BASALITE®
Concrete Products

Geowall™ | Mesa® | EnCore

RETAINING WALL SOLUTIONS

Great Hardscapes Start Here®

Geowall™ Max in Tan

Geowall™ | Mesa® | EnCore

BASALITE® RETAINING WALL SOLUTIONS

Basalite® offers the Geowall™, Westblock Systems EnCore, and the Tensar® Mesa® retaining wall systems. These systems are an excellent solution for a variety of wall applications, ranging from simple landscaping projects to critical structures. Available in four face styles and attractive earth-tone colors, these walls will meet your structural requirements while providing lasting beauty that will complement your design for years to come.

Geowall™ Pro Retaining Wall in Grey

Commitment To Sustainability

Basalite® is committed to the advancement of sustainable construction practices. The Basalite® Geowall™ System is locally produced from natural materials (products using recycled content are available) and offers excellent durability. The wall units are dry stacked, and can be removed and redeployed if the structure is no longer needed. Concrete products can also be crushed and reused as clean fill. As a result of these benefits, Basalite Walls may contribute to the attainment of LEED® Credits under the U.S. Green Building Council's LEED® Green Building Rating System™, as summarized below:

LEED Credit	Description	Points	Solutions
Sustainable Sites SS Prerequisite 1	Construction Activity Pollution	Required	Use of retaining walls to prevent erosion of site soils may assist to meet this prerequisite.
Sustainable Sites SS Credit 1	Site Selection	1	Segmental retaining walls can minimize the footprint of the developed portion of a site, and help allow preservation of wetlands and other sensitive areas on a site.
Sustainable Sites SS Credit 2	Development Density & Community Connectivity	1	Segmental retaining walls facilitate development of sites in dense urban areas by maximizing usable area in hilly terrain.
Sustainable Sites SS Credit 5.2	Site Development: Maximize Open Space	1	Use segmental retaining walls to preserve and protect open space.
Materials & Resources MR Credit 2.1 & 2.2	Construction Waste Management: Divert 50%/75% From Disposal	1	Unused concrete masonry products can be redirected to the manufacturing process either for reuse or recycling. Waste masonry or concrete products also can be used as clean fill at the construction site, or crushed into aggregates for use as backfill or base material.
Materials & Resources MR Credit 4.1 & 4.2	Recycled Content: 10%/20% (postconsumer + 1/2 preconsumer)	1/1	Concrete products can be manufactured with recycled materials. Check with Basalite for recycled content product options.
Materials & Resources MR Credit 5.1 & 5.2	Regional Materials: 10%/20% Extracted, Processed & Manufactured Regionally	1/1	Most concrete products are made by local production facilities using sand, aggregates, water and cement from local sources. Basalite can confirm the percentage of local origin of its products.

PRODUCT FEATURES

- Multiple face styles and colors.
- Easy construction of curves and corners (specialty corner units are available).
- Two setback positions offer choice of near vertical or battered wall construction.
- Pin connection system for easy alignment and proper geogrid installation.
- Open cores allow core-fill interlock for greater drainage, shear resistance and geogrid connection strength.
- Matching cap units are available to finish the wall beautifully.

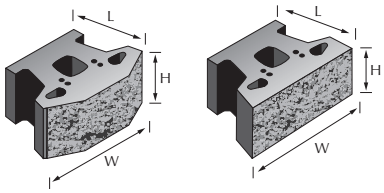
MEETS THE SPECIFICATIONS

- WSDOT Projects
- ODOT Projects
- ASTM 1372

SPECIFICATIONS

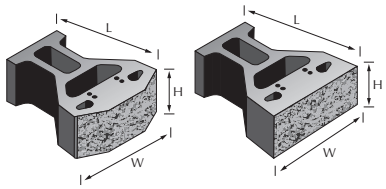
See page 5 "Choosing The Right Wall System" for height and setback information.

