

Place to sit with the 4x4 Multi Step Block

The Terraforce 4x4 Multi Step block was developed to provide efficient and economical steps in conjunction with the companies' original retaining blocks. They soon became very popular not only for stairway access but to provide comfortable, practical seating arrangements at leisure amenities & school sport facilities.

According to Wikipedia, the term "placemaking" was coined in the 1970s by architects and planners to describe the process of creating squares, plazas, parks, streets and waterfronts that will attract people because they are pleasurable or interesting. Landscape often plays an important role in the design process.

One of the most basic features of this principle is seating. "This might not strike you as an intellectual bombshell," William H. Whyte liked to say, "but people like to sit where there are places for them to sit." Whyte's famous observations of plazas and parks suggested that people were not that picky about where they sit, as long as they could sit somewhere. But he also demonstrated that certain types of seating could revitalize a moribund place. Seating that is accessible, comfortable, well-maintained, and located in the right places is critical to successful placemaking.

Holger Rust of Terraforce, the company that designed the 4x4 Multi Step Block, says: "Based

on our client's comments, Terraforce blocks were found to offer one of the most cost-effective and durable methods for creating user-friendly seating arrangements at public sports and recreational facilities."

He adds that many examples have been installed during the last 25 years in all parts of South Africa, other African countries and on other continents. "The method lends itself to constructing small seating arrangements for pre-school facilities with; say 50 seats, to large scale arenas, capable of accommodating 20, 000 spectators, as has been done at a gold mine in South Africa. With proper



Seating for sports facility in Pniel.



Community facility for general sports events.

planning, unsightly and eroding embankments can be turned in to something useful and pleasing to the eye." The company has also been involved in applications where it was necessary to combine some heavy duty earth retaining with a seating arrangement.

Last year in particular saw an upswing in making available improved spectator platforms for less advantaged communities. Hans Blumer of Dennis Moss Partnership, who was involved in designing three of such seating arenas using the 4x4 Multi Step Block, says that construction of these was initiated by the Stellenbosch Municipality in 2008

with the vision to upgrade existing sports fields specifically for the previously disadvantaged communities: “With the Soccer World Cup in 2010 these projects had to be completed in time, thus leaving a “lasting legacy” to the advantage of the communities.”

The three arenas in Stellenbosch are located in Pniel, Kylemore and Groendal respectively, and in all three cases an existing grass embankment was converted to seating. Georg Brand of Dassenberg Retaining, the retaining wall contractor awarded the installation of the seating, says that all three examples demonstrate a combination of 4 x 4 Multi Step Blocks and L12



Close-up of the step and seating combination.

Terraforce blocks, with good sub-soil drainage in certain places behind the seating. Says Brand: “For horizontal reinforcing, Y12 steel bars were inserted with a concrete infill into the 4x4 blocks. Installation was carried out in the wet Cape winter under the worst conditions. Excessive storm water runoff with no control measures in place and at two sites, soggy clay due to subsoil water pouring out.”

Blumer says that the 4x4 Multi Step blocks work very well for fulfilling project requirements: “All three stadiums were equipped with a club house each before the upgrading was initiated, with seating provided only on grass embankments. Installing formal seating with Terraforce blocks at the club houses proved to be a welcome innovation which was greatly appreciated by the various communities.”

In Willowmore, a similar installation was completed in the time before the World Cup with a slightly different section detail. Cost per installed seat of 500mm wide came to R 428.00 in this instance, and the average cost for the installed seats at Stellenbosch came to R 410.00.

Rust adds that feedback over many years has confirmed that the combination of a row of Terraforce retaining blocks, topped with a row of reinforced 4 x 4 Multi Step blocks, is easier to install and approximately 30% cheaper than similar competing systems. Many budget constraints can

thus be overcome. Interested parties are invited to contact Terrasafe, a design service offered by Terraforce.

Installation of Terraforce 4x4 Multi Step Blocks for Seating Arrangements

- Excavate and trim to lines and grades as shown on plan or as directed. Alternatively bench to required inclination as shown or plan to allow for placement of cement



Spectator seating in Willowmore, the steps set in this time.

stabilized backfill foundation to seating installation.

Stockpile sandy backfill material as directed.



Seen from below.

Compact profiled slope as specified by engineer.

Excavate at the toe of installation for casting of the foundation to engineers detail, with 20 MPa concrete.

Set out and place first row of concrete filled Terraforce blocks to lines and radius as shown on plan.

Place cement stabilized (Min 3%) sand backfill and compact as instructed by the engineer.

Install first row of Terraforce 4x4 Multi Step blocks on a thin mortar bed. Install in groups of 4, filled with wet concrete to allow for insertion of 10/12mm reinforcing bars with overlapping lengths. Refer to engineer's specification and plan.

Place and compact cement stabilized backfill as before. Repeat progressively row by row as work progresses.

Cut blocks to required angles for a neat match at corners or at sharp bends.



Seating for a sports facility in Kylemore.

Place 50mm screed in matching colour (or paving stones) behind front row of 4x4 blocks of seating area as shown on plan. Note this step may be undertaken once all the block rows have been installed.

Install lines of access stairs with 4x4 step-blocks as shown on plan and section.

All visible in situ concrete for screeds wedge fillers etc, to be in matching colour and with a neat, brushed non-slip finish.



The 4x4 Multi in combination with concrete cast seating.

- Supply and install subsoil drainage system where and when specified by the engineer.

- Install new rainwater channel along top edge of installation as per plan.

- For best results all work should be executed by an experienced contractor. Consult for a list of recommended Terraforce installers in various regions.

Cement slurry in a matching colour will add the finishing touches to seating arrangements. It is also possible to fit railings, screen or wing walls, or to add complementary paving and landscaping. Also make good in matching colour, any blocks that were chipped during transport and installation.

Request further info from 021 456 1907

Credits

Willowmore seating for 700

Client: Baviaans Municipality.
Engineer: Uhambiso Consult.
Installer: Loyiso Construction.



Community seating in Groendal with tree boxes for shade

When: Mid 2009 to mid 2010.

Product: Terraforce 4 x 4 step blocks throughout.
R per installed seat of 500mm wide: R 428

Groendal, Pniel and Kylemore seating for 2330 combined.

Client: Stellenbosch Municipality.

Engineer: Aurecon.

Architect: Dennis Moss Partnership.

Installer: Dassenberg Retaining.

When: Mid 2009 to mid 2010.

Products: Terraforce L12 and 4 x 4 step blocks.
R per installed seat of 500mm wide: R 410 ave.



the same installation.