148
---
www.nelsontesting.com

Harvey Cement Products, Inc.
16030 Park Avenue
Harvey, Illinois 60426-5069

May 1, 2007

Attn: Mr. Skip Steck

REPORT OF TESTS

SUBJECT:	**Physical Analysis of 10"x 8"x 16" Normal-Weight Concrete Masonry Units**
PROJECT:	Plant Research – Harvey Cement Products
SPECIFICATION:	ASTM C 90, "Specification for Loadbearing Concrete Masonry Units"
TEST METHOD:	ASTM C 140, "Test Methods for Sampling and Testing Concrete Masonry Units and Related Units."
DATE OF TESTS:	April 27, 2007
NTL PROJECT #:	1057-07 (d)

TEST DATA

Solids:	49.8%					
Net Area:	74.65 sq.in.					
Dimensions:	Length (in.)	15.5625	Width (in.)	9.625	Height (in.)	7.5

TEST RESULTS

Physical Properties	A	B	C	Average
Weight Dry (lbs.)	43.65	44.35	43.80	43.93
Absorption (%)	6.53	6.31	6.62	6.49
Absorption (lbs/cu.ft.)	8.83	8.59	8.98	8.80
Compressive Strength (PSI)	4299	4264	4363	4309
Density (lbs/cu.ft.)	135.17	135.99	135.64	135.60

The tests show compliance with ASTM C 90, "Specification for Loadbearing Concrete Masonry Units".

Respectfully submitted,

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Harvey Cement Products, Inc.
16030 Park Avenue
Harvey, Illinois 60426-5069

May 25, 2007

Attn: Mr. Skip Steck

REPORT OF TESTS

SUBJECT: **Physical Analysis of 10"x 8"x 16" Light-Weight Concrete Masonry Units**

PROJECT: Plant Research – Harvey Cement Products

SPECIFICATION: ASTM C 90, "Specification for Loadbearing Concrete Masonry Units"

TEST METHOD: ASTM C 140, "Test Methods for Sampling and Testing Concrete Masonry Units and Related Units."

ACI 216.1-97, "Standard Method for Determining Fire Resistance of Concrete and Masonry Construction Assemblies."

DATE OF TESTS: May 24, 2007

NTL PROJECT #: 1072-07 (b)

TEST DATA

Solids: 49.5%
Net Area: 74.45 sq.in.
Dimensions: Length (in.) 15.625 Width (in.) 9.625 Height (in.) 7.625

TEST RESULTS

Physical Properties	A	B	C	Average
Weight Dry (lbs.)	28.85	28.40	28.70	28.65
Absorption (%)	12.82	13.56	12.89	13.09
Absorption (lbs/cu.ft.)	11.24	11.75	11.26	11.42
Compressive Strength (PSI)	2576	2560	2529	2555
Density (lbs/cu.ft.)	87.60	86.66	87.36	87.21

Fire Resistance Rating (ACI 216.1) ---------- 4 hours ----------

The tests show compliance with ASTM C 90, "Specification for Loadbearing Concrete Masonry Units".

Respectfully submitted,

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Robert L. Nelson, Principal

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Harvey Cement Products, Inc.
16030 Park Avenue
Harvey, Illinois 60426-5069

May 25, 2007

Attn: Mr. Skip Steck

REPORT OF TESTS

SUBJECT:	**Physical Analysis of 10"x 8"x 16" Split-Faced Concrete Masonry Units**
PROJECT:	Plant Research – Harvey Cement Products
SPECIFICATION:	ASTM C 90, "Specification for Loadbearing Concrete Masonry Units"
TEST METHOD:	ASTM C 140, "Test Methods for Sampling and Testing Concrete Masonry Units and Related Units."
DATE OF TESTS:	May 24, 2007
NTL PROJECT #:	1072-07 (f)

TEST DATA

Solids:	50.2%				
Net Area:	76.51 sq.in.				
Dimensions:	Length (in.)	15.625	Width (in.)	9.75	Height (in.) 7.625

TEST RESULTS

Physical Properties	A	B	C	Average
Weight Dry (lbs.)	43.35	43.60	44.00	43.98
Absorption (%)	7.61	7.84	7.55	7.67
Absorption (lbs/cu.ft.)	9.74	10.0	9.59	9.78
Compressive Strength (PSI)	3918	3994	4037	3983
Density (lbs/cu.ft.)	127.90	127.64	127.01	127.52

The tests show compliance with ASTM C 90, "Specification for Loadbearing Concrete Masonry Units".

