

LEHIGH CEMENT COMPANY
White Cement Division
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For further information on white cement and sales offices, please visit our website:
www.lehighwhitecement.com

SUGGESTED TECHNICAL SPECIFICATIONS

White Portland Cement

'Cement shall be white Portland cement conforming with the requirements of Standard Specification for _____ (Type I, II, III, V) Portland Cement, ASTM C 150, for Portland cement, except that it shall contain not more than 0.50% by weight Ferric Oxide (Fe_2O_3).'

White Masonry Cement

'Cement shall be white masonry cement, conforming with the requirements of Standard Specification for Masonry Cement, ASTM C 91, for _____ (Type N, S) masonry cement, except that it shall contain not more than 0.50% by weight Ferric Oxide (Fe_2O_3).'

LEHIGH
HEIDELBERGCEMENT Group

www.lehighcement.com



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IMPORTANT NOTICE

The information and statements herein are believed to be reliable, but are not to be construed as a warranty or representation for which we assume legal responsibility. 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, Lehigh will not guarantee finished work, nor shall Lehigh be liable for consequential damages.

DANGER

Portland cement when dry is non-hazardous. When in contact with moisture (such as in eyes or on skin) or when mixed with water to make concrete, mortar, or grout, it becomes highly caustic and will burn (as severely as third-degree) the eyes or skin. Inhalation of dry portland cement can irritate the upper respiratory system.



FOR BETTER BUILDING

DESIGNING FOR SUSTAINABLE QUALITY. SPECIFYING FOR CREATIVITY.

Lehigh Cement Company has been the foremost producer of white cements in North America for over a century. Lehigh white cements take artistic expression to new heights, allowing architects the freedom to choose from an unlimited range of colors, textures, shapes, sizes and patterns to accommodate a multitude of applications.

Made from carefully selected raw materials that are manufactured and tested under precise, rigidly controlled conditions, Lehigh Cement produces high-quality white cement products that exceed ASTM specifications and serve as the products of choice for whiteness, uniform color, consistent performance and reliable strength. The use of white cement plays an integral role in imaginative and innovative architectural creativity.



National Institutes of Health, Vaccine Research Building, Bethesda, MD
Architect: HLM Design, Inc.
Photo courtesy of High Concrete Structures, Inc.
Photographer: Bob Meier

From specification to project completion, Lehigh Cement offers exceptional service and technical support, ensuring prompt delivery of its white cements throughout the United States and Canada.

All Saints Cemetery, Des Plaines, IL
Architect: Mekus Studios Ltd.
Photos courtesy of International Concrete Products, Inc.
Photographer: Steve Hall, © Hedrich Blessing



UNIQUE COMBINATIONS OF SHAPES, SIZES, TEXTURES & COLORS

Concrete made with Lehigh white cements offers strength, moldability, plasticity, consistency and affords opportunities for creativity and superior building design. Whether simple or complex, white concrete made with Lehigh white cements is a cost-effective way to create unusual building components.

From glossy smooth to ruggedly coarse, white concrete made with Lehigh white cements offers unlimited potential for adding texture to an overall design. Lehigh white cements are the cements of choice for architectural uses that require a true white concrete, or as a base cement where vibrant colors are desired.



Towers at University of Connecticut
Photo courtesy of Sun Precast Company

PATTERN VERSATILITY

Architectural white concrete enables patterns to be created through a variety of techniques - the repetition of building elements, contrasting high and low relief panels and differing aggregates.

VISIBILITY AND SAFETY

From median barriers to bridge parapets and railroad crossings, white concrete is proven to increase visibility in inclement weather and at night, making our roadway infrastructure safer.



Mormon Temple, St. Louis, MO
Architect: Chiodini Associates
Photographer: Kevin Lowder

ENERGY CONSERVATION

Across the United States and around the world, cement-based concretes are the foundation of our communities. Products using Lehigh white cements consume less energy per ton than comparable building materials such as steel, glass and clay brick.

White concrete's outstanding thermal properties reduce peak heating and cooling loads, as well as a structure's heat gain, through solar reflectance (albedo). White concrete surfaces contribute to a better environment by reducing the "Heat Island" effect*. (* Lawrence Berkeley Report LBNL-48334)



SECURITY

The need for perimeter security has grown with each crisis facing our country since World War II. It has become essential to protect vital aspects of our democracy: government buildings, U.S. embassies, courthouses, airports, sports arenas, corporate buildings and even private residences. Lehigh white cement used to create anti-ram planters, bollards, spheres and barriers is the perfect solution for integrating aesthetic design into modern security.

