

# Product overview

## Extensive greening



### Lavadrän®

Mineral drainage and mulch.

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### Vulkamineral®

Blowable substrate for extensive one-layer greening.

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### Vulkaplus® extensive

Blowable substrate for extensive multi-layer greening.

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### RegioMix® Mineral/extensive

Substrate originating from regional raw materials

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## Intensive greening



### Lavadrän®

Blowable, mineral drainage material and mulch.

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### Vulkamineral®

Blowable, mineral sub-substrate.

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### Vulkaplus® intensive 0-12

Blowable substrate for a broad spectrum of plants.

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### Vulkaplant®

Mineral sub-substrate.

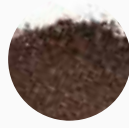
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### Vulkaplus® intensive 0-16

Substrate for a broad spectrum of plants.

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### Vulkaterra® Lawn 0-4

Blowable substrate for lawn areas.

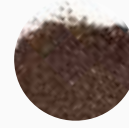
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### Vulkaterra® Lawn 0-6/8

Substrate optimised for laying lawns.

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### Rhododendron substrate

A reduced pH substrate.

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### Alternating bloom substrate

For planting alternating annuals and blooming.

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### RegioMix® intensive

Substrate originating from regional raw materials.

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All substrates easily available as types.

## Base courses

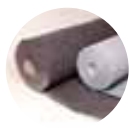


### Basalt, gravel, lava, porphyry

Gravelling, drainage and base courses.

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## Accessories



### Fleeces

Separating, filtering, protecting.

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### Utility shafts

Coverings made of plastic or aluminium.

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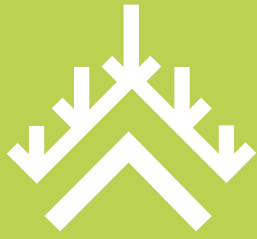


### Sedum and plug plants

Extensive greening with sedum and perennials.

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# Extensive greening

**The possibilities for green roofs**

Extensively greened roofs are created so that they look close to nature and are mainly created where roof areas are unusable. Since options for nurturing plants are limited due to the inaccessibility of the extensively greened roof, plants must be selected carefully.

Due to their extreme locations, the used plant species must be undemanding, adaptable and capable of regeneration.

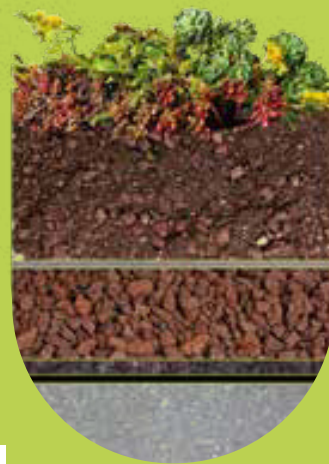
# 1.



Procedure according to FLL  
**Extensive mono-layer greening**

An example of this structure can be found on product page 26.

# 2.



Procedure according to FLL  
**Extensive multi-layer greening**

An example of this structure can be found on product page 27.



# Lavadrän®



- 2-8
- 2-12
- 2-16
- 8-16\*



Lavadrän is mineral-based, low in salt, stable to pressure and frost resistant. It can be blown and it's suitable for mineral drainage courses, as a mineral mulch or as a slab substructure. The rough surface ensures a good interlocking of the grains and as such a good positional resilience.

**Details:**

- High pressure stability; loadable up to 95 MPa/m<sup>2</sup> in the EV2 of the load plate test
- Up to 67% pore volume; therefore optimally drainable
- Up to 15% water storage
- External monitoring of grain sizes 8-16 as part of the RAL quality assurance
- Available from a silo truck, as bulk or packed in 1.0 or 1.5 m<sup>3</sup> big bags and as a 25 l bag

**Applications:**

- Drainage course in the GaLaBau, especially in green roofs
- Drainable substructure for slabs in the foot trodden area
- Effectively draining and resilient filler for building spaces
- Soil additive, substrate source material
- Air and water filtration
- Mineral mulch

**Procedure:**

Drainage course, slab substrate, mulch layer

**Composition:**

Natural product (igneous stone mixture) consisting of augite, olivine, magnetite, limonite and biotite

**Additional information:**

- Certificates
- Product data sheets

This additional material is available for download at:

[www.vulkatec.de](http://www.vulkatec.de)

<b>Grain size</b> (ø in mm)	2-8    2-12 2-16    8-16*
<b>Particle size distribution</b> (percentage of total mass in%) Blowable components	< 10
<b>Volume weight</b> (t/m <sup>3</sup> ) Delivery condition DIN EN 1097-3 At max. water capacity, compacted	0.95-1.10 1.20-1.35
<b>Water/air ratio, compacted</b> Maximum water capacity Water permeability mod. K <sub>f</sub>	8-15 vol.% 250-500 mm/min
<b>pH-value</b>	6.8-7.5
<b>Salinity</b>	0.1-0.5 g/l



# Vulkamineral®



## Procedure according to FLL:

extensive, single-layer structure

## Composition:

Natural product (igneous stone mixture) consisting of augite, olivine, magnetite, limonite and biotite

Type Lightweight: enriched with expanded clay or expanded slate

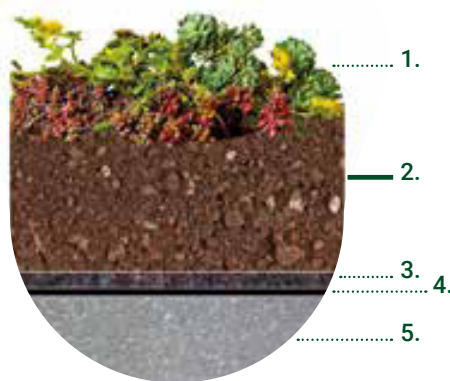
Blowable substrate for extensive mono-layer procedure. Open-pored grain mixture with continuous grain distribution, consisting of natural pumice and light lava; on request with fertilizer additive. Light variant with the addition of expanded clay or expanded slate. On request also with lower bulk densities of up to 850 kg/m<sup>3</sup> at WK max.

