Lawn

Substrates for grass areas

Play areas and beauty spots right on your doorstep

Green areas not only beautify the cityscape and improve the micro-climate, but they also contribute to sound insulation and balancing of closed off spaces.
Urban grassed areas are nevertheless heavily used: Dryness in summer, road salt in winter and the trampling of a thousand feet everyday can spell the end even for robust grass varieties. Lawn substrates adapted to local conditions help offset these factors. For example, gravel lawn substrates for a tread-resistant lawn on fairgrounds or driveways.

Lawn greening

Green habitats
The trend towards creating green oases of well-being on roofs and around buildings is growing. A roof greened with grass is not only attractive, but it also provides usable living space, increases the sound insulation, retains water on the roof, improves the microclimate, and adds to a more beautiful city and landscape.

In addition, the use of lawn substrates also offers advantages when greening buildings. Especially in cohesive, waterlogging-prone soils, substrates promote the deep rooting of grasses and increase the tread resistance of lawns especially under wet conditions.

Would you like to exploit the many benefits of substrates, advise your customers professionally, and convince them with crafted solutions? Then why not profit from our 30 years of experience of greening on and around buildings, so that your customers can permanently enjoy the look and functionality of their lawns.

Product overview

Lavadrän®

Blowable mineral drainage.

On page 73

Vulkaterra® Lawn DIN 18035-4

Meets the requirements of DIN 18035-4

On page 74

Vulkaterra® Lawn 0–4 blowable

Lawn substrate for roofs and soils.

On page 75

Vulkaterra® Lawn 0–6

Lawn substrate for roofs and soils.

On page 76

Vulkaterra® Lawn type S 0–16

Gravel lawn substrate Usage category N1–N3.

On page 77

Vulkaterra® Lawn type S 0–32

Gravel lawn substrate Utilisation category N1–N3.

On page 78

Vulkaterra® Lawn type S/FW

Gravel lawn substrate for areas in which the fire service can install and move equipment Usage category N / FW.

On page 79

Bedding substrate

Utilization categories N2–N FW

On page 80

RegioMix® Lawn

Lawn substrate for roofs and soils.

On page 82

Track greening

Substrates for track greening.

On page 86

Lavadrän®

Lavadrän is suitable as a blowable mineral drainage course or as a mulch layer. The rough surface ensures a good interlocking of the grains and in this way a secure positioning.

Details:

- High pressure stability; loadable up to 95 MPa in the EV2 plate load test
- Up to 67% pore volume; therefore optimally drained
- Up to 15% water storage
- External monitoring of Lavadrän 8–16 as part of the RAL quality assurance
- Available as bulk material, by silo truck or packaged in 1.0 or 1.5 m³ big bags and as 25 l sacks

Procedure:

Drainage course, slab substrate, mulch layer

Composition:

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

Application areas:

- **Drainage layer in grassland construction, especially in green roofs**
- **Drainable substructure for slabs in foot traffic areas**
- **Effectively draining and resilient filler for building spaces**
- **Soil additive, substrate starting material**
- **Air and water filtration**
- **Mineral mulch**

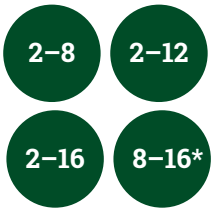
Additional information:

- Certificates
- Product data sheets

This additional material is available for download at:

www.vulkatec.de

Grain size
(ø in mm)



Particle size distribution (percentage of total mass in %)	
Blowable components	< 10
Volume weight (t/m³)	
Delivery condition DIN EN 1097-3	0.95–1.10
At max. water capacity, compacted	1.20–1.35
Water/air balance, compacted	
Maximum water capacity	8–15 vol.%
Water permeability mod. K_f	250–500 mm/min
pH value	6.8–7.5
Salinity	0.1–0.5 g/l

Vulkaterra® Lawn DIN 18035-4

Open-pored, mineral-organic lawn substrate based on lava, pumice and organic matter. It is low-salt, non-segregating and meets the requirements of DIN 18035-4.