APPLICATIONS

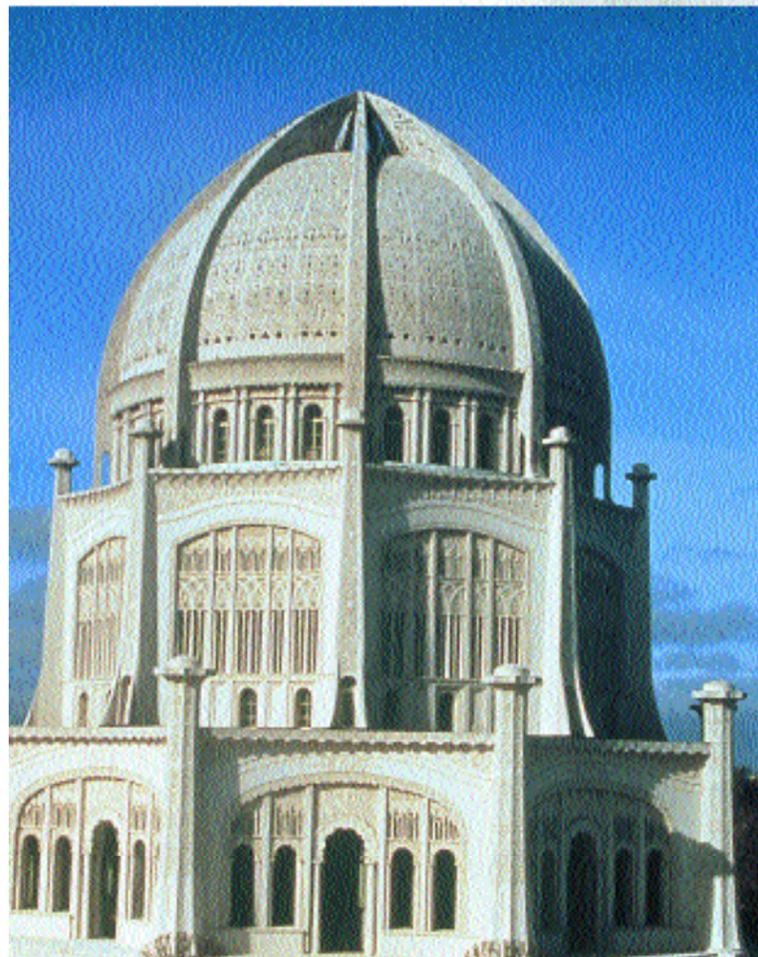
ARCHITECTURAL PRECAST

The design advantages of architectural precast concrete are enhanced by the pure whiteness of Lehigh white cements. Versatile architectural precast concrete units may be used as load bearing or non-load bearing wall panels, as well as conventionally reinforced or prestressed structural members. Precast made with Lehigh white cements is ideal for energy-efficient curtain wall units, which effectively reduce heating and cooling costs and allow for custom design.



King Farm Office Building, Gaithersburg, MD
Architect: Sverdrup Facilities, Inc.
Photo courtesy of Architectural Precast Association

Baha'i Temple, Wilmette, IL
Architect: Louis Bourgeois
Photo courtesy of Baha'i Temple



Above: Park Tower, Chicago, IL
Architect: HKS, Inc.
Photo courtesy of Precast/Prestressed Concrete Institute

Midwest Express Center, Milwaukee, WI
Architect: Thompson, Ventulett, Stainback & Assoc.
Photo courtesy of International Concrete Products, Inc.





GFRC Panel, Bob Bullock Texas State History Museum, Austin, Texas
 Architect: E. Verner Johnson & Associates
 Photographer: Cathy Sauerwine

GLASS FIBER REINFORCED CONCRETE (GFRC)

Glass fiber reinforced concrete is a precast product, comprised of Lehigh white cement and sand mixed with alkali-resistant glass fibers. The fibers are similar in purpose to the reinforcing steel that is placed in tensile stress areas of concrete. This added flexural and tensile strength makes GFRC architectural panels strong, yet lightweight, and adds to their resistance to impact. This architectural system offers a wide range of possibilities in size and shape.

GFRC panels constructed using Lehigh white cement afford architects one of the most innovative construction materials available, thus giving life to their designs.



St. Paul Parking Ramp, St. Paul, MN
 Architect: Winsor/Faricy Architects
 Photographer: Steve Linder, Twin City Photography

CAST STONE

Cast stone is a highly refined, precise architectural building stone manufactured from a mixture of Lehigh white cement with coarse and fine aggregates to simulate natural stone.