### Details:

- The grit is surface-rough, open-pored, tread-resistant, stable in terms of structure and storage, and resistant to being blown away
- Good water retention capacity and high water permeability with a large air volume
- Meets the requirements of the current FLL guideline and the fertilizer ordinance
- External monitoring for Vulkamineral LB 0-12 as part of the RAL quality assurance
- Optimized for transport by silo truck; also available as bulk material, 1.0 or 1.5 m<sup>3</sup> big bags or in a 25 l bag

## Applications:

- Extensive monolayer greening
- Basic component for higher quality substrates
- Urban tree restoration and transplantation
- As 2–12 mm screening for interior greening
- Suitable as an under substrate
- Soil improvement



## Extensive One-layer greening

1. Vegetation
2. 8–15 cm Vulkamineral®
3. Separating and protective layer 300 g/m<sup>2</sup>
4. Root-tight seal
5. Building structure

	LB 0-12*	Type light	NRW 0.3
<b>Grain size</b> (ø in mm)			
<b>Particle size distribution</b> (percentage of total mass in%)			
Blowable components	< 10	< 10	< 10
Proportions of components ≥ 4 mm	30–60	30–60	30–60
<b>Volume weight</b> (t/m <sup>3</sup> )			
Delivery condition DIN EN 1097-3, lose	0.90–1.00	0.80–0.90	0.90–1.00
At max. water capacity, compacted	1.40–1.60	1.20–1.30	1.40–1.60
Runoff curve number C			At 6 cm: 0.25 At 8 cm: 0.16 At 10 cm: 0.13
<b>Water/air ratio, compacted</b>			
Maximum water capacity	20–30 vol.%	20–30 vol.%	20–30 vol.%
Water permeability mod. K <sub>f</sub>	60–150 mm/min	60–200 mm/min	60–150 mm/min
<b>pH-value</b>	6.5–7.5	6.0–7.5	6.5–7.5
<b>Salinity</b>	0.1–0.5 g/l	0.1–1.0 g/l	0.1–0.5 g/l



# Vulkaplus® extensive

Blowable substrate for the extensive multi-layered construction, unsegregatable composition from the basic components natural pumice, light lava, green compost and xylitol. Light variant with the expanded clay or expanding slate additives. On request also with lower bulk densities of up to 850 kg/m<sup>3</sup> at WK max.

### Details:

- Open-pored and with a high total pore volume
- Good nutrient buffering, pH-stable, germination and growth-promoting
- Meets the requirements of the current FLL guideline and the fertilizer ordinance
- External monitoring for Vulkaplus extensive 0–12 for RAL quality assurance
- Optimised for transport by silo truck; also available as bulk material, 1.0 or 1.5 m<sup>3</sup> big bags or in a 25 l bag

### Procedure according to FLL:

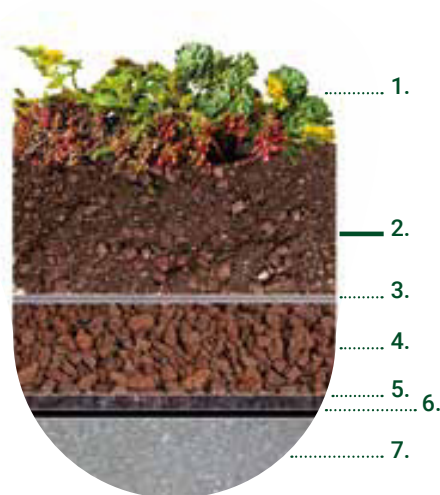
extensive, multi-layer construction

### Composition:

Natural product (igneous stone mixture with organic aggregates) consisting of augite, olivine, magnetite, limonite, biotite and organic matter  
Type light: enriched with expanded clay or expanded slate

### Applications:

- For nature-adapted vegetation forms under extreme site conditions
- For extensive multi-layer procedures
- Sloping roof greening



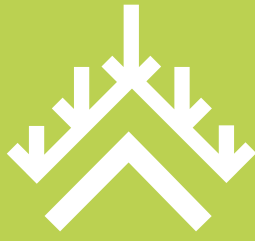
### Extensive Multilayer greening

1. Vegetation
2. 6–15 cm Vulkaplus® extensive
3. Filter fleece 100 g/m<sup>2</sup>
4. 3–6 cm drainage course Lavadrän®
5. Separating and protective layer 300 g/m<sup>2</sup>
6. Root resistant seal
7. Building structure

	0–12*	Type light
<b>Grain size</b> (ø in mm)		
<b>Particle size distribution</b> (percentage of total mass in%)		
Blowable components	6–15	6–15
Fine/medium gravel	35–50	30–50
<b>Volume weight</b> (t/m <sup>3</sup> )		
Delivery condition DIN EN 1097-3, lose	0.90–1.00	0.80–0.90
At max. water capacity, compacted	1.35–1.65	1.20–1.30
<b>Water/air ratio, compacted</b>		
Maximum water capacity	35–45 vol.%	35–45 vol.%
Water permeability mod. K <sub>f</sub>	0.6–50 mm/min	0.6–50 mm/min
<b>pH-value</b>	6.5–7.5	6.5–7.5
<b>Salinity</b>	0.1–1.0 g/l	0.1–1.5 g/l







# Intensive greening

## The possibilities for green roofs

In contrast to extensive greening, intensive greening offers an almost unlimited variety of plants. Due to its variety of vegetation, there is a high care requirement for the plants where intensive greening is involved. However, because of the usual regular use of the roof surface it is also comparable with a ground-based green or garden area.