GEOWALL™ PRO



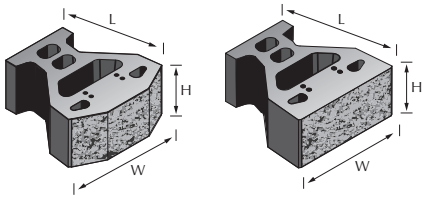
Tri-plane Straight Face

GEOWALL™ MAX



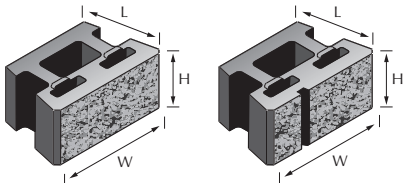
Tri-plane Straight Face

GEOWALL™ MAX II



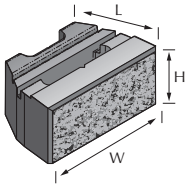
Tri-plane Straight Face

ENCORE*



Straight Face* Ashlar Face*

MESA®

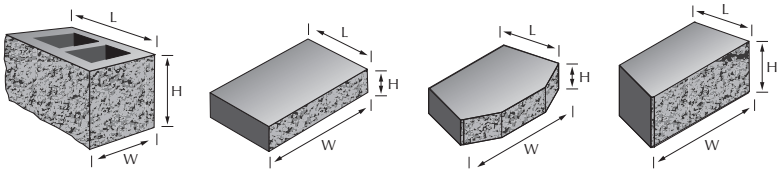


Straight Face

GEOWALL™ PINS

Flexural Strength: Minimum 125,000 psi
Short Beam Shear Strength: Minimum 6400 psi
References: ASTM D-4475, ASTM D-4476

CORNERS AND CAPS



Corner 4" Straight Side Cap 4" Tri-Plane Cap 8" Straight Face Cap

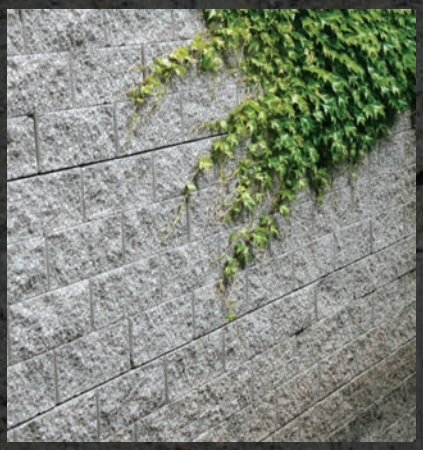
MESA® CONNECTOR

Connector

Name	Metric Units	U.S. Customary Units	Weight	Units/Pallet	Sq. Ft./Pallet
Geowall™ Pro Tri-plane	457mm W x 304mm L x 203mm H	18" W x 12" L x 8" H	90 lbs	36	36
Geowall™ Pro Straight Face	457mm W x 304mm L x 203mm H	18" W x 12" L x 8" H	96 lbs	36	36
Geowall™ Max Tri-plane	457mm W x 546mm L x 203mm H	18" W x 21.5" L x 8" H	123 lbs	30	30
Geowall™ Max Straight Face	457mm W x 546mm L x 203mm H	18" W x 21.5" L x 8" H	125 lbs	30	30
Geowall™ Max II Tri-plane	457mm W x 457mm L x 203mm H	18" W x 18" L x 8" H	113 lbs	30	30
Geowall™ Max II Straight Face	457mm W x 457mm L x 203mm H	18" W x 18" L x 8" H	115 lbs	30	30
Corner	457mm W x 229mm L x 203mm H	18" W x 9" L x 8" H	70 lbs	40	60
4" Straight Side Cap	457mm W x 279mm L x 102mm H	18" W x 11" L x 4" H	56 lbs	72	36
4" Tri-Plane Cap	457/356mm W x 267mm L x 102mm H	18/14" W x 10.5" L x 4" H	46 lbs	72	32
8" Straight Face Cap	457/356mm W x 267mm L x 203mm H	18/14" W x 10.5" L x 8" H	98 lbs	36	36
EnCore Straight Face*	457mm W x 279mm L x 203mm H	18" W x 11" L x 8" H	98 lbs	18*	36
EnCore Ashlar Face*	457mm W x 279mm L x 203mm H	18" W x 11" L x 8" H	98 lbs	18*	36
Mesa Straight Face	457mm W x 279mm L x 203mm H	18" W x 11" L x 8" H	89 lbs	36	36
Geowall™ Pins	12.7mm W x 95mm L	.50" W x 3.75" L	-	-	-
Mesa Connectors	-	-	-	-	-