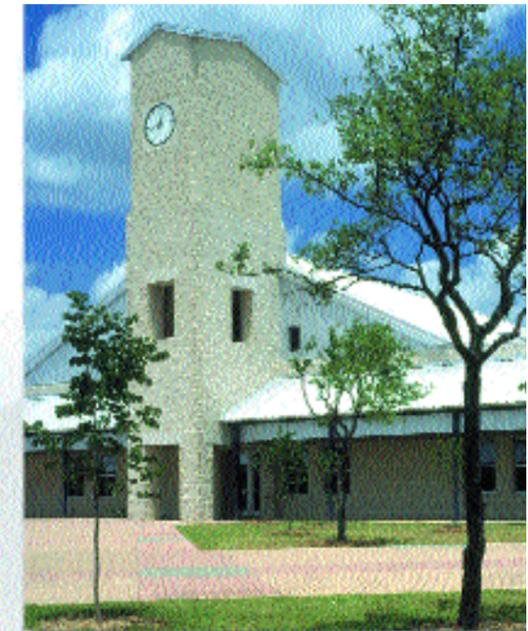
ARCHITECTURAL CONCRETE MASONRY

Enhanced developments in the manufacture of architectural concrete masonry units are greatly expanding design horizons while simplifying the structural elements of masonry projects. Leading architects have found these versatile building products to be a rewarding medium in which to achieve self-expression.

In addition to design flexibility, concrete masonry construction offers a reliable and affordable structural scheme. A myriad of surface textures can be achieved with fluted, split-faced, ground-faced or other customized concrete block made with Lehigh white cements and installed with mortar using Lehigh white masonry cement.

The option of adding colored pigment provides a wealth of color schemes to every masonry project.

Glass block units installed with Lehigh white masonry cement can also add an exciting design dimension.



Sandra Day O'Connor High School, Helotes, TX
 Architect: Marmon Mok, L.L.P.
 Photographer: Paul Bardaggy

St. Andrew's Episcopal Church, Amarillo, TX
 Architect: Overland Partners, Inc.
 Photo courtesy of Page & Associates Contractors, Inc.



Below: St. Mary's, Moraga, CA
 Photo courtesy of Architectural Facades Unlimited
 Photographer: Don Roper

STUCCO

The low-cost durability and application ease of Lehigh white cement stucco makes it an ideal surface finish for almost any exterior or interior project. It can be either mixed at the jobsite or obtained as a prepackaged finish coat. Lehigh white cement stucco finishes provide commercial, industrial and residential versatility in a surface material that improves and grows stronger with age.

Colored marble, glass, metal and other aggregate material can be embedded in the Lehigh white cement matrix, or sprayed onto fresh stucco coating, giving the surface a variety of appearances.

TILE GROUT

Tile grouts complement the beauty of many floor and wall tiles, securing them in place while protecting them from water damage. Lehigh white cement ensures uniformity and strength through its rigidly controlled production process. The consistently pure white color provides the canvas with which a rich spectrum of beautiful colors can be obtained.

Tile grout made with Lehigh white cement adds the finishing touches of distinction and value to any building or home. The availability of a wide



variety of pigments provides an infinite palette for unique color composition.

CAST-IN-PLACE

As a design medium, cast-in-place white concrete offers opportunities for creativity. Cast-in-place concrete made with Lehigh white cements makes possible the cost effective creation of unusual and intricately designed building components, from the simplicity of circles and squares to the complexity of large, multi-story arches, canopies and columns.

SWIMMING POOLS & SPAS

Lehigh white cement is the cement of choice for professional pool and spa plasterers and can be mixed at the jobsite or obtained as a prepackaged finish coat. White pool plaster, when properly applied to the interior of

concrete pools and spas, creates a reflective, sparkling and refreshing ambiance, adding a charming grandeur to an entire pool setting.

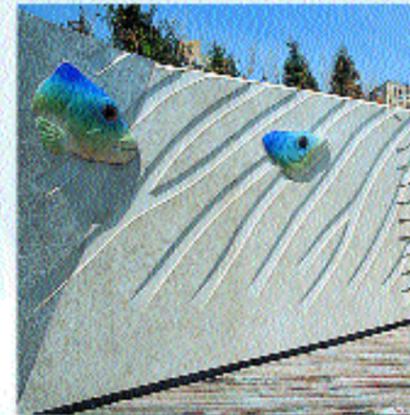
Pool plaster using Lehigh white cement and applied by the creative talents of professional pool plasterers provides the ingredients to create outstanding award-winning designs.



Our Lady of the Angels Cathedral, Los Angeles, CA
Architect: Jose Rafael Moneo, Madrid, Spain
Photographer: Andy Ryan, Cambridge, MA



Private Residence, Lakeway, TX
Photographer: Peter Leach



New York Aquarium Sea Wall, Coney Island, NY
Architect: Goldstone & Hinz, P.C.
Photographer: Peter Leach

Private Residence, Monte Sereno, CA
Photo courtesy of Architectural Facades Unlimited
Photographer: Don Roper





Statue at Chua Duc Vien Buddhist Temple, San Jose, CA
 Architect: Thuyen Nguyen-Phuc
 Photo courtesy of Architectural Facades Unlimited
 Photographer: Don Roper

HARDSCAPING, LANDSCAPING AND ORNAMENTAL

Experience the beauty, versatility and durability of ornamental concrete products made with Lehigh white cements. The classic elegance of ornamental concrete and statuary dates back to ancient times and continues to be appreciated the world over.

