



EXTENSIVE GREEN ROOF DIADEM® 150



■ Product Description

Diadem-150 is a multi-layer green roof system, comprising protection fleece, drainage layer, filter fleece and mineral-rich plant substrate suitable for drought-resistant plants.

- Thickness of system: 70-120 mm
- Saturated weight: 90-150 kg/m²
- See: 9 10 11 12 13 71

■ Function

To provide an ecologically sound protection layer to the roof with all the advantages listed below.

■ Application

Application of the product is recommended for building structures with limited load bearing capacity and in areas with no or minimal regularity of use.

■ Frequently Asked Questions



• Do we need to irrigate vegetation?

No, the vegetation of Diadem-150 consists of drought-resistant herbaceous, perennial plants which grow in their natural habitat under very harsh conditions.

• What maintenance does the vegetation require?

Once established, these plants are extremely sturdy and consequently require only minimal maintenance, limited to occasional weeding.

• How long does it take for the vegetation to become established?

This depends on the planting method and the conditions at the time of planting.

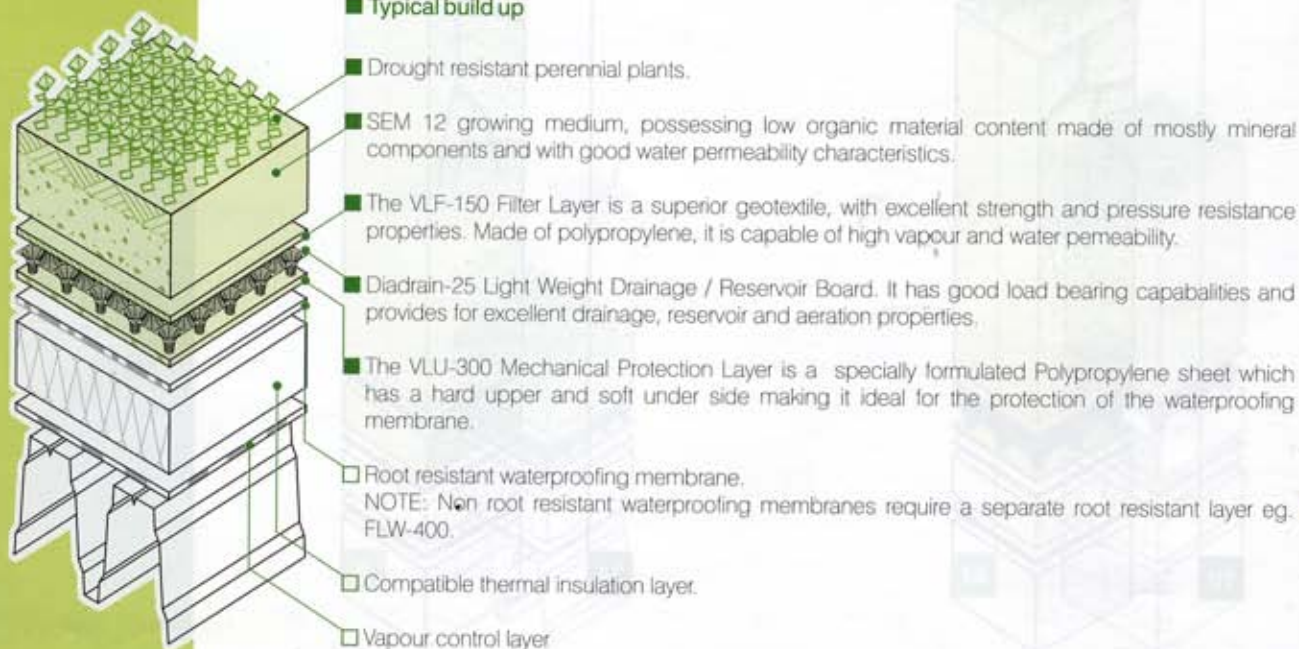
• What type of planting is possible?