# 1.

Procedure according to FLL  
**Intensive greening**

An example of this design can be found on product page 33.



# 2.

Procedure according to FLL  
**Intensive multi-layer greening**

An example of this design can be found on product page 35.



- 2-8
- 2-12
- 2-16
- 8-16\*



# Lavadrän®

Lavadrän is mineral-based, low in salt, stable to pressure and frost resistant. It can be blown and is suitable for mineral drainage courses, as a mineral mulch or as a slab substructure. The rough surface ensures a good interlocking of the grains and as such a good positional resilience.

### Details:

- high pressure stability; loadable up to 95 MPa/m<sup>2</sup> in the EV2 of the load plate test
- Up to 67% pore volume; therefore optimally drainable
- Up to 15% water storage
- External monitoring of grain sizes 8-16 as part of the RAL quality assurance
- Available from a silo truck, as bulk or packed in 1.0 or 1.5 m<sup>3</sup> big bags and as a 25 l bag

### Applications:

- Drainage course in the GaLa Bau, especially in green roofs
- Drainable substructure for slabs in the foot trodden area
- Effectively draining and resilient filler for building spaces
- Soil additive, substrate source material
- Air and water filtration
- Mineral mulch

### Procedure:

Drainage course, slab substrate, mulch layer

### Composition:

Natural product (igneous stone mixture) consisting of augite, olivine, magnetite, limonite and biotite

### Additional information:

- Certificates
- Product data sheets

This additional material is available for download at:

[www.vulkatec.de](http://www.vulkatec.de)

<b>Grain size</b> (ø in mm)	2-8    2-12 2-16    8-16*
<b>Particle size distribution</b> (percentage of total mass in %) Blowable components	< 10
<b>Volume weight</b> (t/m <sup>3</sup> ) Delivery condition DIN EN 1097-3 At max. water capacity, compacted	0.95-1.10 1.20-1.35
<b>Water/air ratio, compacted</b> Maximum water capacity Water permeability mod. K <sub>f</sub>	8-15 vol.% 250-500 mm/min
<b>pH-value</b>	6.8-7.5
<b>Salinity</b>	0.1-0.5 g/l





LB  
0-12\*

Type  
light

NRW  
0.3



# Vulkamineral®

Blowable, mineral sub-substrate for intensive greening with high installation strength. Open-pored grain mixture with continuous grain distribution, consisting of natural pumice and light lava; on request with fertilizer additive. Light variant with the addition of expanded clay or expanded slate. On request also with lower bulk densities of up to 850 kg/m<sup>3</sup> at WK max.

## Details:

- The grit is surface-rough, open-pored, tread-resistant, stable in terms of structure and storage, and resistant to being blown away
- Good water retention capacity and high water permeability with a large air volume
- Meets the requirements of the current FLL guideline and the fertilizer ordinance
- External monitoring for Vulkamineral® LB 0-12 as part of the RAL quality assurance
- Optimised for transport by silo truck; also available as bulk material, 1.0 or 1.5 m<sup>3</sup> big bags or in a 25 l bag

## Procedure according to FLL:

intensive, single-layer construction

Under substrate, intensive, multi-layer construction

## Composition:

Natural product (igneous stone mixture) consisting of augite, olivine, magnetite, limonite and biotite

Type Lightweight: enriched with expanded clay or expanded slate

## Applications:

- Under substrate for multi-layer intensive greening
- Basic component for higher quality substrates
- Soil improvement
- Urban tree restoration and transplantation
- As 2-12 mm screening for interior greening

## Additional information:

- Certificates
- Product data sheets

This additional material is available for download at:

[www.vulkatec.de](http://www.vulkatec.de)

	LB 0-12*	Type light	NRW 0.3
<b>Grain size</b> (ø in mm)			
<b>Particle size distribution</b> (percentage of total mass in %)			
Blowable components	< 10	< 10	< 10
Proportions of components ≥ 4 mm	30-60	30-60	30-60
<b>Volume weight</b> (t/m <sup>3</sup> )			
Delivery condition DIN EN 1097-3, lose	0.90-1.00	0.80-0.90	0.90-1.00
At max. water capacity, compacted	1.40-1.60	1.20-1.30	1.40-1.60
Runoff curve number C			At 6 cm: 0.25 At 8 cm: 0.16 At 10 cm: 0.13
<b>Water/air ratio, compacted</b>			
Maximum water capacity	20-30 vol. %	20-30 vol. %	20-30 vol. %
Water permeability mod. K <sub>f</sub>	60-150 mm/min	60-200 mm/min	60-150 mm/min
<b>pH-value</b>	6.9-7.5	6.7-7.5	6.9-7.5
<b>Salinity</b>	0.1-0.5 g/l	0.1-1.0 g/l	0.1-0.5 g/l





# Vulkaplus® intensive 0-12

Blowable substrate for intensive greening, unsegregatable composition from the basic components natural pumice, light lava, green compost and xylitol. Light variant with the expanded clay and expanding slate additives. On request also with lower bulk densities of up to 850 kg/m³ at WK max.

