

Product:	Blackdown VulkaTec Extensive Substrate/Growing Medium
Description:	A high quality mineral based substrate product, lightweight and containing excellent nutritive buffering qualities essential for optimal short and long term vegetative performance on Extensive and Biodiverse Green Roofs. The good water holding capacity and structural stability increase its practical suitability to sloped and exposed project applications over different substrate types.



Technical Characteristics

The main filler component - Vulkamineral has a continuously extending grading curve, consisting of lava rock and natural pumice. The porous characteristic of pumice allows for high permeability to high air volume ratio (good water holding capacity), beneficial to forming robust root architecture and supplying water to plant roots. The high micronutrient content contained in the lava rock conveys very important long term system benefits to a plant community. Over time micronutrients become less available to plant species and if bound up in root or shoot biomass, or in organic matter present in the media, this will eventually limit vegetative growth and proliferation. The lava rock in Blackdown VulcaTec acts as a constant source.

The organic matter ingredients included in this blend are green compost and xylith. The green compost allows macronutrients to quickly become available during establishment and subsequent growth, forming a good symbiosis with the xylith product. Xylith is non-carbonised wood and plant material (lignin still present) used in the horticultural industry as an alternative to peat, mainly for its good structural stability and low breakdown rate (despite a high C/N ratio). Xylith elongates nutrient availability by breaking down at a slow rate, releasing nutrients over time and also slowing the passage of nutrients released by the green compost through retention allowing them for uptake by the vegetation over time, when required.

The rough grain structure present and highly engineered grading curve of the volcanic rock allows for increased structural stability. This together with the enhanced water holding ability makes this product very suitable for exposed locations and sloped project applications. It also prevents fines from migrating towards the moisture control layer, a detrimental effect commonly found in other substrates.

DATA SHEET: BHC VOLCANIC EXTENSIVE SUBSTRATE

Description

Mineral / organic substrate composed stable against de-mixing, Basic components are natural pumice, lava light, bark compost, green compost, peat and xylith. The mixture is porous and equipped with a high total pore volume, It has a good nutritive substance buffering. Lightweight site formulated, mineral & pumice lightweight growing substrate.

BHC SUB.VUL.EXT. Natural product (igneous with organic aggregates) consisting of pyroxene, olivine, magnetite, limonite, biotite, and organic Mass.

The media has been certified by the German governing body (FLL) and the Geisenheim Research Establishment as suitable for intensive and roof garden planting applications.

Certified by RAL.

Material can be delivered as follows:

25 litre sacks. Palletised. 1.0 – 1.25 CuM per pallet.

Big bags. 1.0 – 1.25 CuM per bag. Palletised.

Silo tanker. 25-30 CuM standard load. Specialist pipework and discharge methods required.

Technical properties of media

Granulometric distribution

Particle size less: 0.063mm	6 - 10 mass %
Particle size: 2-20mm	50 - 65 mass %.

Water-/air capacity

Maximum water capacity	35% -45% by volume
Water permeability mod.	K 0,01 – 0,1 cm/s.

pH value 6.5-7.5

Salt content 0.3 – 0.8 g per litre.

Weight

Bulk density DIN EN 1097-3	0,95 - 1,00 to/m ³
Weight by max water capacity	1,45 - 1,55 to/m ³

Product Data Sheet

Composition

Below is a table portraying the properties of Blackdown VulkaTec Extensive substrate in comparison to requirements set by the GRO Green Roof Code of Best Practice for the UK 2011 guidelines and FLL - German Landscape Research, Development and Construction Society, guidelines.

Properties	Blackdown VulkaTec Extensive	Requirements in accordance with GRO/FLL
Particle size: -particle size less 0,063mm -particle size 2-20mm	6-10% (by mass) 50-60% (by mass)	≤ 15% (by mass) 30-60% (by mass)
Maximum water holding capacity	35-45% (by volume)	≥ 45% (by volume)
Water permeability mod. K	0.01 – 0.1 cm/s	≥ 0.001 cm/s
pH value	6.5 - 7.5	6 - 8.5
Salt content	0.3 – 0.8 g/l	≤ 2.5 g/l
Carbon content	5.5 g/l	≤ 25 g/l
Organic matter	5% (by mass)	3-8% (by mass)
C /N ratio	30	≤ 60

Blackdown VulcaTec Extensive substrate is a natural product (igneous with organic aggregates) consisting of pyroxene, olivine, magnetite, limonite, biotite and organic mass. Chemical composition as below:

Component	Share (%) *	Component	Share (%) *
Silica	47.00	Iron	8.00
Alluminium	14.00	Lime	8.90
Magnesium oxide	10.30	Sodium	8.90
Potash	4.50	Titanium	1.70
Manganese	0.80	Phosphorous	0.70
* Avg. price information			

Blackdown VulcaTec Extensive is quality backed by RAL-GZ 253.

Supply: 25kg sacks, 1 tonne big bags.
Safety Data: In the condition sold the product does not present a hazard to health. The products are not required to carry a hazard label under the chemicals (Hazard information and packaging for supply) Regulations 1994 (CHIP 2). Eye protection to B.S. EN 166 should be worn. When products are mechanically crushed, respirable dust will be produced which can contain silica (quartz). Engineering control measures should be employed to keep airborne dust to a minimum. If adequate local exhaust ventilation equipment is not provided, dust masks, or their equivalent, to type FFP2 should be worn.
Fire: There are no direct risks of fire or explosion from this product.
Off-Loading: Ensure that the lifting equipment is suitable and will carry the weight.
First Aid: Where particles enter the eye, irrigate well with copious amounts of clean water. Seek medical attention if necessary. Inhalation of dust, remove to fresh air and seek medical attention, if necessary
Disposal: Waste from clay brick is easy to handle, non-toxic and inert. However, storage and disposal should be carried out in accordance with section 34 of the Environmental Protection Act: Waste Management – The Duty of Care.