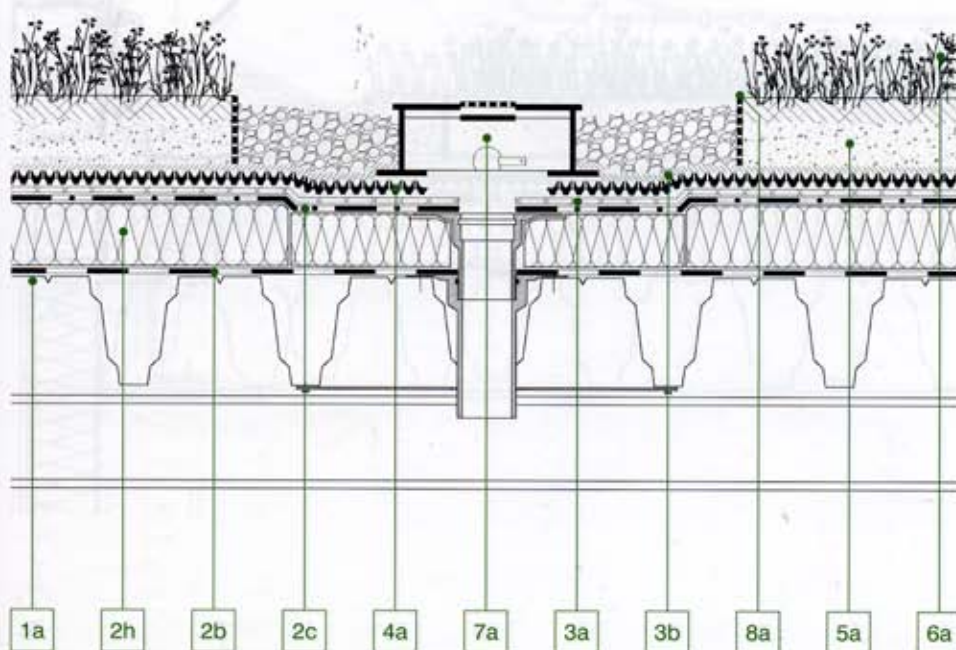
The sedum/wildflower mix is selected to suit the local conditions.

■ Advantages

- Improved thermal insulating ability.
- Rainwater retention capability, helping to reduce the extent of flash floods.
- Living space for nature
- Suitable for most lightweight roof structures

■ Typical build up





Roof Deck

- 1a Typically Steel, Timber or Concrete Deck

Growing Medium

- 5a SEM Extensive Substrate

Waterproofing and Insulation

- 2b Vapour Control Layer
2c Waterproofing / Root Resistant Membrane
2h Compatible Thermal Insulation

Vegetation

- 6a Drought-resistant, Herbaceous Perennials

Geotextile Layers

- 3a VLU-300 Mechanical Protection Layer
3b VLF-150 Filter Layer

Water Management

- 7a KSE Inspection Box 50-300 mm height

Drainage / Reservoir Layer

- 4a Diadrain-25 Drainage / Reservoir Board

Edge Profile

- 8a KLS Gravel Board

Good practice requires that rainwater outlets are designed to remain free from obstructions, for example gravel or vegetation. These outlets should be accessible at

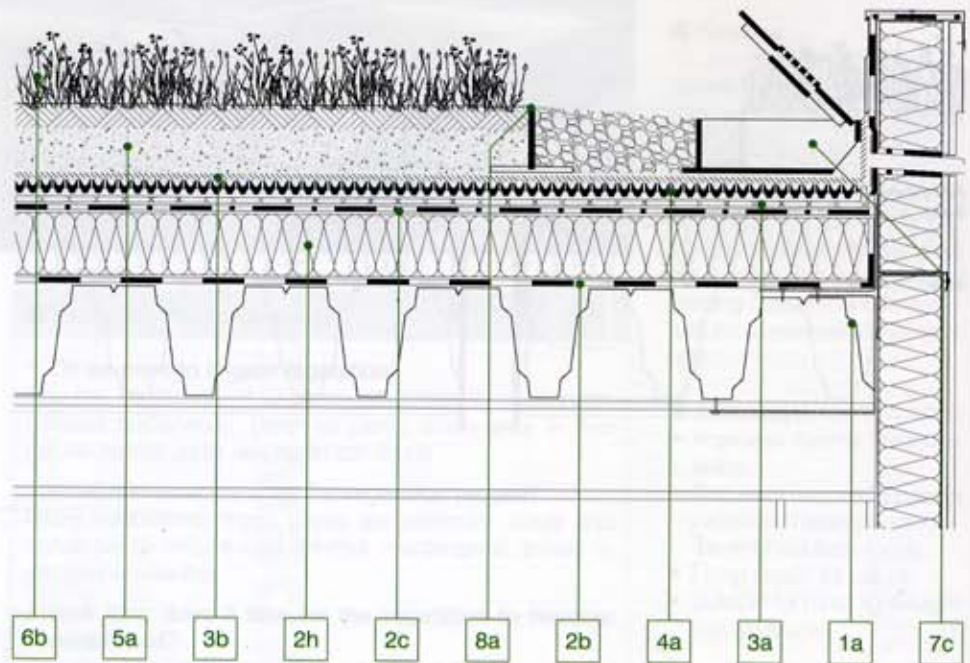
all times. A 300-500 mm wide gravel border should be installed around all roof penetrations to the thickness of the growing medium. Separation of the materials is