**Details:**

- Open-pored and with a high total pore volume
- Good nutrient buffering, pH-stable, germination and growth-promoting
- Meets the requirements of the current FLL guideline and the fertilizer ordinance
- External monitoring for Vulkaplus® intensive 0-12 for the RAL quality assurance
- Optimised for transport by silo truck; also available as bulk material, 1.0 or 1.5 m³ big bags or in a 25 l bag

**Procedure according to FLL:**

intensive, multi-layered construction

**Composition:**

Natural product (igneous stone mixture with organic aggregates) consisting of augite, olivine, magnetite, limonite, biotite and organic matter, type light: enriched with expanded clay or expanded slate

**Applications:**

- Vegetation substrate for demanding vegetation types
- Optionally with different pH values
- Adapted to the planned vegetation
- Tree planting and tree restoration on roofs
- Noise barriers, plant rings, tub planting
- Interior greening
- urban farming



**Intensive greening**

1. Vegetation
2. > 15 cm: Vulkaplus® intensive
3. Filter fleece 100 g/m²
4. 3-6 cm Drainage course of Lavadrän® (with waterlogging up to 15 cm)
5. Separating and protective layer 300 g/m²
6. Root resistant seal
7. Building structure

	0-12*	Type light
<b>Grain size</b> (ø in mm)		
<b>Particle size distribution</b> (percentage of total mass in %)		
Blowable components	8-15	8-15
Fine/medium gravel	25-40	30-40
<b>Volume weight</b> (t/m³)		
Delivery condition DIN EN 1097-3, loose	0.90-1.00	0.80-0.90
At max. water capacity, compacted	1.40-1.65	1.20-1.30
<b>Water/air ratio, compacted</b>		
Maximum water capacity	45-50 vol.%	35-50 vol.%
Water permeability mod. K <sub>f</sub>	0.3-15 mm/min	0.3-25 mm/min
<b>pH-value</b>	6.9-7.5	6.7-7.5
<b>Salinity</b>	0.1-1.0 g/l	0.1-1.5 g/l





# Vulkaplant®

Mineral sub-substrate for intensive multi-layer greening. Low salt, segregation-resistant composed of the basic components loess, lava, pumice and sand.

## Details:

- Open-pored, with a high total pore volume, pressure-resistant
- Good nutrient buffering, pH-stable, germination and growth-promoting
- Free of root-forming weeds
- Processable in the wet and in light frost
- Unlimited installation strength
- Produced in accordance with the FLL guideline and the latest version of the Fertilizer Ordinance
- Available as bulk material, in a 1.0 or 1.5 m<sup>3</sup> big bag, or as a 25 l bag
- Not blowable

## Procedure according to FLL:

Under substrate, intensive, multi-layer construction

## Composition:

Natural product (igneous stone mixture, top/bottom soil of different classes) consisting of augite, olivine, magnetite, limonite, biotite, clays of various types

## Applications:

- Greening with perennials and woody plants in wild-grown locations (e.g. prairie perennials)
- Underground parking greening
- With higher layer structure as an under substrate
- Plant tub substrate for permanent planting with woody plants
- Greening of noise barriers / walls
- Replacement for unsuitable soil

## Additional information:

- Certificates
- Product data sheets

This additional material is available for download at:

[www.vulkatec.de](http://www.vulkatec.de)

<b>Grain size</b> (ø in mm)	<b>0-16</b>
<b>Particle size distribution</b> (percentage of total mass in %)	
Blowable components	10-20
Fine/medium gravel	30-45
<b>Volume weight</b> (t/m <sup>3</sup> )	
Delivery condition DIN EN 1097-3	1.05-1.15
At max. water capacity, compacted	1.60-1.80
<b>Water/air ratio, compacted</b>	
Maximum water capacity	20-35 vol. %
Water permeability mod. K <sub>f</sub>	0.3-15 mm/min
<b>pH-value</b>	6.9-7.5
<b>Salinity</b>	10-50 mg/100 g



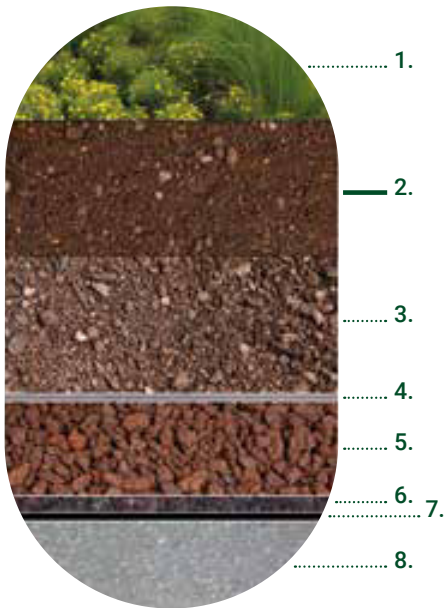
0-16

### Procedure according to FLL:

Upper substrate, intensive, multi-layer construction

### Composition:

Natural product (igneous stone mixture, top/bottom soil of different classes) consisting of augite, olivine, magnetite, limonite, biotite and clays of various types enriched with compost



### Intensive greening with sub-substrate

1. Vegetation
2. Upper substrate: Vulkaplus® intensive  
0-12, 60 cm, blown in the silo  
0-16, 45 cm, loosely poured
3. Under substrate: Vulkaplant® 20-16  
Vulkamineral® LB 0-12
4. Filter fleece 100 g/m<sup>2</sup>
5. 5.3-6 cm Drainage course Lavadrän®
6. Separating and protection layer 300 g/m<sup>2</sup>
7. Root resistant seal
8. Building structure

# Vulkaplus® intensive 0-16

Mineral-organic substrate, segregation-resistant and composed of the basic components loess, lava, pumice, sand and compost. Suitable for intensive greening with a broad spectrum of plants.