Respectfully submitted,

NELSON TESTING LABORATORIES

Robert L. Nelson
Principal

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Harvey Cement Products, Inc.
16030 Park Avenue
Harvey, Illinois 60426-5069

May 1, 2007

Attn: Mr. Skip Steck

REPORT OF TESTS

SUBJECT:	**Physical Analysis of 12"x 8"x 16" Normal-Weight Concrete Masonry Units**
PROJECT:	Plant Research – Harvey Cement Products
SPECIFICATION:	ASTM C 90, "Specification for Loadbearing Concrete Masonry Units"
TEST METHOD:	ASTM C 140, "Test Methods for Sampling and Testing Concrete Masonry Units and Related Units."
DATE OF TESTS:	April 27, 2007
NTL PROJECT #:	1057-07 (e)

TEST DATA

Solids:	49.1%					
Net Area:	88.74 sq.in.					
Dimensions:	Length (in.)	15.5625	Width (in.)	11.625	Height (in.)	7.625

TEST RESULTS

Physical Properties	A	B	C	Average
Weight Dry (lbs.)	50.75	51.25	50.90	50.97
Absorption (%)	7.39	7.12	6.58	7.03
Absorption (lbs/cu.ft.)	9.59	9.30	8.57	9.15
Compressive Strength (PSI)	3648	3715	3668	3677
Density (lbs/cu.ft.)	129.79	130.53	130.17	130.16

The tests show compliance with ASTM C 90, "Specification for Loadbearing Concrete Masonry Units".

Respectfully submitted,

NELSON TESTING LABORATORIES

Robert L. Nelson
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Harvey Cement Products, Inc.
16030 Park Avenue
Harvey, Illinois 60426-5069

May 25, 2007

Attn: Mr. Skip Steck

REPORT OF TESTS

SUBJECT:	**Physical Analysis of 12"x 8"x 16" Light-Weight Concrete Masonry Units**
PROJECT:	Plant Research – Harvey Cement Products
SPECIFICATION:	ASTM C 90, "Specification for Loadbearing Concrete Masonry Units"
TEST METHOD:	ASTM C 140, "Test Methods for Sampling and Testing Concrete Masonry Units and Related Units."
DATE OF TESTS:	May 24, 2007
NTL PROJECT #:	1072-07 (c)

TEST DATA

Solids:	48.8%					
Net Area:	88.74 sq.in.					
Dimensions:	Length (in.)	15.625	Width (in.)	11.625	Height (in.)	7.625

TEST RESULTS

Physical Properties	A	B	C	Average
Weight Dry (lbs.)	33.70	33.75	33.95	33.80
Absorption (%)	14.84	14.81	14.58	14.74
Absorption (lbs/cu.ft.)	12.79	12.76	12.63	12.73
Compressive Strength (PSI)	2707	2628	2661	2665
Density (lbs/cu.ft.)	86.18	86.13	86.65	86.32

The tests show compliance with ASTM C 90, "Specification for Loadbearing Concrete Masonry Units".

Respectfully submitted,

NELSON TESTING LABORATORIES

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Harvey Cement Products, Inc.
16030 Park Avenue
Harvey, Illinois 60426-5069

May 25, 2007

Attn: Mr. Skip Steck

REPORT OF TESTS

SUBJECT:	**Physical Analysis of 12"x 8"x 16" Split-Faced Concrete Masonry Units**
PROJECT:	Plant Research – Harvey Cement Products
SPECIFICATION:	ASTM C 90, "Specification for Loadbearing Concrete Masonry Units"
TEST METHOD:	ASTM C 140, "Test Methods for Sampling and Testing Concrete Masonry Units and Related Units."
DATE OF TESTS:	May 24, 2007
NTL PROJECT #:	1072-07 (g)

TEST DATA

Solids:	49.0%					
Net Area:	90.01 sq.in.					
Dimensions:	Length (in.)	15.625	Width (in.)	11.75	Height (in.)	7.625

TEST RESULTS

Physical Properties	A	B	C	Average
Weight Dry (lbs.)	51.20	51.30	50.95	51.15
Absorption (%)	7.91	7.70	7.95	7.85
Absorption (lbs/cu.ft.)	10.21	9.92	10.21	10.11
Compressive Strength (PSI)	2603	2668	2693	2655
Density (lbs/cu.ft.)	129.09	128.82	128.46	128.79

The tests show compliance with ASTM C 90, "Specification for Loadbearing Concrete Masonry Units".

