

Product Data Sheet

HYDROPACK Living Roofs

Axter Hydropack is a complete extensive green roof in a modular tray, combining excellent planting quality with simplicity of installation. Once installed, the effect is of an immediate living roof, with plants chosen to suit local ecological requirements.

Key Benefits

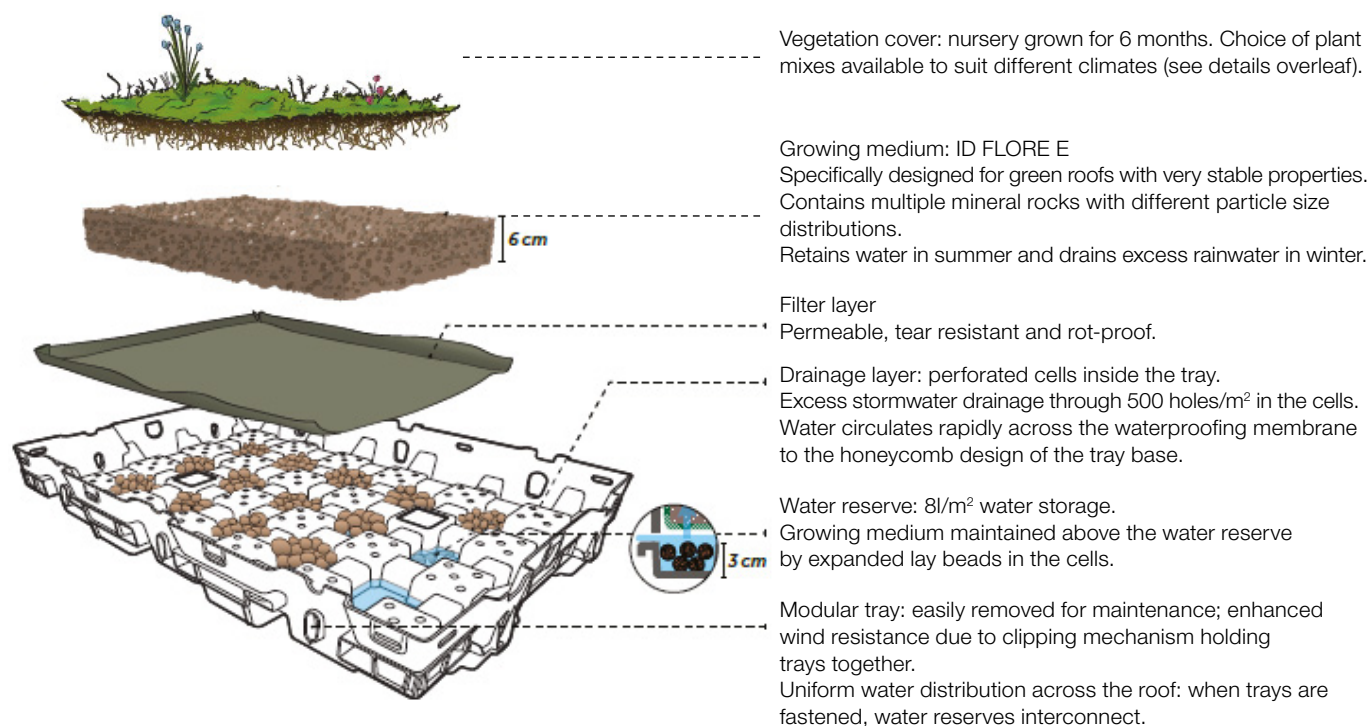
- Complete extensive living roof in a tray
- Pre-grown vegetation (plant combinations to suit a variety of climates and conditions)
- Effective drainage and water distribution
- Simple and quick to install in one operation



The Hydropack tray is manufactured from recycled high density polypropylene (HDPE) and contains drainage granules, filter layer, growing medium and a choice of different pre-grown vegetation finishes to suit the surrounding environment. Hydropack is adapted for use on flat and sloping roofs and on roofs exposed to strong winds. Due to the shape and rigidity of the tray, installation is possible on most roof decks – reinforced bitumen membranes, mastic asphalt, single ply and liquid applied waterproofing.

After a growing period in the nursery, Hydropack trays are delivered with full plant cover. Care is taken to select the most appropriate substrates and plants (sedums principally) for durable results in different climates.

Hydropack has an exceptional water storage capacity enabling plants to grow quickly and withstand long, dry summer periods. The effective drainage system (500 holes/m²) prevents plants from suffocating, particularly important on zero slope roofs. Hydropack's interconnecting trays let water circulate freely from tray to tray. Where watering is required, such as on sloping roofs, the trays help to minimise amounts of water needed. During heavy rainfall, Hydropack reduces and delays water run-off into the drainage system.