Details:

- On request with fertilizer additive and peat
- The substrate shows good nutrient buffering, and is germination and growth-promoting
- Processable in the wet and in light frost

Procedure:

Lawn base course DIN EN 18035-4

Composition:

Natural product (igneous stone mixture) consisting of augite, olivine, magnetite, limonite, biotite and clays of various types enriched with compost

Application areas:

- **Restoration and new laying of sporting field surfaces in accordance with DIN 18035**

Additional information:

- Certificates
- Product data sheets

This additional material is available for download at:

www.vulkatec.de

Grain size (ø in mm)	**0–4**
Particle size distribution (percentage of total mass in %)	
Blowable components	8–20
Fine / medium gravel	5–20
Volume weight (t/m^3)	
Delivery condition DIN EN 1097-3	1.10–1.30
At max. water capacity, compacted	1.65–1.95
Runoff curve number C	
Water/air balance, compacted	
Maximum water capacity	25–40 vol. %
Water permeability mod. K_f	1–3 mm/min
pH value	6.8–7.5
Salinity	30–100 mg/100g

Phone: +49 2632 9548-0 Fax: +49 2632 9548-20 info@vulkatec.de www.vulkatec.de

Vulkaterra®
Lawn 0–4 blowable

Mineral-organic turf substrate for roof and ground, low-salt, non-segregating, made from the basic components lava, pumice, expanded clay and xylitol. On request with fertilizer additive.

Details:

- Open-pored, with a high total pore volume, pressure-resistant, long-term stable
- Good nutrient buffering, pH-stable, germination and growth-promoting
- In the peat/xylitol variant it is guaranteed to be free of seeding or rooting weeds
- Processable in the wet and in light frost
- Pneumatically transportable by silo truck over distances of up to 150 m
- Can also be used after a short time even after prolonged or heavy rainfall
- Preferably greened using turf grass and to be planned up to approx. 40 cm thickness with permanent additional irrigation

Procedure compliant with FLL:

Landscaping lawn substrate, roof / underground garage roof substrate

Composition:

Natural product; igneous stone mixture, consisting of augite, olivine, magnetite, limonite, biotite, enriched with xylitol

Application areas:

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

Additional information:

- Certificates
- Product Data Sheets
- Installation instructions

This additional material is available for download at:

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^3)	
Delivery condition DIN EN 1097-3	0.80–0.85
At max. water capacity, compacted	1.20–1.40
Water/air balance, compacted	
Maximum water capacity	45–55 vol. %
Water permeability mod. K_f	0.3–20 mm/min
pH value	6.5–7.2
Salinity	0.5–1.0 g/l

Vulkaterra® Lawn 0–6

Mineral-organic turf substrate for roof and ground, made from the basic components loess, lava, pumice, sand and compost. On request with fertilizer additive.

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 also 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 a 1.0 or 1.5 m^3 big bag, or as a 25 l bag

Procedure according to FLL:

Landscaping lawn substrate, roof / underground garage roof substrate

Composition:

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

Application areas:

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

Additional information:

- Certificates
- Product data sheets
- Installation instructions

This additional material is available for download at:

www.vulkatec.de

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

Phone: +49 2632 9548-0 Fax: +49 2632 9548-20 info@vulkatec.de www.vulkatec.de

Vulkaterra®
Lawn type S 0–16

Mineral gravel grass substrate with a load bearing capacity of up to 95 MN/m ² in the EV2 value of the load plate pressure test (observe the laying instructions).

Details:

- Low-salt, non-segregating
- Basic components are loess, lava, pumice, sand, with peat and fertilizer on request
- The mixture has a porous structure, with a high total pore volume, and is pressure-resistant, stable over the long-term, and shear-proof
- The substrate has good nutrient buffering, is pH-stable, and is germination and growth promoting
- Free of root-forming weeds
- Processable in the wet and in light frost
- Produced in accordance with the stipulations of the FLL guideline and the Fertilizer Ordinance in its current version

Procedure according to FLL:

Gravel grass substrate FLL design
Utilisation category N1-N3

Composition:

Natural product (igneous stone mixture, topsoil/subsoil of different classes) consisting of augite, olivine, magnetite, limonite, biotite, clays of different types

Application areas:

- **Single-layer and multi-layer gravel turf structures for construction methods in utilisation category N1-N3**
- **Refurbishment and new builds of fairgrounds, service roads, garage access roads, paths for pedestrian traffic, parking spaces with low use, seating areas in parks, care and maintenance paths**

Additional information:

- Certificates
- Product data sheets
- Installation instructions

This additional material is available for download at:

www.vulkatec.de

Grain size (ø in mm)	**0–16**
Particle size distribution (percentage of total mass in %)	
Blowable components	10–20
Fine / medium gravel	35–55
Volume weight (t/m^3)	
Delivery condition DIN EN 1097-3, loose	1.05–1.15
At max. water capacity, compacted	1.65–1.90
Water/air balance, compacted	
Maximum water capacity	25–35 vol. %
Water permeability mod. K_f	0.3–3.0 mm/min
pH value	6.8–7.5
Salinity	5–80 mg/100g

Procedure according to FLL:

Gravel grass substrate FLL design
Utilisation category N1-N3

Composition:

Natural product (igneous rock mixture, topsoil/ subsoil of various classes) consisting of augite, olivine, magnetite, limonite, biotite, clays of various types

Vulkaterra®
Lawn type S 0–32

Mineral gravel grass substrate with a load bearing capacity of up to 95 MN/m ² in the EV2 value of the load plate pressure test (observe the laying instructions).

Details:

- Low-salt, non-segregating composition
- High total pore volume, pressure-resistant, long-term stable, shear-proof
- The substrate shows good nutrient buffering, is pH-stable, and is germination and growth-promoting
- Free of root-forming weeds
- Suitable for processing in wet conditions and light frost
- Load-bearing capacity up to 95 MPa in the EV2 value of the plate load test (instructions provided in the installation manual must be observed)
- Produced in accordance with the stipulations of the FLL guideline and the Fertilizer Ordinance in its current version

Application areas:

- **Single-layer and multi-layer gravel turf structures for construction methods in utilisation category N1-N3**
- **Creation of road verges**
- **Refurbishment and new build of fairgrounds, service roads, garage access roads, paths for pedestrian traffic, parking and parking areas, seating areas in parks, care and maintenance paths**

Additional information:

- Certificates
- Product data sheets
- Installation instructions

This additional material is available for download at:

www.vulkatec.de

Grain size (ø in mm)	**0–32**
Particle size distribution (percentage of total mass in %)	
Blowable components	10–20
Proportions of components ≥ 4 mm	35–55
Volume weight (t/m^3)	
Delivery condition DIN EN 1097-3, loose	1.05–1.20
At max. water capacity, compacted	1.65–1.90
Runoff curve number C	
Water/air balance, compacted	
Maximum water capacity	25–35 vol. %
Water permeability mod. K_f	0.3–20 mm/min
pH value	6.8–7.5
Salinity	5–80 mg/100g

Phone: +49 2632 9548-0 Fax: +49 2632 9548-20 info@vulkatec.de www.vulkatec.de

Vulkaterra®
Lawn type S/FW

Gravel lawn substrate for areas in which the fire service can install and move equipment.

Details:

- Basic components are loess, lava, pumice and sand, with added fertilizer on request
- The mixture has a porous structure, with a high total pore volume, and is pressure-resistant, stable over the long-term, and shear-proof
- The substrate shows good nutrient buffering, is pH-stable, and is germination and growth promoting
- Free of root-forming weeds
- Processable in the wet and in light frost
- Produced in accordance with the stipulations of the FLL guideline and the Fertilizer Ordinance in its current version

Procedure according to FLL:

Gravel lawn substrate FLL design Usage category N Fw

Composition:

Natural product (igneous stone mixture, topsoil/subsoil of different classes) consisting of augite, olivine, magnetite, limonite, biotite and clays of different types

Application areas:

- **Multi-layer gravel turf structures in utilisation category N Fw**
- **Refurbishment and new build of fire department access roads and movement areas**
- **Creation of road verges and farm tracks**