#### Details:

- Open-pored, with a high total pore volume, pressure-resistant
- Good nutrient buffering, pH-stable, germination and growth-promoting
- Free of root-forming weeds
- Processable in the wet and in light frost
- Useable up to 45 cm installation depth
- Produced in accordance with the requirements of the FLL guideline and the Fertilizer Ordinance in its current version
- Available as bulk material, in 1.0 or 1.5 m<sup>3</sup> big bags, or as 25 l bag
- Not blowable

#### Applications:

- Optionally with different pH values
- Greening of noise barriers/walls
- Underground garage greening
- urban farming
- Plant tub substrate for permanent planting with shrubs and woody plants
- Substitute for unsuitable soil

#### Grain size (ø in mm)

0-16

#### Particle size distribution

(percentage of total mass in %)

Blowable components	10-20
Fine/medium gravel	30-40

#### Volume weight (t/m<sup>3</sup>)

Delivery condition DIN EN 1097-3	1.00-1.10
At max. water capacity, compacted	1.50-1.85

#### Water/air ratio, compacted

Maximum water capacity	40-50 Vol.%
Water permeability mod. K <sub>f</sub>	0.3-20 mm/min

#### pH-value

6.9-7.5

#### Salinity

0.2-1.0 g/l



Lawn



Tree



Farm



Tub



Interior



Pond



Building



# Vulkaterra®

## Lawn 0-4 blowable

Mineral-organic substrate, low-salt, non-segregating, and composed of the basic components lava, pumice, expanded clay, compost and xylitol for intensive greening. Optimised for the creation of lawns.

### Details:

- Open-pored, with a high total pore volume, pressure-resistant, long-term stable
- Good nutrient buffering, pH-stable, germination and growth-promoting
- Free from seeding and root weeds
- Due to storage under roof it can be processed in wet conditions and in light frost
- Pneumatically transportable by silo over distances of up to 150 m
- Can be used after a short time even after prolonged or heavy rainfall
- Preferably greened with turf grass and to be planned up to approx. 40 cm thickness with permanent additional irrigation

### Procedure based on FLL:

Landscape lawn substrate, roof/underground parking roof substrate

### Composition:

Natural product; Eruptive stone mixture, consisting of augite, olivine, magnetite, limonite, biotite, enriched with expanded clay, xylitol and compost

### Applications:

- Lawn seeding on green areas, inner courtyards and roof areas
- As a substitute for topsoil, for the planting of perennials and woody plants
- Renovation and new laying of commercial and ornamental turf areas
- Permanent tub planting with shrubs and perennials

### Additional information:

- Certificates
- Product data sheets
- installation introduction

This additional material is available for download at:

[www.vulkatec.de](http://www.vulkatec.de)

### Grain size

(ø in mm)

0-4

**Particle size distribution**  
(percentage of total mass in %)

Blowable components	10-20
Fine/medium gravel	20-30

**Volume weight**  
(t/m<sup>3</sup>)

Delivery condition DIN EN 1097-3	0.80-0.85
At max. water capacity, compacted	1.20-1.40

**Water/air ratio, compacted**

Maximum water capacity	45-55 vol.%
Water permeability mod. K <sub>f</sub>	0.3-20 mm/min

<b>pH-value</b>	6.5-7.2
<b>Salinity</b>	0.5-1.0 g/l



# Vulkaterra® Lawn 0-6/8

Mineral-organic substrate, low-salt, anti-segregation, composed of the basic components, lava, pumice, sand and compost. For intensive greening. Optimised for the creation of lawns.

### Details:

- Open-pored, with a high total pore volume, pressure-resistant, long-term stable
- Good nutrient buffering, pH-stable, germination and growth-promoting
- Free of root-forming weeds
- Processable in the wet and in light frost
- Can be used after a short time even after prolonged or heavy rainfall
- Preferably greened with turf grass and to be planned up to approx. 40 cm thickness with permanent additional irrigation
- Available as bulk material, in 1.0 or 1.5 m<sup>3</sup> big bag, or as 25 l bag

### Procedure according to FLL:

Landscape lawn substrate, roof/underground parking roof substrate

### Composition:

Natural product (igneous stone mixture, top/bottom soil of different classes) consisting of augite, olivine, magnetite, limonite, biotite, clays of various types, enriched with compost

### Applications:

- Lawn seeding on green areas, inner courtyards and roof areas
- Renovation and new laying of commercial and ornamental turf areas
- As a substitute for top-soil, for the planting of perennials and woody plants
- Permanent tub planting with shrubs and perennials

### Additional information:

- Certificates
- Product data sheets
- installation introduction

This additional material is available for download at:

[www.vulkatec.de](http://www.vulkatec.de)

<b>Grain size</b> (ø in mm)	<b>0-6/8</b>
<b>Particle size distribution</b> (percentage of total mass in %)	
Blowable components	10-20
Fine/medium gravel	20-40
<b>Volume weight</b> (t/m <sup>3</sup> )	
Delivery condition DIN EN 1097-3	1.00-1.10
At max. water capacity, compacted	1.60-1.85
<b>Water/air ratio, compacted</b>	
Maximum water capacity	40-50 vol. %
Water permeability mod. K <sub>f</sub>	0.6-20 mm/min
<b>pH-value</b>	6.8-7.5
<b>Salinity</b>	0.5-1.5 g/l







# Rhododendron substrate

Mineral-organic, pH-optimized intensive substrate, with a segregation-proof composition. The basic components of the variant 0-12 are light lava, natural pumice, xylitol and peat. Variants 0-16 consist of loess, light lava, natural pumice, sand, xylitol and peat.

