

Vegetated concrete hollow core interlocking retaining walls, such as Terraforce®, offer several environmental benefits:

Root Reinforcement: The roots of plants help bind soil particles together, strengthening the stability of the soil within the retaining wall structure. This reinforcement reduces the risk of erosion caused by rainfall, wind, or water flow.

Vegetation can be strategically planted on retaining walls using soil bioengineering techniques. These techniques involve selecting and planting appropriate vegetation species with strong root systems that enhance soil stability and erosion resistance.

Biodiversity Enhancement: Green walls provide habitat and food sources for insects, birds, and other small animals, promoting biodiversity in urban areas where natural habitats may be scarce. This helps support local ecosystems and contributes to overall environmental health.

Air Quality Improvement: The vegetation on Terraforce walls helps to capture airborne pollutants and particulate matter, thereby improving air quality in the surrounding area. This can mitigate the urban heat island effect and enhance the overall quality of the surrounding environment.

Aesthetic Enhancement: Green walls soften the appearance of concrete structures, making them visually appealing and integrating them more seamlessly into the natural landscape. This can improve the overall aesthetic quality of urban environments and promote a sense of well-being among residents.

Stormwater Management: Plants that are incorporated into a wall constructed with Terraforce's unique hollow core blocks can absorb and filter rainwater, reducing stormwater runoff and the risk of flooding.

This helps to replenish groundwater reserves and maintain the natural hydrological cycle. In general, the open hollows in the blocks allow water to drain back into the ground, making it more sustainable than solid retaining wall systems.

Sustainable Materials: Terraforce blocks do not introduce pollutants or contaminants directly into the soil, as no chemical preservatives are added during manufacture, unlike some other materials, such as chemically treated wood or plastic geocell systems that can deteriorate more easily due to exposure to UV radiation, temperature fluctuations, and mechanical stress, potentially releasing plastic microparticles into the soil.

Other benefits of Terraforce hollow core, interlocking retaining wall blocks:

Durability: Terraforce blocks will not rot and weaken over time. Properly designed and constructed Terraforce walls can have a very long lifespan, reducing the need for frequent replacements and associated environmental costs.

Even though the blocks are relatively lightweight for easy delivery and installation, they are heavy in mass when filled with soil, gravel, or concrete, which provides additional vertical interlock and longevity.

Water conservation: The open horizontal and closed vertical surface structure cuts evaporation, helping to trap moisture within the soil behind the wall. This can be particularly beneficial in arid or semi-arid climates where water conservation is crucial.



Plastic cell retaining wall degrading in the extreme heat in Dubai



10 Year old Terraforce wall, planted with hardy succulents and creepers

When it comes to providing sustainable construction solutions, we have records of Terraforce retainer walls that have stood strong for over four decades, since the conception of the Terraforce in 1978!

Material Efficiency: Terraforce walls, being hollow core, use less concrete compared to solid walls of equivalent strength, reducing resource consumption and waste generation during construction.

Adaptability to Site Conditions: Terraforce is a uniquely versatile interlocking concrete retaining wall system. Not only are the hollow-core blocks designed to allow you to make plants part of your wall in many creative ways, they are also designed to simply stack using a distinctive horizontal interlock, a design that allows for unrestricted wall angles and curves to suit your site, unhampered by nibs and slots.

Simply put, the half-moon interlock easily manages convex and concave curves, and the wall angle can easily vary from vertical to shallow, allowing Terraforce wall designs to follow the contours of the ground, providing effective erosion control and landscaping solutions.

It is also easy to create steps by reversing the block and adding handrail and fence posts that can be set within the blocks.

Scalability: The modular nature of Terraforce blocks makes them highly scalable for projects of various sizes. Whether it's a small garden retaining wall or a large-scale landscaping project, the same blocks can be used with ease, reducing complexity and streamlining the construction process.