Additional information:

- Certificates
- Product data sheets
- Installation instructions

This additional material is available for download at:

www.vulkatec.de

Grain size (ø in mm)	**0–32**
Particle size distribution (percentage of total mass in %)	
Blowable components	10–20
Proportions of components ≥ 4 mm	35–55
Volume weight (t/m^3)	
Delivery condition DIN EN 1097-3, loose	1.10–1.20
At max. water capacity, compacted	1.65–1.95
Runoff curve number C	
Water/air balance, compacted	
Maximum water capacity	25–30 vol. %
Water permeability mod. K_f	0.3–3.0 mm/min
pH value	6.8–7.5
Salinity	5–80 mg/100 g

Bedding substrate

Utilisation categories N2-N FW

Mineral-organic substrate, low in salt, non-segregating Made of the basic components lava, pumice, basalt, sand and compost. For intensive greening, optimised for use as vegetation-efficient bedding for lawn honeycombs, lawn paving, lawn joint paving and lawn bricks.

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 also be used after a short time even after prolonged or heavy rainfall
- Suitable for driving on due to the use of basalt as a supporting grain
- Available as bulk material, in a 1.0 or 1.5 m^3 big bag, or as a 25 l bag

Procedure according to FLL:

Bedding substrate in accordance with FLL guideline for green space reinforcement

Composition:

Natural product (igneous rock mixture, topsoil/ subsoil of various classes) consisting of augite, olivine, magnetite, limonite, biotite, clays of various types

Bedding substrate with lawn honeycomb as an example

Application areas:

- **As bedding for turf honeycombs, lawn paving, lawn join paving and grass paving in traffic areas**
- **As a resilient germination substrate when laying gravel turf**

Grain size (ø in mm)	**0–6**
Particle size distribution (percentage of total mass in %)	
Blowable components	5–15
Fine / medium gravel	25–40
Volume weight (t/m^3)	
Delivery condition DIN EN 1097-3	1.1–1.3
At max. water capacity, compacted	1.7–1.9
Water/air balance, compacted	
Maximum water capacity	35–40 vol. %
Water permeability mod. K_f	0.6–40 mm/min
pH value	6.8–7.5
Salinity	0.5–1.5 g/l

Phone: +49 2632 9548-0 Fax: +49 2632 9548-20 info@vulkatec.de www.vulkatec.de

Gravel terraces

Construction method for utilisation categories N2, N3 and N Fw – Substrate / substructure

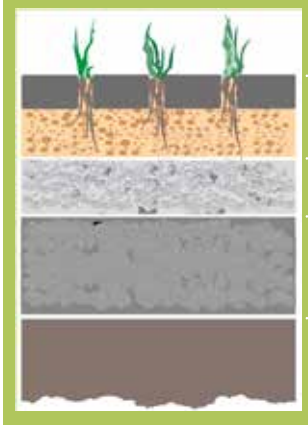
Construction method with base layers

	N2		N3		N Fw	
	Load capacity in MPa	Installation thickness in cm	Load capacity in MPa	Installation thickness in cm	Load capacity in MPa	Installation thickness in cm
1 Vegetation						
2 Vegetation base layer (gravel grass substrate)	>80	20	>80	20	>100	20
3 Gravel or gravel base layer	>100	15	>120	15–25	>120	15–25
4 Frost protection layer	>80	10	>100	30–40	>100	30–40
5 Building ground according to BStO 0.3	>45		>45		>45	

Paving with lawn joins.

Construction method for utilisation categories N2, N3, and N Fw - subsoil / substructure

Greenable paving Paving with grass joints



	N2		N3		N Fw	
	Load capacity in MPa	Installation thickness in cm	Load capacity in MPa	Installation thickness in cm	Load capacity in MPa	Installation thickness in cm
1 Vegetation						
2a Filling substrate 2b Bedding*	none Require-ments	8 4	none Require-ments	12 4	none Require-ments	12 4
3 Gravel or gravel base layer	>100	15	>120	15–25	>120	15–25
4 Frost protection layer	>80	15	>100	20–35	>100	20–35
5 Building ground according to BStO 0.3	>45		>45		>45	

Grass pavers.