## Details:

- Very good nutrient buffering, pH-stable, germination and growth-promoting
- Meet the requirements of the current FLL guideline and the Fertilizer Ordinance

## Procedure according to FLL:

intensive multi-layer greening

## Composition:

Natural product (igneous stone mix with organic aggregates) consisting of augite, olivine, magnetite, limonite, biotite and organic matter

## Applications:

- Vegetation substrate for demanding greening species with a lower pH requirement
- Tree plantings and tree renovations on roof surfaces
- Optionally with different pH values
- Noise barriers, plant rings, tub planting

## Additional information:

- Certificates
- Product data sheets

This additional material is available for download at:

[www.vulkatec.de](http://www.vulkatec.de)

	0-12	0-16
<b>Grain size</b> ( $\varnothing$ in mm)		
<b>Particle size distribution</b> (percentage of total mass in %)		
Blowable components	8-15	10-20
Fine/medium gravel	30-40	30-40
<b>Volume weight</b> (t/m <sup>3</sup> )		
Delivery condition DIN EN 1097-3, lose	0.90-1.00	1.00-1.10
At max. water capacity, compacted	1.40-1.65	1.50-1.85
<b>Water/air ratio, compacted</b>		
Maximum water capacity	45-50 vol. %	40-50 vol. %
Water permeability mod. K <sub>f</sub>	0.3-25 mm/min	0.3-15 mm/min
<b>pH-value</b>	6.0-6.5	6.0-6.5
<b>Salinity</b>	0.1-1.0 g/l	0.5-1.5 g/l



# Alternating annual substrate

Mineral-organic perennial substrate; especially for flowering perennials in alternate planting, low-salt, non-segregating composition. Basic components of the standard variant are loess, lava, pumice, sand, compost. In the sour variant there is also peat in the mixture. Upon request, both variants are available with long-term fertilizer enrichment.

**Details:**

- Open-pore, with a high total pore volume, stable
- It is therefore safe from waterlogging since it also features high water retention
- Very good nutrient buffering, pH-stable, germination and growth-promoting
- Free of root-forming weeds

**Applications:**

- Particularly suitable for alternating plantings with blooming plants in the area of communal flowerbeds, and "Landes- und Bundesgartenschows"
- Any kind of intensive greening, especially for demanding perennials

**Procedure according to FLL:**

intensive multi-layer greening

**Composition:**

Natural product; Eruptive stone mixture, consisting of augite, olivine, magnetite, limonite, biotite, clays of various types, enriched with compost and/or peat

**Additional information:**

- Certificates
- Product data sheets

This additional material is available for download at:

[www.vulkatec.de](http://www.vulkatec.de)

<b>Grain size</b> (ø in mm)	<b>0-6/8</b>
<b>Particle size distribution</b> (percentage of total mass in %)	
Blowable components	10-20
Fine/medium gravel	20-30
<b>Volume weight</b> (t/m <sup>3</sup> )	
Delivery condition DIN EN 1097-3	0.95-1.05
At max. water capacity, compacted	1.50-1.85
<b>Water/air ratio, compacted</b>	
Maximum water capacity	45-55 vol.%
Water permeability mod. K <sub>v</sub>	0.3-20 mm/min
<b>pH-value</b>	5.5-7.0
<b>Salinity</b>	0.5-1.0 g/l



Lawn



Tree



Farm



Tub



Interior



Pond



Building



# RegioMix®

**Extracted from the region for the region**

**RegioMix® extensive, RegioMix® intensive and RegioMix® lawn;**  
three powerful, ecological products for your benefit from Vulkatec.

We are increasingly buying vegetables, potatoes, eggs and meat from the farmer around the corner, or at least from suppliers who can guarantee a regionality of the products in order to improve the ecological balance as well as the quality of our food.

Addressing this trend, we have thought about how to regionalise our substrates.

After extensive research into local raw materials and the analysis of the same in the laboratory from the perspective of environmental relevance, the requirements of the Fertilizer Ordinance and those of the relevant regulations of the GalaBau, in particular the FLL guidelines and recommendations, we have developed our novel RegioMix® substrates.

RegioMix® combines ecology, vegetation technology and economics into a single package.

**RegioMix® extensive:** Basis underlying the simple, easy-to-handle roofing of roofs.

**RegioMix® intensive:** Intensive roof greening with shrubs and woody plants. Also suitable as a substitute for stony, loamy, clayish or compacted soils in the building environment.

Available amongst other places at the locations in Aken, Berlin and Remseck.

Current status under [www.vulkatec.de](http://www.vulkatec.de)



# RegioMix® Mineral/ RegioMix® extensive



Mineral (RegioMix® mineral) or mineral-organic (RegioMix® extensive) substrate for extensive greening. The fundamental components are regionally sourced brick chippings, pumice, and compost.