Respectfully submitted,

NELSON TESTING LABORATORIES

Robert L. Nelson
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www.nelsontesting.com

Harvey Cement Products, Inc.
16030 Park Avenue
Harvey, Illinois 60426-5069

May 1, 2007

Attn: Mr. Skip Steck

REPORT OF TESTS

SUBJECT: **Physical Analysis of 12"x 8"x 16" Split-Faced, Lightweight Concrete Masonry Units**

PROJECT: Plant Research – Harvey Cement Products

SPECIFICATION: ASTM C 90, "Specification for Loadbearing Concrete Masonry Units"

TEST METHOD: ASTM C 140, "Test Methods for Sampling and Testing Concrete Masonry Units and Related Units."

DATE OF TESTS: April 27, 2007

NTL PROJECT #: 1057-07 (j)

TEST DATA

Solids: 47.3%
Net Area: 87.71 sq.in.
Dimensions: Length (in.) 15.625 Width (in.) 11.875 Height (in.) 7.625

TEST RESULTS

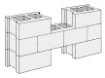
Physical Properties	A	B	C	Average
Weight Dry (lbs.)	35.05	35.45	35.00	35.17
Absorption (%)	12.84	12.83	12.57	12.75
Absorption (lbs/cu.ft.)	11.68	11.64	11.44	11.58
Compressive Strength (PSI)	2584	2727	2673	2661
Density (lbs/cu.ft.)	90.94	90.66	91.00	90.87

The tests show compliance with ASTM C 90, "Specification for Loadbearing Concrete Masonry Units".

Respectfully submitted,

NELSON TESTING LABORATORIES

Robert L. Nelson
Principal



SAFETY DATA SHEET

HARVEY CEMENT PRODUCTS, INC.

Section 1: INDENTIFICATION

1.1 PRODUCT IDENTIFIER:

Product Name: CMU Block, Turlington® Brick, and SavannaStone® Cast Stone
Product Code:

1.2 RECOMMENDED USE OF CHEMICAL AND RESTRICTIONS ON USE

Use: Construction material used in building and hardscape applications

1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATE SHEET:

Name/Address: Harvey Cement Products, Inc.
16030 Park Ave,
Harvey, IL 60477

1.4 EMERGENCY TELEPHONE NUMBER

Emergency Number: CHEMTREC 1 (800) 424-9300
Date of Preparation: November 27th, 2015 Version#:1.1

Section 2: HAZARD(S) INDENTIFICATION

2.1 CLASSIFICATION OF THE CHEMICAL ACCORDING TO OSHA HAZCOM 2012

- Skin Irritation 2
- Eye Irritation 2A
- Skin Sensitization 1
- Carcinogenicity 1A
- Specific target organ toxicity – Single Exposure 3
- Specific target organ toxicity – Repeated Exposure 1

2.2 LABEL ELEMENTS ACCORDING TO OSHA HAZCOM 2012

Hazard Pictograms:

Signal Word:	Danger
Hazard Statement:	Causes skin irritation. Causes serious eye irritation. May cause an allergic skin reaction. Respirable dust may contain crystalline silica, known to cause cancer. May cause respiratory irritation. Causes damage to lungs through prolonged or repeated exposure.
PREVENTION:	Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection. Use only outdoors or in a well-ventilated area. Do not breathe dust.
RESPONSE:	If exposed or concerned: Get medical advice/attention. If on skin: Wash with plenty of water. Take off contaminated clothing and wash it before reuse. If skin irritation or rash occurs: Get medical advice/attention. If in the eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing. If eye irritation persists: Get medical advice/attention. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell.
STORAGE:	Not applicable.
DISPOSAL:	Dispose of unused or unwanted concrete products in accordance with all local, regional, national and international regulations.

2.3 ADDITIONAL INFORMATION

Hazards not otherwise classified: Not applicable.

