

SPECIFICATIONS

**○ CEMSEAL VGM
GREEN WALL**

1 GENERAL

All work in this Section shall comply with the requirements of the Contract Documents. Supply and install green wall system as shown on the drawings or specified herein.

2 MATERIALS

The green wall system shall be CEMSEAL VGM supplied by Cemseal Industries Sdn Bhd (Tel: +607-558 3320, Fax: +607-556 9127, E-mail: info@cemseal.com.my) or approved equivalent.

GENERIC SPECIFICATION

The green wall system shall be a complete system comprising vertical greening modules, growth media bags, planting media, mounting system and automatic drip fertigation system.

2.1 Vertical Greening Module

The green wall system planting modules shall be Cemseal Elmich Vertical Greening Modules (“VGM”) or approved equivalent.

GENERIC SPECIFICATION

The green wall system planting modules shall be assembled from inter-connectable panels manufactured from UV-resistant 100% recycled plastics with Singapore Green Label certification.

When fully assembled, the planting modules shall each incorporate a custom-fit geotextile bag containing planting media and allowing excess water within the planting media to drain freely. The front of each module shall consist of a grid of voids for planting.

Typical properties of the planting modules are:

PROPERTY	VALUE
Material	Polypropylene
Dimensions	
Height	560 mm
Width	500 mm
Depth	125 to 250 mm
Volume (internal)	~35 to 70 litres
Weight (without soil)	~2 to 3 kg
Weight (wet + soil)	~25 to 40 kg
Planting void size	~10.5 (W) x 9.5 (H) mm
Biological resistance	Unaffected by moulds and algae

SPECIFICATIONS

2 MATERIALS

2.1 Vertical Greening Module (cont'd)

PROPERTY	VALUE
Chemical properties	Resistant to rot, oils, acids, alkalis, bitumen and naturally occurring soil chemicals
Service temperature	-30°C to 80°C

2.2 Geotextile Bag

Unless otherwise specified, the custom-fit bag containing the planting media in each vertical greening module shall be of non-woven geotextile fabric manufactured from polypropylene with a minimum 130 g/m² density.

2.3 Planting Media

The planting media shall be CEMSEAL ENVIROMIX GW or approved equivalent.

GENERIC SPECIFICATION

The planting media shall be a proprietary pH-stabilised mix comprising of leca, synthesised silica lime aggregate with soil additive of carbon and cellulose modified natural silicate powder suitable for tropical climate and vegetation.

2.4 Wall Mounting System

The wall mounting system shall be Cemseal Elmich VGM mounting system comprising proprietary stainless steel pilasters and mounting frames.

2.5 Automatic Fertigation System

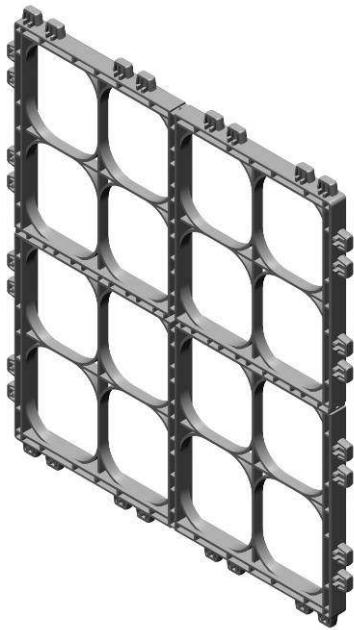
Automatic fertigation system shall be used to ensure proper plant growth.

