

KDrain triplanar drainage DC150 technical data

Virgin HDPE triplanar drainage core with 150 g/m² PET filament nonwoven geotextile bonded to each face. The core provides in-plane drainage; the facings provide filtration and separation when selected for the adjoining materials.

Current grade codes: KDC150-PET-50 / 60 / 70 / 80. The final two digits identify nominal core thickness in tenths of a millimetre. Core thickness is not the overall finished-composite thickness. Bare cores, heavier facings and other constructions require their own agreed order schedule.

Hydraulic performance

Nominal core thickness	5 mm	6 mm	7 mm	8 mm
Finished DC150 composite flow ASTM D4716 (L/min/m)	≥20	≥30	≥50	≥60
Bare-core flow ASTM D4716 (L/min/m)	≥90	≥120	≥145	≥170
Finished-composite transmissivity θ Calculated at $i = 1.0$ (m ² /s)	≥3.33×10 ⁻⁴	≥5.00×10 ⁻⁴	≥8.33×10 ⁻⁴	≥1.00×10 ⁻³

Test basis: 480 kPa normal pressure, hydraulic gradient $i = 1.0$ (100%), 15-minute seating. Supplier-declared minimum average roll values (MARVs); boundary materials and flow direction are not stated in the supplier TDS. $\theta = q/i$ after converting flow to SI units. "100%" refers to the hydraulic gradient, not flow retention.

Use the finished-composite flow for the DC150 construction. Bare-core values do not represent the finished laminate. Project flow at low field gradients must be verified; linear scaling from this single gradient is not a validated design relationship.

Core and bond properties

Property / test method	5 mm	6 mm	7 mm	8 mm
Nominal core thickness (mm) ASTM D5199	5.0	6.0	7.0	8.0
MD tensile strength (kN/m) ASTM D7179	≥8	≥11	≥13	≥14
Declared compressive strength (kPa) ASTM D6364 / D1621	400	450	550	600
Density (g/cm ³) ASTM D1505	≥0.95	≥0.95	≥0.95	≥0.95
Carbon black content (%) ASTM D4218	1.5-3.0	1.5-3.0	1.5-3.0	1.5-3.0
Composite peel strength (N/m) ASTM D7005	≥170	≥170	≥170	≥170

Compressive strength is a short-term index property, not an allowable sustained or cyclic working pressure. The supplier has not stated a common compression endpoint or a project creep limit. Require suitable stress-duration testing for design.

Applications include sports-field underlayers, containment drainage, leak detection, caps, groundwater relief and retaining walls. Current hydraulic values apply only to the identified DC150 construction; other facings, thicknesses and tufted assemblies require separate data.

Filters, evidence and design

PET facing properties

Property	Method	150 g/m ² PET, each face
Mass per unit area	ASTM D5261	150 g/m ² , tolerance ±5%
Grab tensile strength	ASTM D4632	550 N
Wide-width tensile strength	ISO 10319	9 kN/m
Elongation at break	ISO 10319	40-80%
Tear strength	ASTM D4533	250 N
CBR puncture strength	ASTM D6241	1.6 kN

Filter selection requires order-specific opening size and cross-plane flow data matched to the site soils. Confirm these properties, filtration compatibility and clogging risk for the selected construction before procurement.

Supporting independent laboratory results

Tested sample, supplier identification	Mean flow and test conditions
5.5 mm bare geonet Report SCH26061, 31 March 2026	102 L/min/m; $\theta = 1.71 \times 10^{-3} \text{ m}^2/\text{s}$. ASTM D4716; 480 kPa.
7.5 mm core + 200 g/m ² facings both sides Report SCH23045, 21 March 2023	79.10 L/min/m; $\theta = 1.27 \times 10^{-3} \text{ m}^2/\text{s}$. ASTM D4716; 500 kPa.

Both reports: two machine-direction specimens, rigid plates, hydraulic gradient $i = 1.0$ and 15-minute seating. Flow and θ above are separately reported laboratory means; temperature correction and rounding can affect their conversion. Thickness/facing descriptions come from supplier file identification; the reports identify the specimens generically. These results support the product family and are not MARVs or acceptance tests for the current DC150 grades.

From index flow to the asset owner's required flow

Agree the design inflow, drainage length and outlet spacing first. Assess normal and repeated loads, hydraulic gradient, turf/soil boundaries, filter intrusion, construction damage and chemical or biological clogging. Use suitable product- and site-specific reduction factors and a factor of safety; avoid counting the same effect twice.

Kontain can coordinate ASTM D4716 testing on the finished construction at project loads, slopes and boundary conditions, including a 100-hour flow basis where appropriate to GRI-GC8. Site-specific laboratory creep testing can investigate deformation and associated loss of flow under sustained load. Test method, duration, temperature and loading programme are agreed with the project designer and laboratory.

For sports fields, cyclic-load performance and sports-surface properties require appropriate system testing. Tufting through the HDPE net has not been qualified; trial needle penetration, yarn retention, bond integrity and drainage before adopting it as a turf backing.

Supply and specification

Current export format: **3.9 m × 30 m (117 m²)**. Other manufacturing widths of 4, 5 or 6 m and lengths of 30 or 40 m are listed by the supplier and require production and freight confirmation. Confirm exact core, facings, roll size, tolerances, test conditions and acceptance criteria on the order.

Source: manufacturer TDS supplied 7 October 2026; sample reports identified above; ASTM D4716 and GRI-GC8 design guidance. Published index values are not a guarantee of field performance. GRI-GN4 covers biplanar products and is not claimed for this triplanar range. The project designer confirms the complete drainage and turf system.