



Eco Green Roofs Ltd

Unit 3 Rays Barn Farm Ingatestone, Essex

CM4 9EH

Project Name: Charles Street

O&M Manual

Systems Installed:

EGR Blue EcoVoid

Installers and Manufacturers: Eco Green Roofs Ltd

- EGR H2O Flow Layer
- EGR Filter Fleece
- EGR EcoVoid 50mm x2
 - Pebble Infill

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Date	: 01/02/22
Rev	: 00

Product Data Sheet



EGR H2O Flow 6

Technical Data

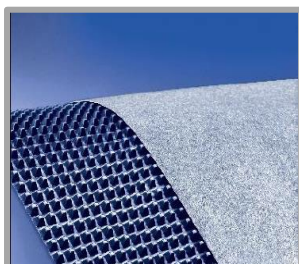
1. Description	6mm HDPE cuspatd drainage board with a geotextile filter/separator bonded to a single side
2. Applications	EGR H2O Flow 6 geocomposite has been designed to provide a passive venting system for gasses and liquids
3. Features	- Optimised for maximum strength and performance - UV stabilised - High crush resistance - Excellent flow rate



	Test	Unit	Mean Values		
4. Mechanical Properties – Geocomposite					
Compressive strength	EN ISO 25619-2	kPa	800		
Tensile strength (MD/CMD)	EN ISO 10319	kN/m	12		
Static puncture (CBR)	EN ISO 12236	kN	1.7		
5. Hydraulic Properties – Geotextile					
Water permeability VH50	EN ISO 11058	l/(m•s)	100		
Apparent opening size	EN ISO 12956	µm ₂	80		
6. Hydraulic Properties – Geotextile					
Water flor capacity in the plane (rigid/rigid)	EN ISO 12958	l/(m•s)	(i=1)	(i=0.5)	(i=0.1)
@ 20kPa			2.0	1.5	0.65
@ 100kPa			2.0	1.5	0.60
@200kPa			2.0	1.5	0.55
7. Physical Properties					
Thickness @ 2kPa	EN ISO 9863-1	mm	7		
Standard colour – Cuspate			Black		
Polymer – Cuspate			HDPE		
Polymer – Textile			PP		

Notes:

a) Mean values indicate the arithmetic mean derived from the samples taken for any one test as defined in the standard – usually an overall mean of five samples. Mean values are subject to tolerances based on 95% confidence limits as published on the product CE declaration of performance



8. Testing	All materials are tested every 6000m in an UKAS accredited ISO 17025 laboratory to all mechanical properties prior to release.
9. Storage	The geocomposites are supplied in packaging designed to protect the product from damage during handling and storage and degradation as a result of UV exposure. The product should be kept in appropriate packaging until such time that it is required for installation. The product is clearly and indelibly marked with the product name along the edge of the roll at regular intervals no greater than 5m. The packaging is labelled clearly to identify the product supplied in accordance with EN ISO 10320: Geotextile and Geotextile related products – Identification on site. Use slings where provided. Product weights are given on roll tickets. Use equipment appropriate to weight and dimension. Store and handle in accordance with good occupational hygiene and safety practice.

	Unit	Values
10. Dimensions		
Standard roll length	m	100
Standard roll width	m	0.97
Approximate roll weight	Kg	115

Product Data Sheet



Filter Fleece

Product code: EGR F

Description

Filter fleece layer prevents contamination of substrate from entering the drainage components. UV stabilised and optimised for maximum strength and performance – not mass.

Composition

Nonwoven geotextile manufactured from 100% virgin polypropylene high tenacity fibres, needle-punched and heat treated

Application

Suitable for sedum, wildflower, biodiverse roofs, and podium and roof garden applications as part of an EGR system.

Fire Compliance

Product has been tested as part of a system to BS EN 13501-5:2016 and compliant to Broof(t4) classification.

Dimensions

10000 x 113mm (L x W)

Packaging

Supplied as rolls on a pallet



Technical Data	Test	Unit	Mean Values
Mechanical Properties			
Static puncture	EN ISO 12236	kN	1.4
Tensile strength (MD/CMD)	EN ISO 10319	kN/m	9.0 / 9.8
Tensile Elongation (MD/CMD)	EN ISO 10319	%	60 / 65
Cone drop	EN ISO 13433	mm	32
Protection efficiency	EN ISO 13719	k/N/m ²	-
Filter Properties			
Apparent opening size	EN ISO 12956	µm	80
Water permeability V _{H50}	EN ISO 11058	l/(m ² •s)	100
Physical Properties			
Thickness @ 2kPa (nominal)	EN ISO 9863-1	mm	0.8
Standard colour	White		
Polymer	100% polypropylene		
Durability			
Weathering 50 MJ/m ² (1 month)	EN ISO 12224	>90% Retained Strength Predicted to be durable for service lives up to 50 years in natural soils with 4 ≤ pH ≤ 9 and soil temperatures ≤ 25°C	
Oxidation resistance	EN ISO 13438		

Notes:

- Mean values indicate the arithmetic mean derived from the samples taken for any one test as defined in the standard – usually an overall mean of five samples. Mean values are subject to tolerances based on 95% confidence limits as published on the product CE declaration of performance.
- Nominal value (indicates an average manufacturing norm and not a controlled performance parameter)
- MD: Machine Direction (longitudinal to the roll)
- CMD: Cross Machine Direction (across the roll)
- Tensile testing is performed using extensometers.