SPECIFICATIONS

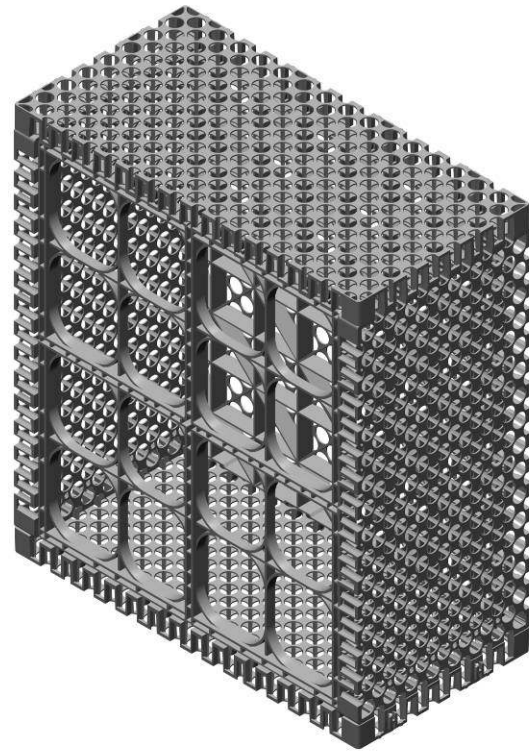
3 EXECUTION

- 3.1** The proprietary materials specified herein shall be provided / installed in accordance to the project requirement as approved by the Superintending Officer.
- 3.2** Proprietary materials supplied shall be identified clearly with the product name and description. Packaged materials shall be stored in manufacturer's wrappings and containers with the manufacturer's labels and seals intact
- 3.3** Prior to installation, the Contractor shall submit Method Statements and / or Shop Drawings for the installation of the green wall system. The latter shall be on at least A3 size paper or larger and in a CAD-recognisable format.
- 3.4** Prior to installation, the Contractor shall submit Method Statements and Shop Drawings for the installation of the green wall system. The latter shall be on at least A3 size paper or larger and in a CAD-recognisable format.
- 3.5** The vertical greening modules shall be assembled, lined with VGM media bag, filled with suitable growing media and pre-planted in a nursery to allow plant establishment.
- 3.6** Different growing media as specified by the Landscape Architect may be used to suit selected plant species.
- 3.7** The VGM media bag shall be properly sealed to ensure growing media is confined within the vertical greening modules.
- 3.8** The vertical greening modules shall be mounted on proprietary stainless steel pilasters and mounting frames or wall mounted to Engineer's details.
- 3.9** Appropriate drip irrigation and fertilizing system with programmable time controllers shall be installed according to specialist's recommendation and details.
- 3.10** The installed green wall system shall be protected from all stages of construction and be maintained and free of accumulation of debris or other foreign material until the time of final acceptance.

SPECIFICATIONS



CEMSEAL VGM Front Panel



CEMSEAL VGM Green Wall Module

PROJECT REFERENCES

Local Project

IMF 2006 CONFERENCE (SUNTEC & DHOBY GHAUT MART) *National Park Board*

CLEAN 7 GREEN WEEK 2006 (REPUBLIC POLY TECHNIC) *National Park Board*

SINGAPORE GARDEN FESTIVAL *National Park Board*

SOPHIA 8 CONDOMINIUM *Nature Landscape*

THE HILLTOP CONDOMINIUM *Nature Landscape*

GOODWOOD RESIDENCE *ICN Design International*

HORT PARK *MKPL architects*

LOT 1 @ CHUA CHU KANG *DLQ Design*

WEST COAST PLAZA *DP Architect*

ORCHARD CENTRAL MALL *DLQ Design*

ONE NORTH RESIDENCE *Salad Dressing*

CAPELLA HOTEL *DP Architect*

131 SENTOSA COVE DRIVE *Maps Design Studio*

RESORT WORLD SENTOSA *ICN*

Overseas Projects

SALAD BAR *Australia – Turf Design Studio Pty Ltd*

FUJITSU HQ *Melbourne – Green Rooms Gardens & Landscapes Pty Ltd*

ZENITH BUILDING *Sydney – Green Rooms Gardens & Landscapes Pty Ltd*

HYDERABAD AIRPORT *India – ZTC International Landscape Solutions (P) Ltd*

MACAU SCIENCE CENTRE *MACAU – Alga (Far East) Ltd*