47% of the mixture consists of ingredient(s) of unknown acute toxicity.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 MIXTURES

Ingredient	UN#	H / F / R / *	CAS No	Wt. %
Aggregates	N/A	N/A	N/A	15-60
Portland cement	N/A	1/0/0	65997-15-1	10-30
Ashes [residues]	N/A	N/A	68131-74-8	0.1-30
Slags, ferrous metal, blast furnace	N/A	N/A	65996-69-2	0.1-30
Water	N/A	N/A	7732-18-5	10-30
Silica, crystalline, quartz	N/A	N/A	14808-60-7	3-7
Ferric oxide	UN1376	1/0/0	1309-37-1	1-5
Calcium carbonate	N/A	1/0/0	1317-65-3	1-5
Calcium hydroxide	N/A	3/0/0	1305-62-0	1-5
Silica, amorphous, fumed	N/A	N/A	7631-86-9	1-5
Admixtures [organic and inorganic]	N/A	N/A	N/A	0.1-1

The exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of 1910.1200

*Per NOM-018-STPS-2000

Section 4: FIRST AID MEASURES

4.1 DESCRIPTION OF THE FIRST AID MEASURE

EYE: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. If easy to do, remove contact lenses, if worn. If eye irritation persists: Get medical advice/attention.

SKIN: If irritation occurs, flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Call a physician if irritation develops and persists.

INHALATION: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.

INGESTION: Not a normal route of exposure. May result in obstruction and temporary irritation of the digestive tract.

4.3 INDICATIONS OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENTS NEEDED

Note to Physicians: Symptoms may not appear immediately.

Specific Treatments: In case of accident or if you feel unwell, seek medical advice immediately [show the label or SDS where possible]

Section 5: FIRE-FIGHTING MEASURES

5.1 FLAMMABILITY

Flammability: Not flammable by WHMIS/OSHA/NOM-018-STPS-2000 criteria.

5.2 EXTINGUISHING MEDIA

Suitable Extinguishing Media: Treat for surrounding area.

Unsuitable Extinguishing Media: Not available.

5.3 SPECIAL HAZARDS ARISING FROM THE CHEMICAL

Products of combustion: May include, and are not limited to: oxides of carbon.

Explosion Data:

Sensitivity to Mechanical Impact: Not available.

Sensitivity to Static Discharge: Not available.

5.4 SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIRE FIGHTERS

Keep upwind of fire. Wear full fire fighting turn-out gear [full Bunker gear] and respiratory protection (SCBA).

Section 6: ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel.

6.2 METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING-UP

Methods of Containment:	Pick up large pieces, then place in a suitable container. Do not flush to sewer or allow to enter waterways. Use appropriate Personal Protective Equipment (PPE).
Methods for Cleaning-Up:	Vacuum or sweep material and place in a disposal container. Use wet methods, if appropriate, to reduce the generation of dust. Provide ventilation if dust is generated.

Section 7: HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING

Handling:	Avoid contact with skin and eyes. Good housekeeping is important to prevent accumulation of dust. Use wet methods, if appropriate, to reduce the generation of dust. The use of compressed air for cleaning clothing, equipment, etc. is not recommended. Handle with care. When using do not eat or drink. (See Section 8)
GENERAL HYGEINE ADVICE:	Launder contaminated clothing before reuse. Wash hands before eating, drinking, or smoking.

7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Storage: Avoid any dust buildup by frequent cleaning and suitable construction of the storage area. (See section 10)

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 CONTROL PARAMETERS

Exposure Guidelines

OCCUPATIONAL EXPOSURE LIMITS

Ingredient	OSHA-PEL	ACGIH-TLV
Coarse Aggregate	Not available.	Not available.
Portland cement	15 mg/m3 (total); 5 mg/m3 (resp)	1 mg/m3 (no asbestos and <1% crystalline silica, respirable fraction)
Ashes (residues)	Not available.	Not available.
Slags, ferrous metal, blast furnace	Not available.	Not available.
Water	Not available.	Not available.
Silica, Crystalline, Quartz	((10 mg/m3)/(%SiO2+2)(resp)) ((30 mg/m3)/(%SiO2+2)(total)) ((250)/(%SiOs+5) mppcf (resp))	0.025 mg/m3
Ferric oxide	10 mg/m3	5 mg/m3 (iron oxide fume;dust as Fe)
Calcium carbonate	15 mg/m3 (total); 5mg/m3 (resp)	10 mg/m3
Calcium hydroxide	15 mg/m3 (total); 5 mg/m3 (resp)	5 mg/m3
Silica, amorphous, fumed	80 mg/m3/%SiO2	10 mg/m3
Admixtures (organic and inorganic)	Not available.	Not available.

