

DELTA®-NP-DRAIN: the optimum vertical drainage system with high compressive strength for use in underground structures, retaining walls of all types, cut-and-cover tunnels, underground car parks, etc. The new dimple structure provides high compressive strength and excellent drainage capacity. The integrated geotextile mat filters out suspended soil particles and ensures constant water drain-off through the air gap created by the dimple texturing.



Layer 2: The polypropylene geotextile mat. Securely bonded to the dimple crowns by thermal welding, the mat provides excellent compressive stability and superb filtering performance. The rot-proof geotextile removes suspended soil particles and prevents clogging of the flow passages in the dimple texturing. The result: continuous drainage of incoming water to the take-off system below. Drainage capacity is further increased by the close dimple spacing of the new texturing pattern.



DELTA®-NP-DRAIN – Technical data

Raw material of sheet	high density polyethylene
Raw material of geotextile	polypropylene
Dimple height	appr. 8 mm
Compressive strength	appr. 150 kN/m ² (22 psi)
Drainage capacity	appr. 2.25 l/s - m (11 GPM/ft)
Service temperature range	-30 °C to +80 °C (-22 to +176 °F)
Roll length	12.50 m
Roll width	2.00 m

The 2-Layer Design

Layer 1: The polyethylene drainage sheet with a newly developed dimple texturing pattern. The advantages: high strength, outstanding toughness and increased drainage capacity. The dimpled sheet keeps incoming water off of the structural sealing layer.



DELTA® is a registered trademark of Ewald Dörken AG, Herdecke, Germany.

Installation

DELTA®-NP-DRAIN is supplied in easy-to-handle rolls 2.00 m in width. The flat edge margin makes for quick and economical installation.

**Dörken
protects
value**

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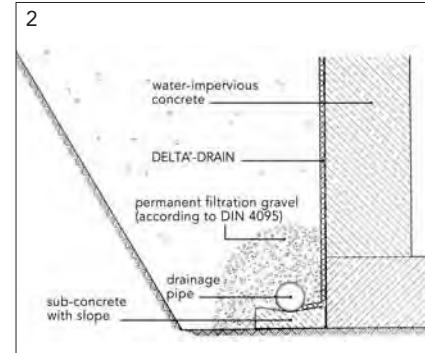
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DELTA®-DRAIN

Installation Instructions

- 1. Install the dimpled sheet and the geotextile so that they overlap at the edges, holding them in place with DELTA®-HAFTNAGEL. The geotextile should always point outwards, i.e. towards the back-fill side. Remember that the only function of DELTA®-HAFTNAGEL is to assist installation (in the overlap area, for instance), and that they cannot replace the mechanical fasteners applied from the outside.
- 2. Sheets fitted to cellar and retaining walls should not be placed over the drainage pipe but should terminate in the drainrock close to the pipe.
- 3. In roof gardens, sheets should be laid between the roof structure and the water reservoir (e.g. peat).
- 4. Sheets may be nailed down with clout nails, clamped down with wood or plaster hooks, or fastened with a bolt gun.



- Protection and drainage system for compression-resistant surfaces
- For earth-boundary construction elements
- For vertical and horizontal application

Disclaimer

The information presented herein, while not guaranteed, is to the best of our knowledge true and accurate.

While every effort has been made to provide accurate and reliable information, it is up to the user of this brochure to verify all information, including designs it might be based upon, with an independent source. Application of this data must be made on the basis of responsible professional judgement.

Except when agreed to in working conditions of use, no warranty expressed or implied is made regarding the performance of any product, since the manner of use and handling is beyond our control.