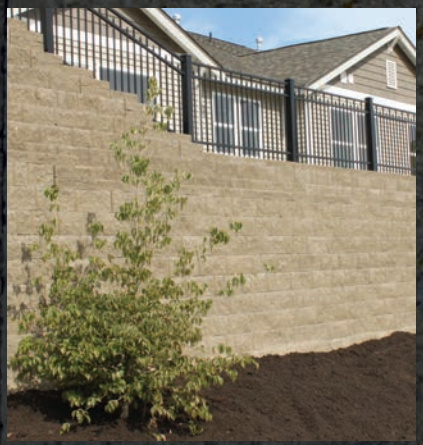
*EnCore - 18 pieces of Straight Face and 18 pieces of Ashlar Face are on one pallet for a full pallet quantity of 36.
Blocks are made to a compressive strength of 4,000 psi, which meets the specifications for WSDOT and ODOT projects. Reference Standard: ASTM 1372. Products conforming to AASHTO specification requirements are available upon request. Check with your local manufacturer.

STRAIGHT FACE - STRAIGHT APPEARANCE



TRI-PLANE - DRAMATIC SHADOWS

ASHLAR ENCORE - RANDOM STONE APPEARANCE



COLORS

Custom colors are available by special order - please contact your local dealer.

Printed colors shown in this brochure may vary from actual product colors. We recommend selecting colors from actual product samples.

Choosing The Right Wall System

Basalite® Wall Systems provide solutions for a variety of wall applications, ranging from simple landscaping projects to critical tall structures. Geowall™ units are made of high-strength concrete and use pultruded fiberglass pins for alignment and inter-unit connection. Geowall™ is designed to optimize construction of both gravity walls and mechanically stabilized wall structures using geogrid reinforcement. Geowall™ units feature two setback options (either near vertical or 1 inch setback per unit) for design and construction flexibility. The Tensar® Mesa® is an excellent choice for reinforced walls where a positive mechanical connection is specified. Below are some general guidelines for selecting which product may be the best choice for your project.

EnCore in Tan

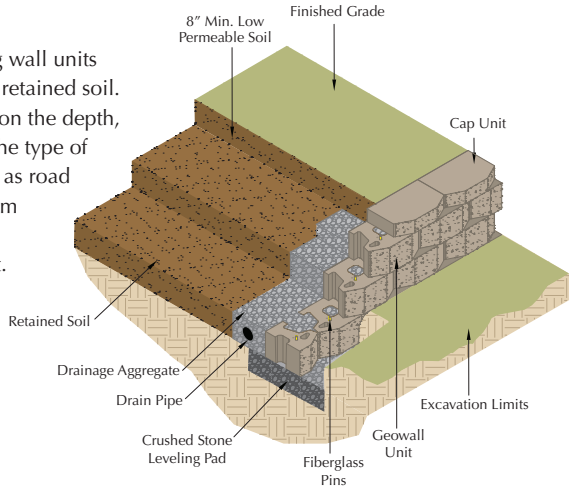
Product	Maximum Height*	Key Features
GEOWALL™ Max 8″h x 18″w x 21.5″d GEOWALL™ Max II 8″h x 18″w x 18″d	Gravity Walls to approximately 6′; Reinforced walls to 40′ or more in height with proper design.	Allows greater spacing between geogrid layers. More stable during construction - improves installation productivity. Best choice for taller gravity walls. Available with Straight Face and Tri-plane. Near vertical or 1″ setback.
GEOWALL™ Pro 8″h x 18″w x 12″d	Gravity Walls to approximately 3.5′; Reinforced walls to 35′ or more in height with proper design.	Cost effective for many walls. Lighter weight and tail design make handling easer. Versatile all-around performance. Available with Straight Face and Tri-plane. Near vertical or 1″ setback.
MESA® 8″h x 18″w x 11″d	Gravity Walls to approximately 3.5′; Reinforced walls to 35′ or more in height with proper design.	Mechanical connection to geogrids has been approved for use by many public authorities. Tri-plane and Straight Face styles. Near vertical or 5/8″ setback.
EnCore 8″h x 18″w x 11″d	Gravity Walls to approximately 3.5′; Reinforced walls to 25′ or more in height with proper design.	Simple and fast construction using alignment tabs. Available with Ashlar face. Great choice for larger landscaping walls.