### Details:

- Open-pored, with a high total pore volume, pressure-resistant, long-term stable
- Very effective nutrient buffering, pH-stable, germination and growth-promoting
- Free from weeds
- Good processability
- Produced in accordance with the requirements of the FLL guideline and the Fertilizer Ordinance in its current version
- Can be delivered with turbolift trucks and blown via hoses up to 150 m in length



### Applications:

- Extensive greening of building ceilings with sedum, herbs and drought tolerant grasses



	RegioMix® Mineral	RegioMix® extensive
<b>Particle size distribution</b> (percentage of total mass in %)		
Blowable components	5–10	5–15
Gravel > 4 mm	50–75	40–50
<b>Volume weight</b> (t/m <sup>3</sup> )		
Delivery condition DIN EN 1097-3	1.05–1.15	1.00–1.10
At max. water capacity, compacted	1.40–1.55	1.45–1.55
<b>Water/air ratio, compacted</b>		
Maximum water capacity	30–38 vol. %	35–48 vol. %
Water permeability mod. K <sub>r</sub>	100–200 mm/ min	3–30 mm/min
<b>pH-value</b>	7.0–7.8	7.2–7.8
<b>Salinity</b>	1.5–2.5 g/l	1.5–2.5 g/l
<b>Organic substance</b>	0.5–2.5	1.5–4.0





# RegioMix® intensive/ RegioMix® intensive (blowable)

RegioMix® intensive is a roof/underground garage substrate/ floor replacement. Mineral-organic substrate, with a non-segregating composition. The basic components are regionally sourced raw materials.

## Details:

- Open-pored, with a high total pore volume, pressure-resistant, long-term stable
- Very effective nutrient buffering, pH-stable, germination and growth-promoting
- Free of root-forming weeds
- Good processability
- Produced in accordance with the stipulations of the FLL guideline and the Fertilizer Ordinance in its current version

## Applications:

- Planting of building ceilings with perennials and small shrubs
- As a substitute for topsoil, for the planting of perennials and woody plants
- Permanent container planting with shrubs and perennials

	RegioMix® intensive	RegioMix® intensive (blowable)
<b>Particle size distribution</b> (percentage of total mass in %)		
Blowable components	5-20	5-20
Gravel > 4 mm	5-15	30-50
<b>Volume weight</b> (t/m <sup>3</sup> )		
Delivery condition DIN EN 1097-3	1.00-1.10	1.00-1.10
At max. water capacity, compacted	1.65-1.85	1.45-1.55
<b>Water/air ratio, compacted</b>		
Maximum water capacity	45-50 vol. %	45-50 vol. %
Water permeability mod. K <sub>f</sub>	1-10 mm/min	3-30 mm/min
<b>pH-value</b>	7.0-7.95	7.2-7.8
<b>Salinity</b>	0.5-1.5 g/l	1.5- 2.5 g/l





# Base courses / filling materials

In addition to the substrates, sands and gravel are also available for use on the roof, both of which can be blown by turbolift silos at distances of up to 150 m. They are used for surface gravelling, gravel edge strips, drainage courses, mineral mulch layers, base courses and bedding materials.

## Basalt

**Colour\*:**  
grey (dry),  
anthracite (wet)



	Sand	Grit
<b>Grain size</b> (ø in mm)	0-16	2-5 8-16
<b>Weight, installed</b> (t/m <sup>3</sup> )	1.80-2.20	1.4-1.70



Lawn



Tree

## Gravel

**Colour\*:**  
light grey-yellow with brown  
and anthracite-coloured  
components



(regionally available as  
quartz gravel)

	Sand	Grit
<b>Grain size</b> (ø in mm)	0-2 0-16	2-8 8-16 16-22
<b>Weight, installed</b> (t/m <sup>3</sup> )	1.80-2.20	1.5-1.80



Farm



Tub

## Lava

**Colour\*:**  
varies from light reddish  
brown to dark reddish brown,  
to anthracite colours



	Sand	Grit	
<b>Grain size</b> (ø in mm)	0-3 0-16	1-5 2-16	2-8 8-16
<b>Weight, installed</b> (t/m <sup>3</sup> )	1.65-1.90	1.2-1.40	



Interior

## Porphyry

**Colour\*:**  
grey-brown to reddish brown



	Sand	Grit	
<b>Grain size</b> (ø in mm)	0-16	2-5 2-26	2-8 8-16
<b>Weight, installed</b> (t/m <sup>3</sup> )	1.80-2.20	1.50-1.80	

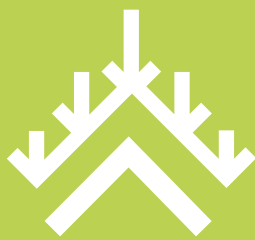


Pond



Building

\* Since it is a natural product, colour deviations may occur.



# Roof greening Equipment

**For an optimal construction of your substrates**

## **More than a substrate**

With over 30 years of experience, Vulkatec is one of the pioneers roof greening. As the market leader for substrates in Germany, Vulkatec guarantees optimum product quality and outstanding service. We thoroughly think through the topic of green roofs. That's why we offer all the available accessories in addition to the proven plant substrates and drainage materials.

## **Separating, protecting and filter fleeces**

For protecting the roof covering from mechanical damage and for separating materials of differing grain sizes (e.g. maintenance of the function of the drainage layer).

**on page 84**

## **Utility shaft**

From the standard plastic inspection shaft for maintaining roof drains to the special aluminium utility shaft for use with marginally located roof drains on insulation wedges.

