Lawn

Substrates for grassed areas

Play areas and beauty spots right before your front door

Green areas not only beautify the cityscape and improve the micro-climate, 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, 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 for 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 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.

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Vulkaterra® Rasen DIN 18035-4

Meets the requirements of DIN 18035-4

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Vulkaterra® Lawn 0–4 blowable

Lawn substrate for roofs and soils.

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Vulkaterra® Rasen 0–6/8

Lawn substrate for roofs and soils.

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Vulkaterra® Lawn type S 0–16

Gravel lawn substrate Usage category N1-N3.

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Vulkaterra® Lawn type 0–32

Gravel lawn substrate Usage category N1-N3.

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Vulkaterra® Lawn type S/FW

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

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RegioMix® Lawn

Lawn substrate for roofs and soils.

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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/m² in the EV2 of the load plate 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 from a silo truck, as bulk or packed in 1.0 m³ or 1.5 m³ big bags and as a 25 l bag

Design:

Drainage course, slab substrate, mulch layer

Composition:

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

Application areas:

- Drainage course for garden landscaping, 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

Additional information:

- Certificates
- Product data sheets

This additional material is available for download at:

www.vulkatec.de

Grain size (ø in mm)	2–8, 2–12, 2–16, 8–16*
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

Design:

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

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Procedure compliant with FLL:

Landscape lawn substrate, roof/underground garage roof substrate

Composition:

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

Additional information:

- Certificates
- Product data sheets

This additional material is available for download at:

www.vulkatec.de

Vulkaterra® Lawn 0–4 blowable

Mineral-organic lawn substrate for roof and soil, low-salt and segregation-resistant mix of the basic components lava, pumice, expanded clay, 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 over distances of up to 150 m
- Can 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

Application areas:

- Lawn seeding on green areas, inner 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

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

Procedure according to FLL:

Landscape lawn substrate, roof/underground garage 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

Additional information:

- Certificates
- Product data sheets
- installation introduction

This additional material is available for download at:

www.vulkatec.de

Vulkaterra® Lawn 0–6/8

Mineral-organic substrate, segregation-resistant and composed of the basic components, 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 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 m³ big bag, or as a 25 l bag

Application areas:

- Lawn seeding on green areas, inner 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

Grain size (ø in mm)	**0–6/8**
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

Vulkaterra®
Lawn type S 0–16

Mineral gravel grass substrate with a load bearing capacity of up to 95 MN/m² 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 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 N1–N3

Composition:

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

Application areas:

- Mono-layer and multi-layered gravel lawn structures of the designs Usage category N1–N3
- Restoration and new laying of fairgrounds, commercial roads, garage accesses, pedestrian traffic areas, mildly used parking areas and car parks, seats in parks, plant care and maintenance paths

Additional information:

- Certificates
- Product data sheets
- installation introduction

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

Vulkaterra®
Lawn type S 0–32

Open porous, mineral gravel grass substrate based on loess, lava, pumice and sand. On request it can also be supplied with peat and fertilizer additive.

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
- Processable in wet conditions and with light frost
- Load bearing capacity up to 95 MPa/m² in the EV2 value of the load plate pressure test (observe the notes in the installation instructions)
- 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 N1–N3

Composition:

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

Application areas:

- Mono-layer and multi-layered gravel lawn structures of the designs Usage category N1-N3
- Planting of street shoulders
- Restoration and new laying of fairgrounds, commercial roads, garage accesses, pedestrian traffic areas, parking areas and car parks, seats in parks, plant care and maintenance paths

Additional information:

- Certificates
- Product data sheets
- installation introduction

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/m³)	
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

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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, sand, on request with fertilizer
- 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, top / ottom soil of different classes) consisting of augite, olivine, magnetite, limonite, biotite and clays of different types

Application areas:

- Multi-layered gravel lawn structures
- Restoration and new laying of areas where the fire service can access and move equipment
- Planting of street shoulders and commercial roads

Additional information:

- Certificates
- Product data sheets
- installation introduction

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

Landscaping lawns

Laying instructions

Substrates:

Vulkaterra® Lawn 0–4 blowable
Vulkaterra® Lawn 0–6/8
Regiomix lawn

Laying thickness:

Structure greening:
From 15 cm with permanent additional irrigation, fertilization and turf.
Desirable > 40 cm to minimise the care required.
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 occurring 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, 50–80g / 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/m²
Maintenance fertilization: 30–50 g/m²
In order to minimize leaching of nitrogen and to even out the turf, it is recommended to use a long-term fertilizer with a duration of action of 6-9 months.