* Consult a qualified engineer regarding the maximum heights for your wall and the design requirements that are required for your particular soil conditions, loadings and wall geometry.

DESIGN CONSIDERATIONS

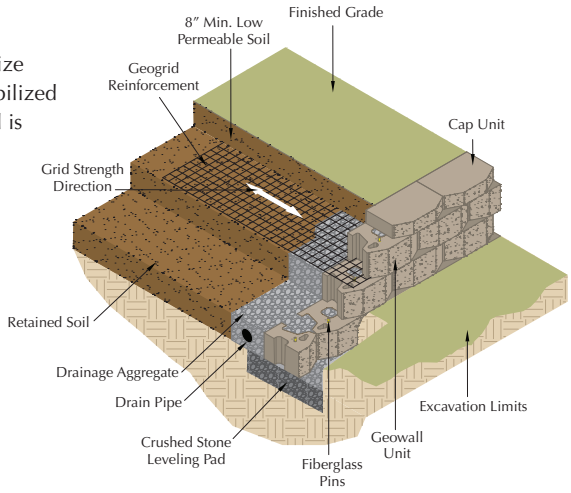
GRAVITY WALLS

A gravity wall relies on the mass of the retaining wall units and their core fill to resist the pressure from the retained soil. The maximum height of a gravity wall depends on the depth, weight and setback of the retaining wall units, the type of soilretained and any additional surcharges such as road traffic or slopes above the wall. Typical maximum gravity wall heights range from about 3.5 ft. with the Geowall™ Pro Unit, to up to about 6 ft. with the Geowall™ Max unit, depending on the set back, the type of soils and whether the wall is subject to any surcharges. The Max unit is a great choice for taller gravity wall structures, due to its greater embedment depth.



REINFORCED WALLS

A reinforced wall typically uses geogrid to stabilize the soils behind the retaining wall units. This stabilized soil mass resists earth pressures. This type of wall is often referred to as a Mechanically Stabilized Earth (MSE) structure. The addition of geogrid reinforcement connects the entire reinforced soil mass to the retaining wall units. The reinforced soil zone and facing units perform as a mass "gravity wall", restricting movement of the retained soil zone. MSE retaining walls allow construction of tall, critical structures.



DESIGN METHODS

Many gravity walls and all reinforced retaining walls should have engineered plans (this is required by Code in most cases). Various standardized design methods are used to design segmental walls. In the private sector, designers use the National Concrete Masonry Association (NCMA) Design Method for Segmental Retaining Walls. In the public sector, designers use the American Association of State Highway Transportation Officials (AASHTO) design methods. MESA may be designed using the LFRD design methodology for public projects. A wall designer needs the following information to begin a wall design:

- the soil strength of the wall foundation soils and retained earth
- the proposed wall geometry (height, degree of batter, tiers)
- Any surcharge conditions on the proposed structure.

Based on these factors, the design will determine whether geogrid reinforcement is required, and if so, the strength of the geogrids to be used, and the number, length and placement of geogrid layers.

BASALITE GEOWALL™ DESIGN SOFTWARE

Basalite has secured extensive third-party testing of our retaining wall products. The testing provides data necessary to support design using accepted design methodologies. Reports containing this data are available to designers and can be imported into relevant design programs. Basalite offers both standard engineering for typical non-critical structures and Geowall™ Design Software that will assist engineers in designing our walls to industry standards. Geowall™ Design Software also provides materials take-offs and CAD layouts of the proposed wall design. Please contact your Basalite representative if you need assistance in locating design resources.

TECHNICAL SUPPORT

Basalite looks at each project as individual and unique. We realize how important it is to provide you with technical assistance when needed. Our team of experts can help you with your project from the initial planning stages through final engineering and approval, but our experience does not stop there. We can assist with submittals, details and drawings, and pre-construction meetings. We offer the following services to the licensed design professional:

1. Design Program For Licensed Engineers
2. Contractor Estimator Program
3. Design Assistance
4. Details & Diagrams
5. Specifications
6. Product Submittals
7. Pre & Post Construction Meetings

Geowall™ Pro in Grey

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