Technical Specifications and Performance

HYDROPACK – COMPLETE SYSTEM	
Dry weight	50kg/m ²
Weight at maximum water capacity (MWC)	95kg/m ²
Maximum water retention	45l/m ²
Water reserve in cells	8l/m ²

SYSTEM COMPONENTS	
PLANT MIX - nursery grown for 6 months resulting in at least 80% coverage on delivery. Comprises sedums and herbaceous perennials - see standard and specific vegetation finishes below.	
GROWING MEDIUM: ID FLORE E, specific mix for green roofs, retaining water in summer and draining excess storm water in winter.	
Depth	6cm
Components	Primarily mineral: Pozzolans, expanded clay and pumice stone
Particle size distribution	0-16mm
Organic matter content	5% of dry mass
Water retention capacity	40% of volume
FILTER LAYER: water-permeable, tear resistant, rot-proof	
Non-woven polyester	100g/m ²
TRAY BASE: ID LITE A	
Depth	3m
Materials	Expanded clay beads
Particle size distribution	8-16mm
Dry density	340kg/m ²
TRAY: recycled HDPE, featuring a raised honeycomb design water reserve in the base and a perforated drainage surface. Trays can be clipped together.	
Dimensions: L / W / H	600 x 400 x 90mm
Water reserve in cells	8l/m ²
Drainage in cells	500 holes/m ²

Installation

Hydropack is suitable for year-round installation directly over a root-resistant waterproofing membrane on flat roofs and sloped roofs (5 to 20%).

The tray clip system ensures a perfect join between trays. Trays can be cut to match the shape of the roof.

A sterile area of at least 40 cm is required around the perimeter and protruding structures. A retaining angle between the sterile and planted areas is optional.

On roofs with slopes between 5-20% an anchor beam must be installed at the foot of the slope.



Note: Hydropack contains living plants and therefore must be installed within 24-72 hours of delivery to site, depending on temperature. If temporarily stored, trays should be unstacked from their pallets and laid out in shade.

Design Considerations

A living roof calls for a robust waterproofing system able to withstand the increased loads and suitable for the building structure. The waterproofing for Hydropack modular extensive green roof can be either of a warm or inverted construction. Recommended Axter BBA / ETA certified, high performance waterproofing systems designed to fulfil this function are Cityflor® and Wilotekt®-Plus.

Each living roof is different, so Axter designs bespoke solutions drawing on our many waterproofing options and including in the specification the planting selections best suited to the environment to ensure all roof and surrounding area criteria are met. The following points should also be considered in a living roof design: capability of roof to support design load; adequate provision to drain excess rainwater; safe access for maintenance; robust and durable roof waterproofing including root resistant membranes.

Packaging

HYDROPACK	Number of trays	Area	Average weight
Per unit	1	0.24m ²	18kg
Pallet	60	14.4m ²	1100kg

Maintenance

A minimum of two maintenance sessions per year should be planned to carry out the following:

- Weeding and tidying of planted and sterile areas
- Application of fertiliser every 1 to 2 years if required.
- Pruning

Axter's Living Roofing Maintenance Guide gives further details.

Hydropack pre-grown vegetation finishes

The following vegetation finishes (standard and specialist) are available to achieve a Hydropack living roof that is compatible with the local environment and ecology and resistant to prevailing climatic conditions. These are suitable for installation on all types of deck and roof build-up over an Axter root-resistant waterproofing membrane approved for use on living roofs and roof gardens. Consult Axter for technical guidance.

Standard Range

HYDROPACK SEDUM

Vegetation blanket comprising 100% sedum plants with colour changing from green to yellow and red according to the season.

Suitable for sunny and partially shady situations.

Flowering period: May to August

Maximum height of plants: 15cm

Maintenance: as described above.

Hydropack Sedum plant mix comprises 5 to 9 varieties from the following:



SEDUM ALBUM



SEDUM SEXANGULARE



SEDUM HISPANICUM



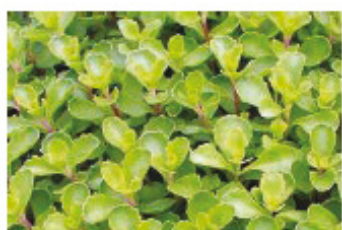
SEDUM FLORIFERUM



SEDUM LYDIUM



SEDUM ACRE



SEDUM SPURIUM



SEDUM RUPESTRE



SEDUM KAMTSCHATICUM

Hydropack pre-grown vegetation finishes

Standard Range

HYDROPACK MIXED FLORA

Selection of sedums and rustic fragrant perennials.

Flowering plant mix featuring a variety of colours and flowering periods and plant volumes.

Suitable for sunny and partially shady situations.

Flowering season: May to October

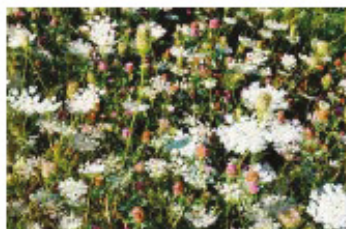
Maximum height of plants: 40cm

Maintenance: as described above.