The use of Lehigh white cements in concrete products such as planters, fountains and balustrades creates an exceptional opportunity to enhance the interior and exterior of any commercial or residential project.

PERIMETER SECURITY

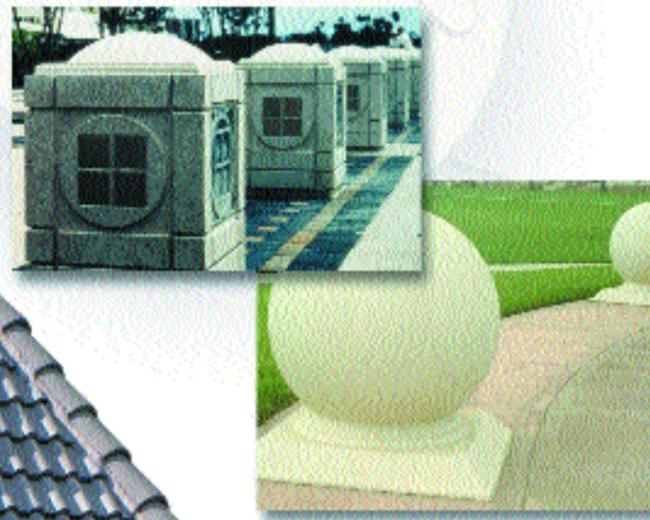
From government buildings to private residences, perimeter security is becoming a necessary element for the protection of our built environment. Lehigh white cements offer the ideal solution for integrating artistic design into modern security responses.

CONCRETE ROOF TILE

Concrete roof tile is noncombustible, bug proof, durable and wind resistant. For many years, roof tile has been recognized as a durable and attractive building material. The use of Lehigh white cement in concrete roof tile helps minimize the heat island effect.

Architects, builders and homeowners value the creative, luxurious appeal that concrete roof tile adds to virtually any building style.

Bollards & Spheres
 Photos courtesy of Dura Art Stone, Inc.

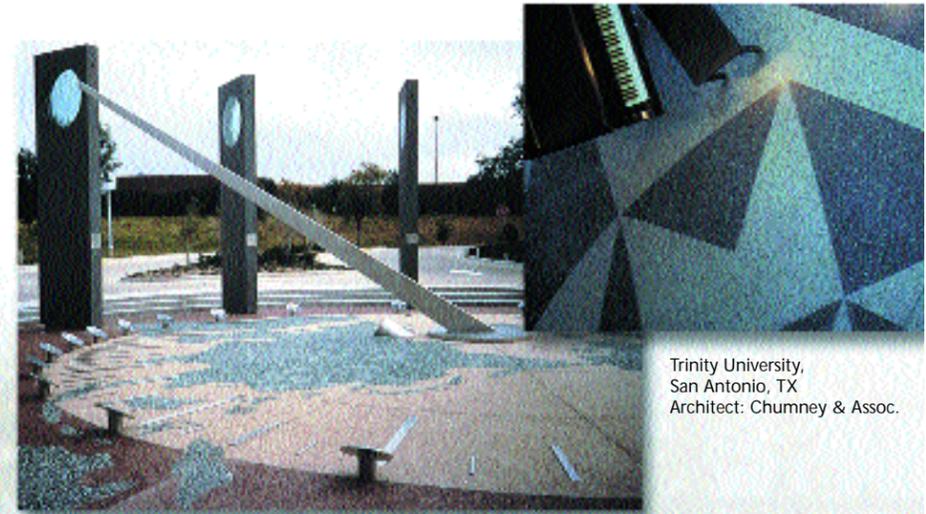


Private Residence, Dallas, TX

TERRAZZO FLOORS AND WALLS

Terrazzo made with Lehigh white cements combines lasting beauty with the strength and durability of concrete. Absorption resistant cement terrazzo affords a low-cost, low-maintenance flooring or wall surface that is ideally suited for schools, hospitals, airports, shopping centers, office buildings and other public areas subject to a heavy volume of foot traffic or severe weather conditions.

Lehigh white cement-based terrazzo is a fire resistant material that withstands intense heat and open flame.



Trinity University,
 San Antonio, TX
 Architect: Chumney & Assoc.

INFRASTRUCTURE

With increasing emphasis on highway safety and roadway aesthetics through initiatives undertaken by state Departments of Transportation, the use of Lehigh white cements affords the transportation professional

an opportunity to fulfill safety and aesthetics strategic plan objectives. At night or in inclement weather, visibility of a concrete surface can double or even triple with the use of Lehigh white cements.

I-35 and Highway 290, Austin, TX
 Photographer: Cathy Sauerwine