Construction method for utilisation categories N2, N3, and N Fw - subsoil / substructure

Greenable surface with lawn paving

	N2		N3		N Fw	
	Load capacity in MPa	Installation thickness in cm	Load capacity in MPa	Installation thickness in cm	Load capacity in MPa	Installation thickness in cm
1 Vegetation						
2a Filling substrate 2b Bedding*	none Require-ments	10 4	none Require-ments	12 4	none Require-ments	12 4
3 Gravel or gravel base layer	>100	15	>120	15–25	>120	15–25
4 Frost protection layer	>80	15	>100	25-30	>100	25-30
5 Building ground according to BStO 0.3	>45		>45		>45	

* The bedding should be matched to the filling and covering substrate or ideally be identical in order to promote grass growth.

RegioMix® Lawn

from the region, for the region

Made of regional raw materials
Regionality is on everyone's lips today. We are increasingly buying fruit, vegetables and meat at the market or from the farmer around the corner because we feel responsible for our ecological footprint. We have also thought about the regionalisation of our substrates to keep their supply routes short and reduce their environmental impact.
After extensive researching of raw materials and analysis of environmental impacts in the laboratory, we have now developed the new Arbortree® substrate. This combines ecology, greening technology and economics into a single package.

RegioMix® Lawn: Intensive greening of building ceilings with grassed areas, perennials and shrubs.
Planting lawns outside and on building ceilings.
Also suitable as a substitute for stony, loamy, clayish or compacted soils.

Available at the following locations, among others:

Location	Post code	State / Province
Volkstorf	21397	Lower Saxony
Sande	26452	Lower Saxony
Lünen	44532, 44534, 44536	North Rhine-Westphalia
Aken / Elbe	06385	Saxony-Anhalt

Current status at **www.vulkatec.de**

RegioMix® Lawn

Locations Aken, Volkstorf, Lünen and Sande

Mineral-organic lawn substrate, low-salt, non-segregating and made from regional raw materials.

Details:

- The mixture has a porous structure, with a high total pore volume, and is pressure-resistant and stable over the long-term
- The substrate has good nutrient buffering, is pH-stable, and is germination and growth promoting
- Free of root-forming weeds
- Good processability
- Preferably greened with turf grass and to be planned up to approx. 40 cm thickness with permanent additional irrigation
- Produced in accordance with the stipulations of the FLL guideline and the Fertilizer Ordinance in its current version

Procedure compliant with FLL:

Landscaping lawn substrate, roof / underground garage roof substrate

Composition:

Regionally sourced raw materials

Application areas:

- **Grass seeding for new green spaces, courtyards and roof areas**
- **Restoration of commercial and ornamental turf areas**
- **Planting building ceilings with perennials and small shrubs**
- **As a substitute for topsoil, for the planting of perennials and woody plants**
- **Permanent tub planting with shrubs and perennials**

Additional information:

- Certificates
- Product Data Sheets
- Installation instructions

This additional material is available for download at:

www.vulkatec.de

	RegioMix® Lawn
Particle size distribution (percentage of total mass in %)	
Blowable components	<- 20
Fine / medium gravel	<- 18
Volume weight (t/m^3)	
at max. water capacity	Please request the value from the competent sales employee at the specific location
Water/air balance	
Max. Water capacity	35–65 vol. %
Air capacity at max. water capacity	10–25 vol. %
Air capacity at pF 1.8	20–35 vol. %
Water permeability mod. K_f	0.6–70 mm/min
pH value	6.5–7.6
Salt content (water extract)	<- 1.5

Landscaping lawns

Laying instructions

Substrates:

Vulkaterra® Lawn 0–4 blowable
Vulkaterra® Lawn 0-6
Regiomix lawn

Laying thickness:

Building greening:
from 15 cm; requires an irrigation system and turf laying. Regular maintenance in the form of irrigation, fertilisation and cutting must be ensured. Desirable > 40 cm to minimise the care required. An irrigation system may not be necessary, depending on the annual precipitation.