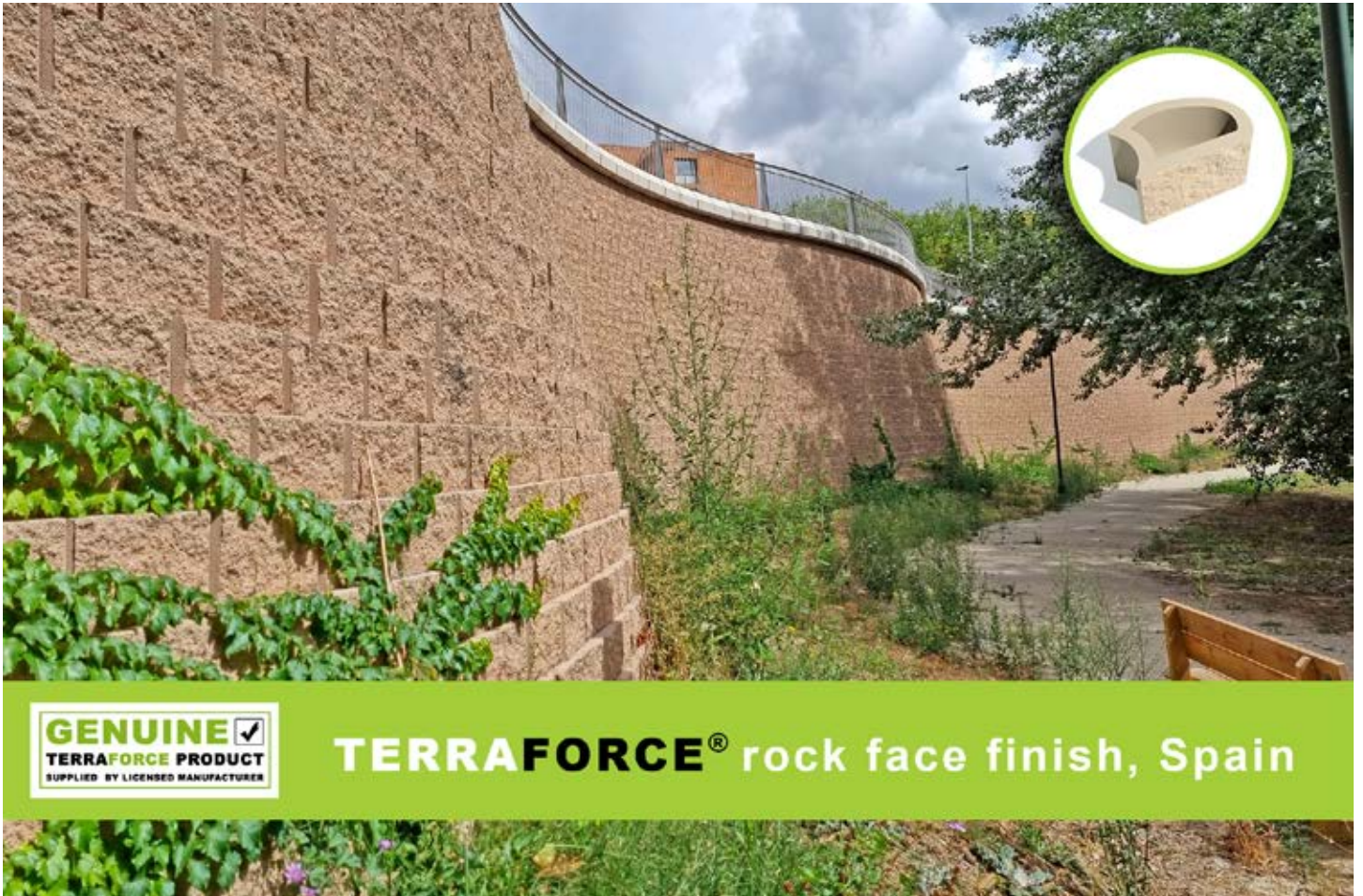
Recyclability and Reusability: Terraforce blocks are fully recyclable or reusable at the end of their lifecycle, further reducing waste and environmental impact.

Overall, Terraforce offers a sustainable and cost-effective solution for managing slopes, controlling erosion, and creating aesthetically pleasing landscapes while minimizing their environmental footprint.

Terraforce, your living wall...

The bottom line is that vegetated Terraforce retaining walls offer a multifaceted approach to environmental stewardship, combining erosion control, habitat creation, air and water quality improvement, and sustainable design principles.

- Download our planting guide for your Terraforce wall here: [How to plant your wall](#)
- Choose waterwise and hardy plants: [Plant Guide](#)



Tried and tested for 45 years:

Terraforce is a member of the Concrete Manufacturers Association (CMA) in South Africa and adheres to the Canadian and US international Standard Specification for Loadbearing Concrete Masonry Units, following a successful ICBO evaluation in 2002 (now ICC-ES, a leading US nonprofit, limited liability company that does technical evaluations of building products, components, methods and materials).

The system was also extensively tested by Hawkins Hawkins & Osborne Consulting Engineers, South Africa in 1992, resulting in a comprehensive design and specification manual and user guide.

Composite retaining wall design and construction procedures with Terraforce blocks have also been subjected to rigorous laboratory tests.

These were conducted on a large-scale test apparatus to evaluate the mechanical performance of, among others, the connection between blocks and geogrids.

In all tests, the primary mode of failure was rupture of the geogrid outside the blocks and performance was found to be above industry standards.

The manufacture of Terraforce blocks follows strict standards:

The manufacturing of TERRAFORCE gravity wall blocks strictly adheres to local and international standards by undergoing extensive laboratory testing, during and after manufacturing. These standards are based on the following codes:

- **SANS 207**
- **Concrete Manufacturers Association (CMA)**
- **BS 8806 and**
- **ASTM-D6916-18**

In addition, licensed manufacturers must adhere to strict minimum specifications and regular compressive strength tests as well as weight- and dimension measurements must be concluded as part of the manufacturer's quality assurance program.



Idea Book



TERRAFORCE® round face finish

TERRAFORCE®



The original, reversible, hollow core retaining block



TERRAFORCE® rock face finish, Dubai



TERRAFORCE® rock & round face finish, creating plant pockets at regular intervals

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The original, reversible, hollow core retaining block



GENUINE ✓
TERRAFORCE PRODUCT
SUPPLIED BY LICENSED MANUFACTURER



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