Hydropack Mixed Flora plant mix comprises a selection of the following:



PRUNELLA VULGARIS



ACHILLEA MILLEFOLIUM



HIERACIUM PILOSELLA



ALLIUM SCHOENOPRASUM



DIANTHUS DELTOIDES



HIERACIUM AURANTIANUM



ORIGANUM VULGARE



SEDUM ALBUM



SEDUM KAMTSCHATICUM

Hydropack pre-grown vegetation finishes

Specialist Range

HYDROPACK COASTAL suitable for coastal climates

Flowering plant mix specifically suited to coastal climates and resistant to sea spray.
Selection of sedums and herbaceous perennials.

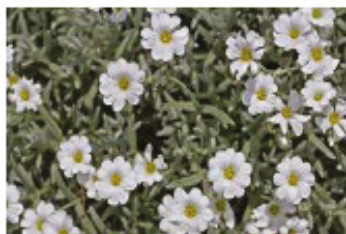
Suitable for sunny and partially shady situations.

Flowering season: May to September

Maximum height of plants: 30cm

Maintenance: as described above.

Hydropack Coastal plant mix comprises a selection of the following:



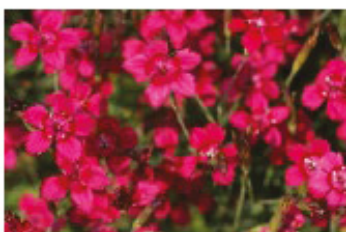
CERASTIUM TOMENTOSUM



FESTUCA OVINA



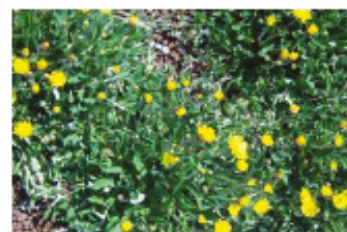
ARMERIA MARITIMA



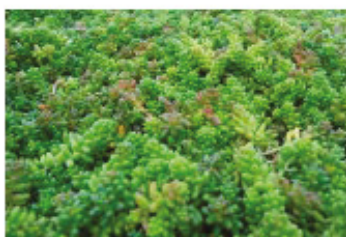
DIANTHUS DELTOIDES



ACHILLEA MILLEFOLIUM



HIERACIUM PILOSELLA



SEDUM ALBUM



SEDUM FLORIFERUM



SEDUM SEXANGULARE

Hydropack pre-grown vegetation finishes

Specialist Plant Mixes

HYDROPACK SHADE TOLERANT suitable for roofs in shade or partial sunlight

Flowering plant mix specifically suited to roofs that are in full or partial shade.

Selection of herbaceous plants and ferns providing an intense green and leafy coverage all year round.

Note Hydropack Shade Tolerant be used across the whole roof or in just the shadiest parts, with other types of Hydropack vegetation finishes installed elsewhere.

Flowering season: May to September

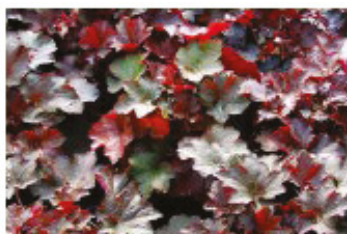
Maximum height of plants: 40cm

Maintenance: as described above. Note that on shady roofs, irrigation is sometimes required.

Hydropack Shade Tolerant plant mix comprises a selection of the following:



FRAGARIA VESCA



HEUCHERA MICRANTHA



VINCA MAJOR



WALDSTEINIA TERNATA



GERANIUM MACRORRHIZUM



ASPLENIUM SCOLOPENDRIUM



POLYPODIUM VULGARE



DRYOPTERIS FILIX-MAS



VINCA MINOR

Hydropack pre-grown vegetation finishes

Specialist Plant Mixes

HYDROPACK ALPINE suitable for mountain climates

Flowering plant mix specifically suited to mountain climates and resistant to snow, wind and wide temperature fluctuations.

Selection of sedums, herbaceous and alpine perennials flowering in a variety of colours.

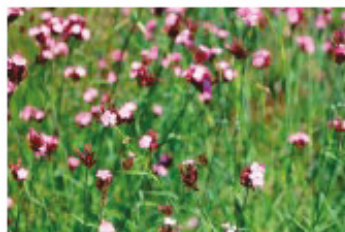
Flowering period: May to October

Maximum height of plants: 60cm

Maintenance: as described above. Note that on shady roofs, irrigation is sometimes required.

Hydropack Alpine must be installed in accordance with unified technical documents DTU 43.1, 43.3, 43.4, 43.5 and other related installation documents.

Hydropack Alpine plant mix comprises a selection of the following:



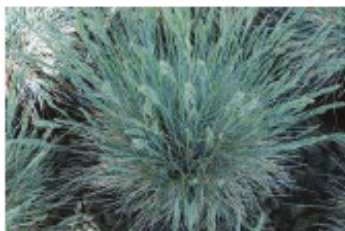
DIANTHUS CARTHUSIANORIUM



LEUCANTHEMUM MONTANUM



SILENE ALPESTRIS



FESTUCA GLAUCA



THYMUS SERPYLLUM



HIERACIUM PILOSELLA



ALLIUM SCHOENOPRASUM



SEDUM ALBUM



SEDUM KAMTSCHATICUM

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