


KEYSTONE® RETAINING WALL SYSTEMS
A CONTECH COMPANY

# GREEN SOLUTIONS

KEYSTONE® RETAINING WALL SYSTEMS
A CONTECH COMPANY

*Retaining Excellence™*

A CONTECH Company
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Green Solutions: M0801


Durable


Environmentally Friendly


Sustainable


Derived From Nature

Green building and construction increases the efficiency with which buildings and developments use resources – energy, water and materials – while reducing impacts on human health and the environment. Many agencies and organizations recognize the importance of utilizing green products and methods as a way to promote environmental, economic, health and community benefits through better site selection and development, building design, construction, operation, maintenance and pollutant removal. More specific areas of green building and construction include sustainable design and green architecture.

Keystone Retaining Wall Systems, Inc. is an environmentally conscious company committed to shaping the future of green building and design. As the worldwide leader for innovation and excellence within the segmental retaining wall industry, Keystone offers a wide range of site solutions that respond to green building and construction needs. Many of these solutions contribute toward the U.S. Green Building Council's LEED® (Leadership in Energy and Environmental Design) Green Building Product Rating System™ or other similar programs. Keystone products are also made of recycled materials and offer a durable, long-lasting solution, thereby reducing the impact on the environment.

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## Uses Natural and Recycled Materials

Concrete is an environmentally friendly building product composed of both natural and recycled materials. The gravel, sand, and water used to make concrete allow it to be reused. During production of segmental retaining wall units, waste concrete is produced. Most manufacturers crush this concrete into aggregate and reuse it, thereby reducing waste material for landfills. Fly Ash, a waste material produced and then discarded by coal burning plants, is another component used in the manufacturing process of concrete segmental retaining wall units. Recycling Fly Ash in this way, keeps it out of landfills. Segmental retaining wall units also utilize synthetic iron oxide to color the units. This dye is made by burning recycled scrap steel to high temperatures.

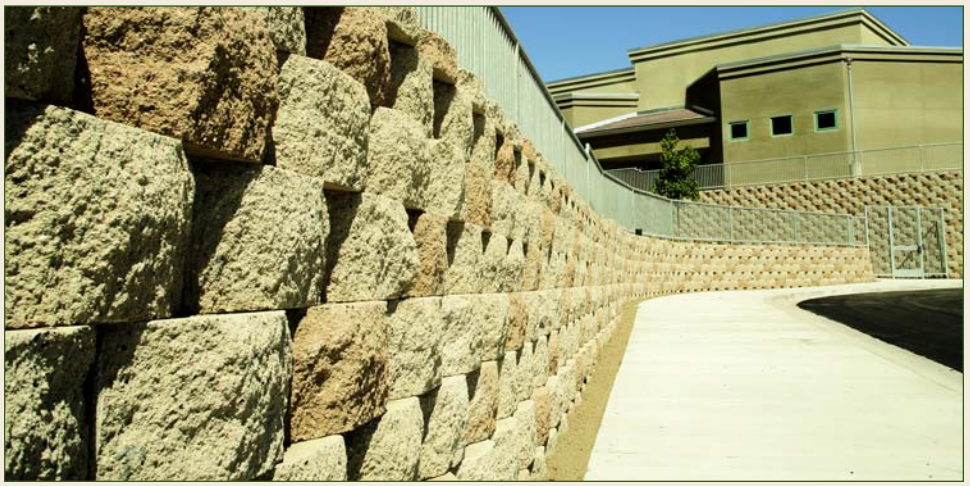

Water


Sand


Recycled Concrete


Fly Ash

The natural and recycled materials utilized in the manufacturing process result in an environmentally conscious and efficient construction product.



## Prevents Erosion

Soil erosion is a serious environmental threat and a major contributor to the degradation of water quality. Wind, rain and runoff displace soil particles from bare or sparsely covered earth, potentially reducing the stability of the original site and impairing the performance of down-stream drainage systems.

In many instances, segmental retaining walls are a cost-effective solution to eroding soil. Keystone walls are often used as part of conservation efforts along channels and waterways, near steep earthen slopes, and in other critical applications. By combining retaining wall units with soil reinforcement, the reinforced soil mass can support greater earth pressure and surcharge loads.