8.2 EXPOSURE CONTROLS

Engineering Controls:	When using product, provide local and general exhaust ventilation to keep airborne dust concentrations below exposure limits. Use wet methods, if appropriate, to reduce the generation of dust.

8.3 INDIVIDUAL PROTECTIVE MEASURES

Personal Protective Equipment:

Eye Face Protection:	Safety glasses or goggles are recommended when using product
Skin Protection:	Hand Protection: Wear suitable gloves.
	Body Protection: Wear suitable protective clothing.
Respiratory Protection:	A NIOSH approved dust mask or filtering facepiece is recommended in poorly ventilated areas or when permissible exposure limits may be exceeded. Respirators should be selected by and used under the direction of a trained health and safety professional following requirements found in OSHA's respirator standard (29 CFR 1910.134) and ANSI's standard for respiratory protection (Z88.2).
Health/Safety Measures	Handle according to established industrial hygiene and safety practices. Do not eat, smoke or drink where material is handled, processed or stored. Wash hands carefully before eating or smoking.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Fully cured and hydrated concrete.
Color:	Not available.
Odor:	Odorless.
Odor Threshold:	Not available.
Physical State:	Solid.
pH:	Not available

Melting/Freezing Point:	Not available.
Initial Boiling Point/Range:	Not available.
Flash Point:	Not available.
Evaporation Rate:	Not available.
Flammability:	Not flammable.
Lower Flammability	Not available.
Upper Flammability	Not available.
Vapor Pressure:	Not available.
Vapor Density:	Not available.
Relative Density:	Not available.
Solubility:	Insoluble.
Partition coefficient:	Not available.
Auto-ignition Temperature:	Not available.
Decomposition Temperature:	Not available.
Viscosity:	Not available.
Oxidizing Properties:	Not available.
Explosive Properties:	Not available.

Section 10: STABILITY AND REACTIVITY

10.1 REACTIVITY

No dangerous reaction known under conditions of normal use.

10.2 CHEMICAL STABILITY

Stable under normal conditions of use.

10.3 POSSIBILITY OF HAZARDOUS REACTIONS

No dangerous reaction known under conditions of normal use.

10.4 CONDITIONS TO AVOID

None known.

10.5 INCOMPATIBLE MATERIALS

None known.

10.6 HAZARDOUS DECOMPOSITION PRODUCTS

None known.

Section 11: TOXICOLOGICAL INFORMATION

11.1 INFORMATION ON TOXICOLOGICAL EFFECTS

Likely Routes of Exposure: Skin contact, eye contact, and inhalation.

Symptoms related to physical/chemical/toxicological characteristics:

Eye: Causes serious eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling.

Skin: Causes skin irritation. Wear gloves when handling product to avoid drying and mechanical abrasion of the skin. May cause sensitization by skin contact.

Ingestion: Not a normal route of exposure. May result in obstruction and temporary irritation of the digestive tract.

Inhalation: Dust may cause respiratory tract irritation.

Acute Toxicity:

Ingredient	IDLH	LC50	LD50
Coarse aggregate	Not available	Not available	Not available
Portland cement	5000 mg/m3	Not available	Not available
Ashes (residues)	Not available.	Not available	Oral > 2000 mg/kg, rat
Slags, ferrous metal	Not available.	Not available	Not available
Water	Not available.	Inhalation 90000 mg/m3/4h, rat	Oral >90000 mg/kg, rat Dermal>90000 mg/kg, rabbit
Silica, crystalline, quartz	Ca [25 mg/m3 (cristobalite, tridymite); 50 mg/m3 (quartz, tripoli	Not available	Oral 500 mg/kg, rat
Ferric oxide	2500 mg Fe/m3	Not available	Oral>10000 mg/kg, rat
Calcium carbonate	Not available	Not available	Oral 6450 mg/kg, rat

Calcium hydroxide	Not available	Not available	Oral 7340 mg/kg, rat
Silica, amorphous, fumed	Not available	Inhalation >58.8 mg/l/1h, rat	Oral>5000 mg/kg, rat Dermal>2000 mg/kg, rabbit
Admixtures (organic/inorganic)	Not available	Not available	Not available