Soil bound:
10-15 cm as a layer on existing unsuitable ground.

1. Laying

The laying is carried out with a compaction of 85-87% DPr. by rolling with a lawn roller. Higher degrees of compaction only make sense with gravel lawn areas. In order to ensure a transfer of water from the substrate into the soil and vice versa, it is important to interlock the two layers. For this purpose, the existing soil surface is roughened before applying the substrate.
Any compaction that occurs while applying the substrate must be removed afterwards.

2. Greening

The greening should ideally be carried out using turf. When applying seeds, it is important to ensure an optimum water supply during the germination phase, as it is during this phase when it is decided whether all grass species in the mix will gain a foothold:
Lollium: up to 14 days
Festuca and Agrostis: up to 24 days
Poa: up to 28 days
Any sowing failures are therefore not due to any defect in the substrate.

3. Fertilization

An initial fertilization is necessary during the course of sowing, but at the latest after the first cut, using an NPK fertilizer (N stressed, 50-80 g / m2). Further fertilizer applications during the growing phase are to be carried out at intervals of 4 to 8 weeks. A key factor for the spacing is the development of the lawn, which is influenced by the amount of rain and the temperature.
Fertilization in spring: 50–80 g/m^2
Maintenance fertilization: 30–50$^{g/m2}$
We recommend using a slow-release fertilizer with an action term of 6–9 months to minimise nitrogen leaching and to promote even turf development.

4. Mowing

Regular mowing is essential. The two-thirds-to-one-third rule should be applied here. This means that a max. 30-35% of the growth can be removed when cutting. And for a cutting height of 3 cm there can be a maximum growth of 4.5 cm until the next cut. At a cutting height of 4 cm, this rule results in a maximum height of 6 cm.

Phone: +49 2632 9548-0 Fax: +49 2632 9548-20 info@vulkatec.de www.vulkatec.de

Landscaping lawns

Laying instructions

Substrates:

Vulkaterra® Lawn type S 0-16
Vulkaterra®Lawn type S 0-32
Vulkaterra® Lawn type S/FW

Guidelines:

Utilisation category N1-3 and FW from the FLL guideline for green pavements

Laying thickness:

Structural greening:
from 20 cm on load-bearing drainage with additional irrigation and fertilization.
Desirable> 30 cm to minimise the care required.
Ground-bound:
depending on the utilisation category 15-25 cm (N1: 15 cm / N2, N3, N FW: 20 cm).

1. Preparation / installation

In order to ensure a transfer of water from the substrate into the soil or the load bearing layer and vice versa, it is important to interlock the two layers. For this purpose, the surface of the soil or the load bearing layer is roughened before applying the substrate. Apply the substrate and compact it with a suitable device according to its usage category.

Utilisation category N1: ≥ 30 MPa in EV2 of the load plate compression test
Utilisation category N2: ≥ 60 MPa in EV2 of the load plate compression test
Utilisation category N3: ≥ 80 MPa in EV2 of the load plate compression test
Utilisation category Fw: ≥ 100 MPa in EV2 of the load plate compression test

2. Greening

Seeding is preferably carried out in superficially loosened gravel grass substrate. The use of a germination substrate (Vulkaterra® Turf 0-4) with a thickness of 1–3 cm is also conceivable. Can only be used for usage categories N1-N3. After sowing, ensure optimised water supply during the germination phase, as this phase determines whether all grass species in the mixture can take root:
Lollium: up to 14 days
Festuca and Agrostis: up to 24 days
Poa: up to 28 days

Any sowing failures are therefore not due to any defect in the substrate.

3. Fertilization

An initial fertilization is necessary during the course of sowing, but at the latest after the first cut, using an NPK fertilizer (N stressed, 50-80 g / m2). Additional fertiliser should be applied should at intervals of 4 – 8 weeks during the vegetation phase. A key factor for the spacing is the development of the lawn, which is influenced by the amount of rain and the temperature. The use of a slow-release fertilizer with an action term of 6–9 months is recommended to minimise nitrogen leaching and to even out turf development.