By providing a long-term solution, segmental retaining walls are an economical way to minimize or eliminate erosion.

## Recyclable / Durable

Segmental retaining wall units offer a long-lasting solution for several types of construction and landscaping projects because they are made from concrete. Concrete is a durable building material that surpasses the life-span of alternatives (such as timbers or railroad ties). The durability of concrete can be defined as its ability to resist weathering action, chemical attack, and abrasion while maintaining its desired engineering properties. The use of concrete avoids the use of toxic materials that are sometimes found in treated timber and other materials.

Segmental retaining walls are also recyclable. When a landscaping or other wall is no longer needed or desired, the units can simply be picked up and recycled.

# Promotes Vegetation

Some Keystone products promote vegetation within the wall while also offering an aesthetically pleasing, environmentally-friendly solution.

Keystone offers an innovative planting system that can produce a lush blanket of irrigated vegetation. The unique cavity of Keystone's plantable unit is perfect for plants up to one gallon in size. This product also allows for placement of irrigation systems and provides the natural drainage that encourages plant root growth and allows the wall structure to spring to life.

With the ability to support rich plant life, Keystone plantable units bring degrees of depth and color previously unavailable in a structural wall product.

MTDB Laurel Street Crossing • San Diego, CA

# LEED Credits

The U.S. Green Building Council's LEED® (Leadership in Energy and Environmental Design) Green Building Rating System™ is based on points and evaluates the overall performance of a green building project by assessing each of the materials and systems used in combination. The number of points earned determines the level of LEED certification the project receives (Certified, Silver, Gold, or Platinum).

The chart below represents some possible LEED credits available with Keystone products. Actual credits granted will vary by project and/or product manufacturer.

| SUSTAINABLE SITES | | | 5 points |
|---|---|---|---|
| ❑ | Credit 5.2 | **Maximize Open Space**<br>*Provide a high ratio of open space to development footprint to promote biodiversity.* | 1 |
| ❑ | Credit 6.1 | **Stormwater Design, Rate and Quantity Control**<br>*Limit distribution of natural water flows by managing stormwater runoff.* | 1 |
| ❑ | Credit 6.2 | **Stormwater Design, Treatment**<br>*Implement a stormwater management plan that reduces impervious cover, promotes on-site filtration and eliminates contaminants.* | 1 |
| ❑ | Credit 7.1 | **Heat Island Effect, Non-Roof**<br>*Reduce heat islands.* | 1 |
| ❑ | Credit 5.1 | **Site Development**<br>*Protect or Restore Habitat* | 1 |

| MATERIALS & RESOURCES | | | 8 points |
|---|---|---|---|
| ❑ | Credit 2.1 | **Construction Waste Management**<br>*Divert 50% from Disposal.* | 1 |
| ❑ | Credit 2.2 | **Construction Waste Management**<br>*Divert 75% from Disposal.* | 1 |
| ❑ | Credit 3.1 | **Materials Reuse**<br>*5% of Materials Reused.* | 1 |
| ❑ | Credit 3.2 | **Materials Reuse**<br>*10% of Materials Reused.* | 1 |
| ❑ | Credit 4.1 | **Recycled Content**<br>*10% (Post-Consumer + 1/2 Pre-Consumer)* | 1 |
| ❑ | Credit 4.2 | **Recycled Content**<br>*20% (Post-Consumer + 1/2 Pre-Consumer)* | 1 |
| ❑ | Credit 5.1 | **Regional Materials**<br>*10% Extracted, Processed, and Manufactured Regionally.* | 1 |
| ❑ | Credit 5.2 | **Regional Materials**<br>*20% Extracted, Processed, and Manufactured Regionally.* | 1 |

| INNOVATION & DESIGN PROCESS | | | 2 points |
|---|---|---|---|
| NOTE: ID credits are awarded for exceptional performance above LEED requirements. Below are some areas to consider: | | | |
| ❑ | Credit 1.1 | **Innovation in Design: Structural Advantages** | 1 |
| ❑ | Credit 1.2 | **Innovation in Design: Life-Cycle Benefits** | 1 |