Calculated Overall Chemical Acute Toxicity Values

LC50 (inhalation)	LD50 (oral)	LD50 (dermal)
>5 mg/l/4h, rat	>2000 mg/kg, rat	>2000 mg/kg, rabbit

Ingredient	Chemical Listed as Carcinogen or Potential Carcinogen (NTP, IARC, OSHA, ACGIH, CP65)*
Coarse Aggregate	Not listed.
Portland Cement	G-A4
Ashes (residues)	Not listed
Slags, ferrous metal, blast furnace	Not listed
Water	Not listed
Silica, crystalline, quartz	G-A2, I-1, N-1, O, CP65
Ferric oxide	G-A4, I-3
Calcium carbonate	Not listed
Calcium hydroxide	Not listed
Silica, amorphous, fumed	I-3
Admixtures (organic and inorganic)	Not listed

*See Section 15 for more information

11.2 DELAYED, IMMEDIATE, AND CHRONIC EFFECTS OF SHORT-AND LONG-TERM EXPOSURE

Skin Corrosion/Irritation: Causes skin irritation

Serious Eye Damage/Irritation: Causes serious eye irritation

Respiratory Sensitization: Based on available data, the classification criteria are not met.

Skin Sensitization: May cause an allergic skin reaction.

STOT-Single Exposure: Dust may cause respiratory tract irritation.

Chronic Health Effects: Not available.

Carcinogenicity: Respirable dust may contain crystalline silica, known to cause cancer.

Germ Cell Mutagenicity: Based on available data, the classification criteria are not met.

Reproductive Toxicity: Not available.

Developmental: Based on available data, the classification criteria are not met.

Teratogenicity: Based on available data, the classification criteria are not met.

Embryotoxicity:	Based on available data, the classification criteria are not met.
Fertility:	Based on available data, the classification criteria are not met.
STOT-Repeated Exposure:	Causes damage to lungs through prolonged or repeated exposure. Respirable crystalline silica in the form of quartz or cristobalite from occupational sources is listed in the International Agency for Research on Cancer (IARC) and National Toxicity Program (NTP) as a lung carcinogen. Prolonged exposure to respirable crystalline silica has been known to cause silicosis, a lung disease, which may be disabling. While there may be a factor of individual susceptibility to a given exposure to respirable silica dust, the risk of contracting silicosis and the severity of the disease is clearly related to the amount of dust exposure and the length of time (usually years) of exposure.
Aspiration Hazard:	Based on the available data, the classification criteria are not met.
Toxic Synergistic Materials:	Not available.
Other Information:	Not available.

Section 12: ECOLOGICAL INFORMATION

12.1 ECOTOXITY

Acute/Chronic Toxicity: No ecological consideration when used according to directions.

12.2 PERSISTENCE AND DEGRADABILITY

Not available.

12.3 BIOACCUMULATIVE POTENTIAL

Bioaccumulation: Not available.

12.4 MOBILITY IN SOIL

Not available.

12.5 OTHER ADVERSE EFFECTS

These products are generally considered chemically inert in the environment.

ENVIRONMENTAL EFFECT ON AQUATIC HABITAT:

Uncured cementitious materials or finely divided (crushed) concrete material is an environmental hazard, which may adversely affect fish and other wildlife. Do not use crushed concrete as fill near any aquatic habitat. Discharge of large quantities to any waterways would be expected to cause significant consequence on aquatic habitat.

Section 13: DISPOSAL CONSIDERATIONS

13.1 WASTE TREATMENT METHODS

Disposal Method:	**This material must be disposed of in accordance with all local, state, provincial, and federal regulations.**
Other disposal recommendations:	**Not available.**

Section 14: TRANSPORT INFORMATION

14.1 UN NUMBER

DOT	TDG	NOM-004-SCT2-1994
Not regulated	Not regulated	Not regulated

14.2 UN PROPER SHIPPING NAME

DOT	TDG	NOM-004-SCT2-1994
Not applicable	Not applicable	Not applicable

14.3 TRANSPORT HAZARD CLASS (ES)

DOT	TDG	NOM-004-SCT2-1994
Not applicable	Not applicable	Not applicable

14.4 PACKING GROUP

DOT	TDG	NOM-004-SCT2-1994
Not applicable	Not applicable	Not applicable

14.5 ENVIRONMENTAL HAZARDS

Not available.