4. Mowing

Regular mowing is essential. Here, the two-thirds-to-one-third rule should apply. 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.

Landscaping lawns

Laying instructions

Substrates:

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

Guidelines:

Usage category N1-3 and FW of the FLL guideline for area reinforcements that can be greened

Laying thickness:

Structural greening:
From 20 cm with additional irrigation and fertilization.
Desirable > 30 cm to minimise the care required.
Soil bound:
Depending on the usage category 15–25 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.

Usage category N1: ≥ 30 MPa/m²
Usage category N2: ≥ 60 MPa/m²
Usage category N3: ≥ 80 MPa/m²
Usage category Fw: ≥ 100 MPa/m²

2. Greening

Seeding is preferably carried out in superficially loosened gravel grass substrate. Furthermore, the use of a germination substrate (Vulkaterra® Lawn 0–4) of 1–3 cm thickness might be considered. After sowing, it is important to ensure an optimum water supply during the germination phase, as during this phase it is decided whether all grass species of the mix will be able to 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. Can only be used for usage categories N1-N3.

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/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. In order to minimise the leaching of nitrogen and even out the lawn development, it is recommended to use a long-term fertilizer with a duration of action of 6–9 months.

4. Mowing

Regular mowing is essential. Here, the two-thirds-to-one-third rule should apply. 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.

RegioMix®

From the region for the region

From regional raw materials

Regionality is on everyone's lips today. We buy fruit, vegetables and meat more and more from the market or the farmer around the corner, because we feel much more responsible about our environmental footprints now. We also have thought about the regionalisation of our substrates to keep their supply routes short and reduce their environmental impact.

After extensive research into local raw materials and analysis of environmental relevance in the laboratory and and as a result we developed our new Arbortree® substrates. 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.

Among others locations they are available at Aken, Hamburg, Berlin and Utrecht (NL).
Current status under **www.vulkatec.de**

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Procedure compliant with FLL:

Landscaping lawn substrate, roof/ underground garage roof substrate

Composition:

Regionally sourced raw materials

Additional information:

- Certificates
- Product Data Sheets
- Planting instructions
- Plant list

This additional material is available for download at:

www.vulkatec.de

RegioMix® Lawn

Mineral-organic lawn substrate, low-salt, segregation-resistant and composed of regional raw materials.

Details:

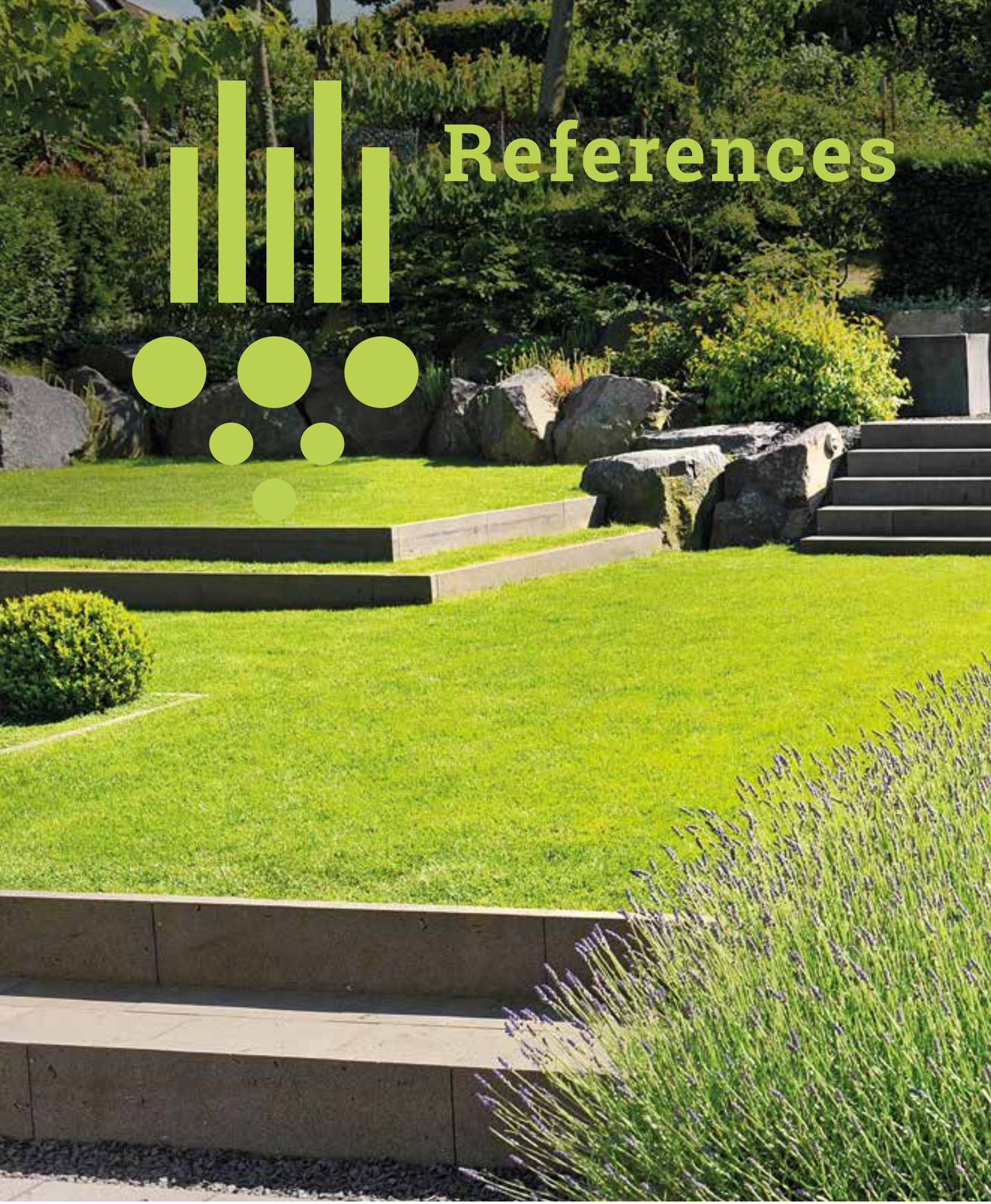
- The mixture has a porous structure, with a high total pore volume, and is pressure-resistant and stable over the long-term
- The substrate shows good nutrient buffering, is pH-stable, and is germination and growth promoting
- Free of root-forming weeds
- Good processability
- Preferably greened with 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 Version

Application areas:

- Lawn seeding on new greened areas, inner courtyards and roof areas
- Restoration of commercial and ornamental turf areas
- Planting of 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

Grain size (ø in mm)	0–4	0–8
Particle size distribution (percentage of total mass in %)		
Blowable components		5–20
Gravel > 4 mm		5–15
Volume weight (t/m^3)		
Delivery condition DIN EN 1097-3		1.00–1.10
At max. water capacity, compacted		1.65–1.85
Water/air balance, compacted		
Maximum water capacity		45–50 vol. %
Water permeability mod. K_f		1–10 mm/min
pH value		7.0–7.95
Salinity		0.5–1.5 g/l

References



Private garden, Bornheim

lawn as a constituent of a modern garden architecture

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Source: Gartenlandschaft Berg & Co. GmbH

Roof

Lawn

Tree

Farm

Lawned platform, Kassel

Rugged gravel grass areas between the tracks of the Kassel tram

Tub

Interior

Kameha Grand Hotel, Bonn

Tree plantings and several large lawns directly on the Rhine promenade

Pond

Building