**on page 48**

## **Sedum and plug plants**

Sedum and plug plants The ideal solution for cost-effective and diverse green roofs.

The enormous labour and cost savings are also noticeable especially with large areas.

**on page 49**

300  
g/m<sup>2</sup>

## Separating and protective fleece

### Advantages:

- The carrying capacity and stability are increased
- It provides a uniform load-distributing effect
- It prevents damage to the root protecting and roof
- It eliminates rough surfaces e.g. splattered concrete
- It increases the life of the roof and maintains its sealing properties

### Product information:

- Hardening method: needled + thermally solidified staple fibres
- Area weight: 300 g/m<sup>2</sup>
- Dimensions (per roll): 50 m x 2 m (100 m<sup>2</sup>)

100  
g/m<sup>2</sup>

## Filter fleece

### Advantages:

- Separates the substrate from the drainage layer and thus prevents clogging of the drainage layer
- Prevents waterlogging by ensuring a rapid, even discharge of rainwater

### Product information:

- Hardening method: mechanically solidified
- Area weight: 100 g/m<sup>2</sup>
- Dimensions (per roll): 100 m x 2 m (200 m<sup>2</sup>)



Roof



Lawn



Tree



Farm



Tub



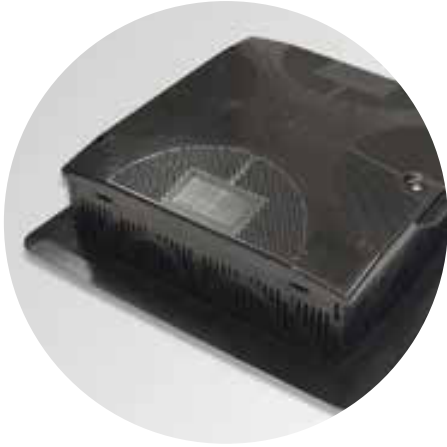
Interior



Pond



Building



### Product information:

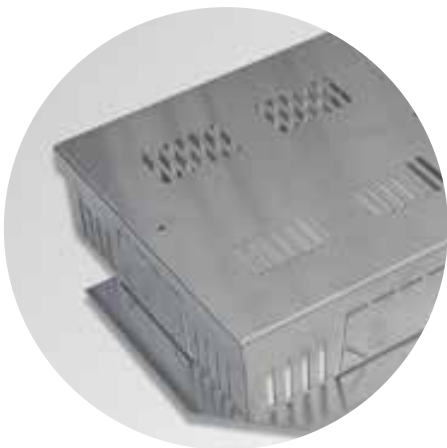
- Material: Plastic
- Dimensions:  
Cross section shaft: 37.0 x 37.0 cm  
Supporting surface base: 47.0 x 47.0 cm  
Height: at least 11.0 cm  
(can be increased in 10.0 cm increments)

## Utility shaft

Consisting of bottom part, side part and lockable cover for use in green roofs for servicing roof drains.

#### Special features:

- UV resistant, insensitive to humic acids
- Manhole opening Ø 30 cm
- Compressive strength plastic lid approx. 150 kg
- Shaft walls and lids with inlet slots
- Can be increased in increments of 100 mm
- Suitable for freestanding drainage systems
- Also available with slotted aluminium diamond plate lids
- Special accessories:  
• Base plate with a level regulator for ebb and flow irrigation



### Product information:

- Material: Metal
- Dimensions:  
Length/breadth: 25.0 x 25.0 cm  
Support surfaces for soils: 31.0 x 28.0 cm  
Height: 8.0 cm  
(extension elements available in 10.0 cm)

## Marginal utility shaft

Special utility shaft for use above roof drains at marginal areas in front of pitched components, especially when an insulation wedge is found in the corner.

#### Special features:

- Shaft cover with inlet slots, pressure resistance approx. 150 kg.
- Insensitive to humic acids.
- The insulating wedge profile can be unlatched on the back
- Drainage capacity 3.72 l/s (for three-sided connected water course profiles and 2% gradient)
- Accessories:  
• Extension elements of 10.0 cm height
- Shaft walls and lids with inlet slots, rear wall can be tilted and removed in increments of 100 mm

**Integration:**

If this isn't possible, the shoots can be kept for a maximum of 24 hours in a cool, dry and sheltered place (on no account refrigerate). The shoots should not be watered during storage. Immediately before taking out, however, it's advisable to dip the bag with the sedum shoots in a bucket of water so that the shoots can then take up water properly again. On roofs exposed to high winds, it's recommended that the shoots be lightly hooked into the substrate by only a few millimetres, so that they aren't blown off the roof.



# Sedum shoots

The ideal solution for cost-effective and versatile green roofs. The enormous labour and cost savings are also noticeable especially with large areas.

**Sedum shoots:**

- Min. 5-7 different species (depending on the season)
- Application quantity: 60–150 g/m<sup>2</sup>
- Flowering time: May-August

**Care:**

Immediately after spreading, the whole roof should be watered thoroughly. After this the shoots must be supplied with moisture regularly. Depending on the season, the shoots form roots after 2–4 weeks and start to grow in length. From this point on, you can start reducing the regular watering. On average, a green roof planted with sedum shoots takes half a year longer to complete than a roof planted with rooted plants.

# Plug plants

**Sedum or herbal plate:**

- 50 pcs in a pallet
- 10-20 plants/m<sup>2</sup>
- Deliveries are mixed (upon request they can also be sorted)



Roof



Lawn



Tree



Farm



Tub



Interior



Pond



Building