achieved by means of a gravel board such as KLS. This board also allows rainwater to drain easily to the outlets.





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Vegetation

- 6b Perennials, lawn

Geotextile Layers

- 3a VLU-300 Mechanical Protection Layer
- 3b VLF-150 Filter Layer

Water Management

- 7c KSA Inspection Box 50-300 mm

Drainage / Reservoir Layer

- 4a Diadrain-25 Drainage / Reservoir Board

Edge Profile

- 8a KLS Gravel Board



Good practice requires that each roof area has a minimum of two drainage points. Local conditions determine where these are located and may

also indicate an additional requirement for the installation of an overflow. It is important that these drainage points remain free from any

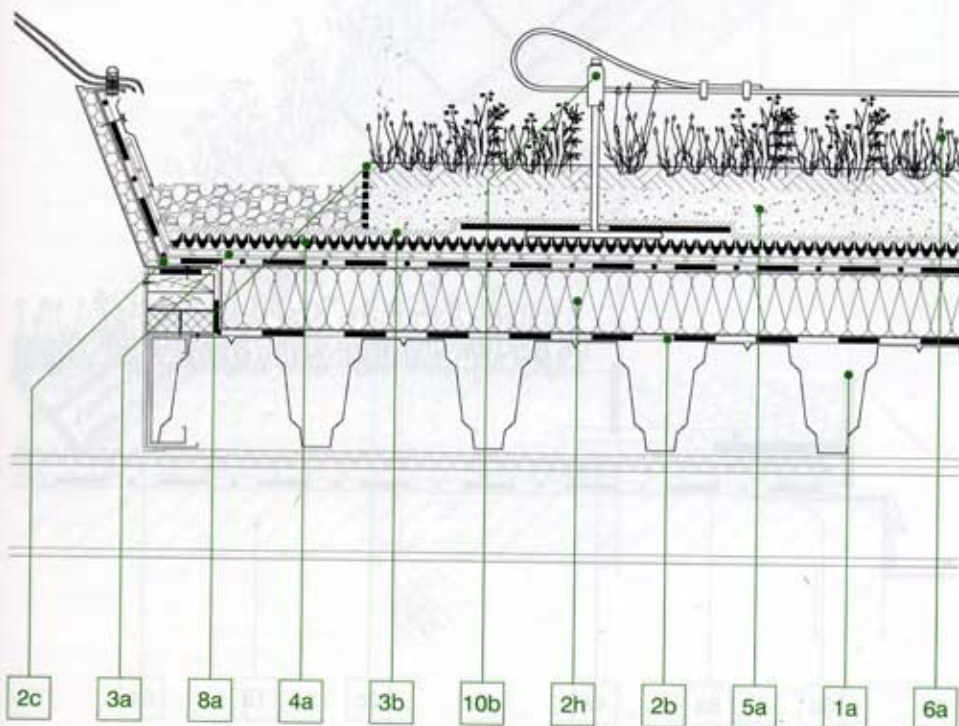
obstruction, therefore access should be provided for maintenance purposes.