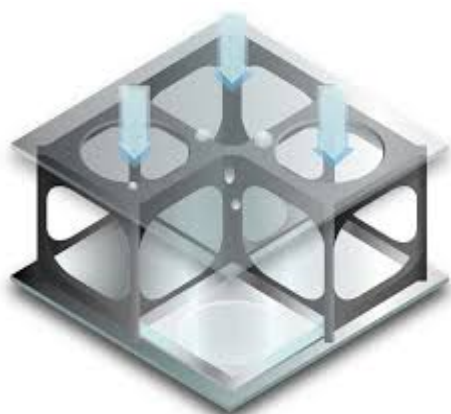
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Product Data Sheet



EGR EcoVoid 50

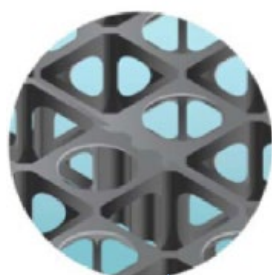
Load Bearing Blue Roof Attenuation Layer



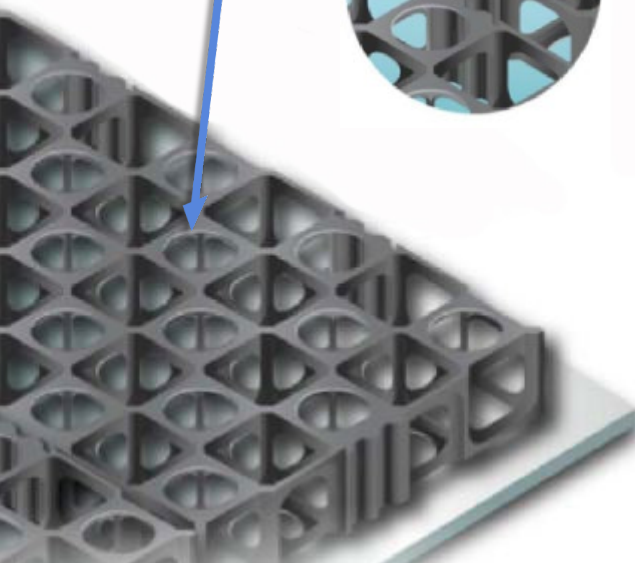
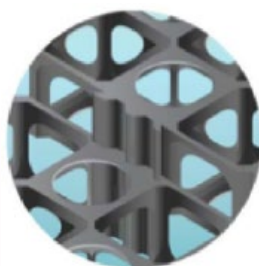
- 3 x more permeable than stone sub-bases
- Lightweight, strong structure designed to support heavy traffic loading – including HA
- Reduces/removes stone requirements
- Unique and easy to install clipping system
- Works with and around other site installations
- Arranges exactly to project requirements



Close-up Illustrations



The illustrations demonstrate how the structure clips together



Technical Data

Compressive Strength (ASTM D1621)	125 T/m ²
Weight (Empty)	3.5Kg/m ²
Flow Rate per unit width (ASTM D1621)	180 L/min
Surface Area	96% Void
Long-term Unconfined Creep Test	42 day deadload 500 kN/m ²
No displacement	No further creep

Suitable for Multi-layering

1-layer example



3-layer example





River-Washed Cobbles 20-40mm

Product code: EGR COB

Description

River-washed naturally rounded cobbles. EGR COB performs in line with requirement set forth by German FLL Guidelines and The GRO Green Roof Code.

Composition

20-40mm rounded stones

Application

Rounded cobbles are installed, as part of a green and biodiverse roof system, to prevent the spread of fire.

Cobbles to be installed around all penetrations and perimeters, this includes, but not exclusive to, rainwater outlets, soil pipes and rooflights. A fire break of 300mm-500mm width is the requirement, on roofs that are over 40m in length the fire break width to be 1m

Fire Compliance

Product has been tested as part of a system to BS EN 13501-5:2016 and compliant to Broof(t4) classification.

Packaging

Available in bulk bags and 25Ltr sacks

The logo for "gro", with the letters in a bold, green, lowercase sans-serif font.

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BLUE ROOF MAINTENANCE RECOMMENDATIONS

Introduction

EGR Blue Roof restrictor chambers are installed with a grill protector covering the flow rate orifice which is in turn protected by free draining 20-40mm grade cobbles. This pebble surround is substantial to ensure flow even through systems that may be heavily cluttered at the surface with autumn leaves. However, it is very important to check the flow orifices are clear at each inspection.

In addition, the grills at the top of the chamber are set to match the overflow height and act as a failsafe overflow measure so even if the built in overflows at the parapet fail, water can still escape before thresholds are impeded. These grills must also be kept clear of leaf mulch.

EGR Initial 12 months: 4 visits required

- ▶ Check operation of Restrictor chamber lid – check for corrosion of fixing mechanism
- ▶ Check flow orifice (at base of restrictor) for any blockage and possible silt build up
- ▶ Check overflow grills (grills in the body of the chamber of restrictor) for any blockage
- ▶ Monitor the leaf and debris fall at each season
- ▶ Initial 12 months Report: The care and inspection in the first year will determine the amount and level of repeat aftercare going forward. (Min 2 per annum - more could be required if, for example, the roof is surrounded by deciduous tree with heavy leaf fall)

EGR Ongoing 12 month periods: Visits amounts determined by the initial report

- ▶ Check operation of Restrictor chamber lid – check for corrosion of fixing mechanism
- ▶ Check flow orifice (at base of restrictor) for any blockage and possible silt build up
- ▶ Check overflow grills (grills in the body of the chamber of restrictor) for any blockage
- ▶ Monitor the leaf and debris fall at each season

Please note//

Although EGR Restrictor Units have in-built overflows these should not be relied upon as the sole overflow. Waterproofing/roofing guidelines require a weir type through-wall type overflow that is visible from the ground when internal overflows might fail. These are not the responsibility of EGR.