14.6 TRASNPORT IN BULK ACCORDING TO ANNEX II OF MARPOL 73/78 AND THE IBC CODE

Not available.

14.7 SPECIAL PRECAUTIONS FOR USER

Do not handle until all safety precautions have been read and understood.

Section 15: REGULATORY INFORMATION

15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATIONS SPECIFIC FOR THE CHEMICAL

US: SDS prepared pursuant to the Hazard Communication Standard (CFR29 1910.1200 HazCom 2012)

SARA TITLE III

Ingredient	Section 302 (EHS) TPQ (lbs)	Section 304 EHS RQ (lbs)	CERCLA RQ (lbs)	Section 313
Coarse aggregate	Not listed.	Not listed.	Not listed.	Not listed.
Portland cement	Not listed.	Not listed.	Not listed.	Not listed.
Ashes (residues)	Not listed.	Not listed.	Not listed.	Not listed.
Slags, ferrous metal, blast furnace	Not listed.	Not listed.	Not listed.	Not listed.
Water	Not listed.	Not listed.	Not listed.	Not listed.
Silica, crystalline, quartz	Not listed.	Not listed.	Not listed.	Not listed.
Ferric oxide	Not listed.	Not listed.	Not listed.	Not listed.
Calcium carbonate	Not listed.	Not listed.	Not listed.	Not listed.
Calcium hydroxide	Not listed.	Not listed.	Not listed.	Not listed.
Silica, amorphous, fumed	Not listed.	Not listed.	Not listed.	Not listed.
Admixtures (organic/inorganic)	Not listed.	Not listed.	Not listed.	Not listed.

State Regulations

California Proposition 65 Warning: **Dry cutting, sanding or grinding of concrete products will expose you to respirable crystalline silica which is "known in the State of California to cause cancer and to contain other substances which are known to the State of California to cause cancer, birth defects and other reproductive harm."**

Global Inventories:

Ingredient	Canada DSL/NDSL	USA TSCA
Coarse aggregate	Not available.	Not available.
Portland cement	DSL	Yes.
Ashes (residues)	DSL	Yes.

Slags, ferrous metal, furnace	**DSL**	**Yes.**
Water	**DSL**	**Yes.**
Silica, crystalline, quartz	**DSL**	**Yes.**
Ferric oxide	**DSL**	**Yes.**
Calcium carbonate	**NDSL**	**Yes.**
Calcium hydroxide	**DSL**	**Yes.**
Silica, amorphous, fumed	**DSL**	**Yes.**
Admixtures (organic/inorganic)	**Not available.**	**Not available.**

NFPA-National Fire Protection Association

Health:	**2**
Fire:	**0**
Reactivity:	**0**

HMIS-Hazardous Materials Identification System:

Health:	**2***
Fire:	**0**
Physical Hazard:	**0**

Hazard Rating: 0 = minimal, 1 = slight, 2 = moderate, 3 = severe, 4 = extreme

SOURCE AGENCY CARCINOGEN CLASSICATIONS

CP65 California Proposition 65

OSHA(O) Occupational Safety and Health Administration

ACGIH G) American Conference of Governmental Industrial Hygienists

- **A1 Confirmed human carcinogen**
- **A2 Suspected human carcinogen**
- **A3 Animal carcinogen**
- **A4 Not classifiable as a human carcinogen**
- **A5 Not suspected as a human carcinogen**

IARC (I) International Agency for Research on Cancer

1. **The agent (mixture) is carcinogenic to humans.**
2. **A. The agent (mixture) is probably carcinogenic to humans; there is limited evidence of carcinogenicity in humans and sufficient evidence of carcinogenicity in experimental animals.**
   B. The agent (mixture) is possibly carcinogenic to humans; there is limited evidence of carcinogenicity in humans in the absence of sufficient evidence of carcinogenicity in experimental animals.
3. **The agent (mixture, exposure circumstance) is not classifiable as to its carcinogenicity to humans.**
4. **The agent (mixture, exposure circumstance) is probably not carcinogenic to humans.**

NTP(N) **National Toxicology Program**

1. **Known to be carcinogens**
2. **Reasonably anticipated to be carcinogens.**

Section 16: OTHER INFORMATION

Date of preparation:	**January 27, 2016**
Expiry Date:	**January 27, 2019**
Version:	**1**
Revision Dates:	**N/A**

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END OF SAFETY DATA SHEET

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