TYPICAL SYSTEM SOLUTIONS

DIADEM® 150 ■ ROOF MAINTENANCE/ FLG SAFETY SYSTEM



EXTENSIVE GREEN ROOF DIADEM®150



Roof Deck		
1a	Typically Steel, Timber or Concrete	■
Waterproofing and Insulation		
2b	Vapour Control Layer	■
2c	Waterproofing / Root Resistant Membrane	■
2h	Compatible Thermal Insulation	■
Geotextile Layers		
3a	VLU-300 Mechanical Protection Layer	36
3b	VLF-150 Filter Layer	36
Drainage / Reservoir Layer		
4a	Diadrain-25 Drainage and Reservoir Board	32
Growing Medium		
5a	SEM Extensive Substrate	30
Vegetation		
6a	Drought-resistant, herbaceous perennials	28
Edge Profile		
8a	KLS Gravel Board	54
Safety System		
10b	FLG Fall Arrest System	68

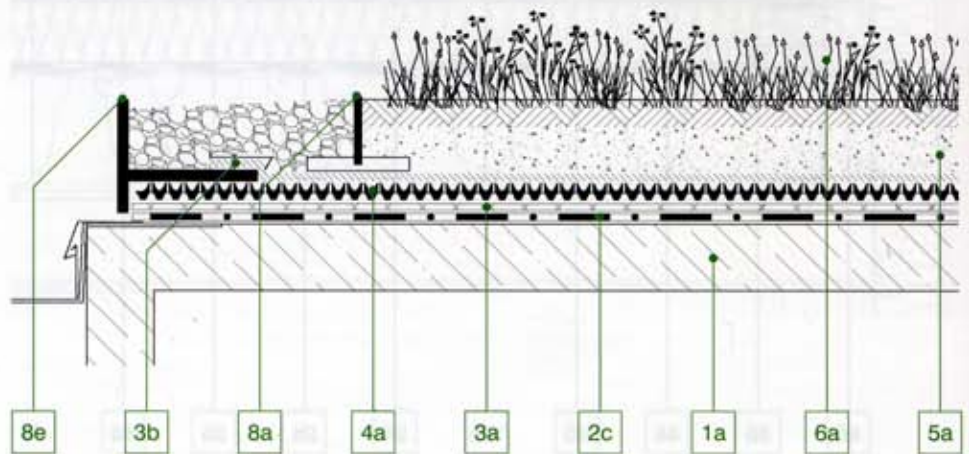
■ Good practice dictates that roof areas should be properly maintained including ensuring that rainwater outlets are kept clear and free of any obstruction. Complementary to this requirement is the need

to ensure maintenance personnel remain safe on the roof. The FLG-30 fall arrest system provides this safety element without the need to penetrate the waterproofing layer. EN 795 and EN 795/A1

the European norms are fully complied with. The line system can also be used as an independent lightning protection system.



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- 3b VLF-150 Filter Layer

Drainage/Reservoir Layer

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Growing Medium

- 5a SEM Extensive Substrate

Vegetation

- 6a Drought-resistant, herbaceous perennials

Edge Profiles

- 8a KLS Gravel Board
- 8e RDT Edge Profile



■ Where the roof does not have a perimeter parapet wall, the RDT Edge Profile provides one possible solution to the problem of how to retain the garden elements, whilst still allowing the free flow of

rainwater to the drainage areas. In addition, this profile ensures the edge of the roof garden build up is obscured from view. The required gravel border around the perimeter is achieved by means of

separating the planted area by the use of the KLS gravel board. The boards also prevent the spread of plants into the gravel border, thereby keeping maintenance to a minimum.



Standards

FLL 10.2/2002
DIN 18916

■ **Extensive plants**

The plants of Diadem 150 are mainly succulents, grasses and herbaceous perennials. These plants can live together in a stable partnership when

started off with about 15 specimens per m². One tray of plants contains 40 specimens in cups of 0.15 Litre. Dimensions of polystyrene tray: 550 x 350 x 75 mm.