4. Mowing

Regular mowing is essential. The two-thirds to one-third rule should be applied here. This means that a max. 30-35% of the growth can be removed when cutting. And for a cutting height of 4 cm there can be a maximum growth of 6.0 cm until the next cut.

Track greening

Green oases along the tracks.

Cities are challenged by the need to take action and adapt to the effects of climate change. Heat and heavy rain put a strain on cities, which contend with higher temperatures (heat island effect) compared to their surrounding areas.

Green buildings and trees have become integral to modern urban planning according to the principles of sustainability. Track greening is another area that can reduce the heat island effect. Even simple greening with sedum – in the low-lying version (upper edge of the substrate no higher than the lower edge of sleeper foot) – creates a more attractive space, reduces noise, prevents track heating and binds dust and pollutants. At the same time, track greening increases the ecological value of the traffic space. With smart planning, sedum track greening produces an excellent pasture for bees from June to October.

Build an elevated vegetation system (top edge of the substrate 1-1.5 cm below the top edge of the track) if you want to create a green space with a uniform look. Grass or grass-herb seed mixtures are available for planting. Various types of turf are available as an alternative.

With the right planning and choice of substrate, an elevated vegetation system can also function as an emergency route for fire engines and ambulances.

Vulkatec posses long-standing experience and has turned numerous kilometres of track space into green areas.

Phone: +49 2632 9548-0 Fax: +49 2632 9548-20 info@vulkatec.de www.vulkatec.de

Composition:

Natural product (igneous rock mixture, topsoil/ subsoil of various classes) consisting of augite, olivine, magnetite, limonite, biotite, clays of various types. Vulkaterra turf 0-4 and 0-6 enriched with RAL quality-assured compost.

Planting track greening with grass

* Also available as RegioMix turf substrate at various production sites. Contact the competent sales representative for more detailed information.

Vulkaterra®

Turf substrates for track greening*

Substrates with varying proportions of sandy loess, lava, pumice, sand and expanded clay (0-4 and 0-6 + organics) for the installation of grass tracks and tracks with sedum planting. Also suitable as an emergency driveway when using the Vulkaterra turf type S variants.

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 also be used after a short time even after prolonged or heavy rainfall
- Emergency driveways with Vulkaterra turf type S (70–90 MPa in the EV2 value of the plate load test. The information in the installation instructions must be observed)
- In the Vulkaterra turf variant 0-4 blowable
- Available as bulk material, in silo trucks or as big bags

Application areas:

- **Establishment of track greening with grass and/ or sedum using Vulkaterra Turf 0-6 (bulk material) or Vulkaterra Turf 0-4 (silo transport)**
- **Production of track greening with ballast turf using Vulkaterra turf type S 0- 16 and type S 0–32 that can be used as emergency driveways**

Grain size (ø in mm)	**0–4**	**0–6**	**0–16 0–32**
Particle size distribution (percentage of total mass in %)			
Blowable components	10–20	10–20	10–20
Fine / medium gravel	20–30	20–40	35–55
Volume weight (t/m^3)			
Delivery condition DIN EN 1097-3	0.80–0.85	1.00–1.10	1.05–1.20
At max. water capacity, compacted	1.20–1.40	1.60–1.85	1.65–1.90
Water/air balance, compacted			
Maximum water capacity	45–55 vol. %	40–50 vol. %	25–35 vol. %
Water permeability mod. K_f	0.3–20 mm/ min	0.6–20 mm/ min	0.3–20 mm/ min
pH value	6.5–7.2	6.8–7.5	6.8–7.5
Salinity	0.5–1.0 g/l	0.5–1.5 g/l	5–80mg/100 g

References

Private garden, Bornheim
lawn asa constituent of a modern garden architecture

Phone: +49 2632 9548-0 Fax: +49 2632 9548-20 info@vulkatec.de www.vulkatec.de

Source: Gartenlandschaft Berg & Co. GmbH

Lawned platform, Kassel

Rugged gravel grass areas between the tracks of the Kassel tram

Kameha Grand Hotel, Bonn

Tree plantings and several large lawns directly on the Rhine promenade