■ **Sedum acre**

Bitter stonecrop
5-10 cm, V-VI, ☼ yellow



■ **Dianthus deltoides**

15 cm, VI-VIII,
☼ bright pink

□ **Thymus serpyllum**

15 cm, V-VIII,
☼ purple

□ **Sedum hybridum**

10 cm, VI-VIII,
☼ Gold



■ **Geranium x magnificum**

50 cm, VI-VII,
☼ violet-blue

□ **Sedum sexangulare**

15 cm, VI-VIII,
☼ yellow

□ **Sempervivum ssp.**

10 cm, VI-VII,
☼ white / rose



■ **Sedum album**

15 cm, VI-VII,
☼ white

□ **Sedum spurium**

15 cm, VII-VIII,
☼ white

□ **Origanum vulgare**

15 cm, VI-VIII,
☼ pink



■ **Iberis sempervirens**

30 cm, IV-VII,
☼ white

□ **Allium sphaerocephalon**

30-70 cm, VI-VIII,
☼ red

□ **Alyssum saxatile**

30 cm, IV-V,
☼ yellow

■ **Cerastium tomentosum**

10 cm, V-VI,
☼ white

□ **Dianthus pontederiae**

15 cm, VI-VIII,
☼ pink

□ **Achillea tomentosa**

20 cm, VI-VII,
☼ yellow



■ **Sedum floriferum**

15 cm, VI-VIII,
☼ yellow

□ **Campanula carpatica**

20 cm, VI-VIII,
☼ blue

□ **Gypsophila repens**

20 cm, VI-VII,
☼ white



■ **Festuca glauca**

20 cm, V-VI, blue foliage,
blooms of green with purple tinge

□ **Koeleria glauca**

40 cm, VI-VII,
blueish green

□ **Phlox douglasii**

10 cm, IV-V,
☼ pink



■ **Sedum reflexum**

20 cm, VII-VIII,
☼ yellow

□ **Potentilla verna**

20 cm, III-VIII,
☼ yellow

□ **Saponaria ocymoides**

15 cm, V-VII,
☼ rose



■ Intensive plants

Intensive plants are a selection of flora and foliage, which are most suitable to live on a roof environment without endangering the structure of the building. Selecting woody stems create the feeling of a ground level garden. Making our selection we considered

not only the habits of each species but also their resistance to damage by wind, frost and sun. When choosing the growth medium, plants with similar soil needs should be placed together. Below is a small sample of the plants available for intensive roof gardens.

■ Pinus Mugo „Mops” ■

Mugo pine
40 - 80 cm, dark green foliage



■ Pinus leucodermis „Compact Gem”

50 cm, dark green foliage

□ Pinus sylvestris „Argentea Compacta”

2.0 m, silver

□ Cytisus purpureus

30-60 cm, VI-VII, ⊗ purple stems, yellow bloom

■ Juniperus sabina „Tamariscifolia”

3-40 cm, blue-green foliage

□ Ononis repens

20-40 cm, VI-VII, ⊗ lilac

□ Microbiota decussata

20-40 cm, green foliage

■ Cotoneaster tomentosus

1.5 m, V-VI, ⊗ rose

□ Acer palmatum

3.0-4.0 m, V-VI, ⊗ from green to yellow, bronze, purple and red

□ Caragana aurantiaca

1.0 m, V, ⊗ yellow

■ Buxus sempervirens

1.0-3.0 m, IV-V, ⊗ yellow

□ Ilex aquifolium

0.3-0.8 m, dark green foliage

□ Buddleia davidii

2.0-4.0 m, VII-VIII, ⊗ blue lilac

■ Forsythia suspensa ■

0.5-1.5 m IV-V,

⊗ Cadmium yellow

■ Prunus tenella □

0.6-1.0 m, IV-V,

⊗ rose

■ Berberis thunbergii □

1.5-2.5 m, IV-V,

⊗ yellow

■ Erica carnea ■

0.2 m, III-IV,

⊗ rose

■ Ligustrum vulgare □

0.5-0.7 m,

dark green foliage

■ Potentilla fruticosa □

0.3-1.5 m, V-IX,

⊗ yellow

■ Euonymus fortunei ■

0.2-5.0 m, VI-VII,

⊗ light green

■ Spirea albiflora □

0.3-1.5 m, V-VI,

⊗ white

■ Cotinus coggygria □

2.0-4.0 m, III-IV,

⊗ pink

■ Viburnum bodantense ■

2.5-3.0 m, XI-III,

⊗ rose

■ Cornus mas □

3.0-5.0 m, III-IV,

⊗ yellow

■ Anemone hupehensis □

0.7-1.0 m, VII-X,

⊗ white

