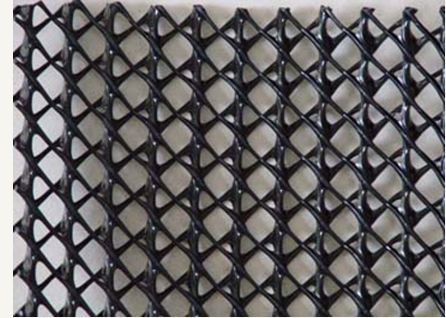


KDRAIN SERIES

Triplanar drainage geonets and geocomposites

HDPE triplanar geonet cores and double-sided geotextile composites for leachate collection, leak detection, caps, groundwater relief, retaining structures and civil drainage.



Design position: published short-term flow is an index starting point. Final allowable flow requires project-specific boundary conditions, duration and reduction factors.

5.0-7.0 mm	30-55 L/min/m	4 / 5 / 6 m	30 / 40 m
standard core thicknesses	published finished-composite flow*	standard roll widths	standard roll lengths

*At 480 kPa normal pressure, hydraulic gradient $i=1.0$ and 15-minute seating.

Product identification

Series	Construction	Standard grade codes	Selection boundary
KDrain TN	Bare triplanar HDPE geonet core	KTN-50 / 55 / 60 / 63 / 70	Adjacent filter, cushion or geomembrane supplied and designed separately.
KDrain DC150	Triplanar core laminated both sides to 150 g/m ² PET filament nonwoven	KDC150-PET-50 through KDC150-PET-70	PET construction represented by this TDS. PP facing available with separate project data.
KDrain DC200	Triplanar core laminated both sides to 200 g/m ² PET nonwoven	KDC200-PET-50 through KDC200-PET-70	PET construction represented by this TDS. PP facing available with separate project data.

GRI-GN4 POSITION

GRI-GN4 expressly covers biplanar geonets and states that it does not cover triplanar geonets or drainage composites made from them. KDrain is not represented as GRI-GN4 compliant.

Published technical data

Bare triplanar core

Values reproduce the current supplier technical data supplied to Kontain. They are minimum average roll values unless stated otherwise.

Property	Method	Unit	50	55	60	63	70
Nominal thickness	ASTM D5199	mm	5.0	5.5	6.0	6.3	7.0
Density	ASTM D1505	g/cm3	>=0.95	>=0.95	>=0.95	>=0.95	>=0.95
Carbon black	ASTM D4218	%	1.5-3.0	1.5-3.0	1.5-3.0	1.5-3.0	1.5-3.0
MD tensile strength	ASTM D7179	kN/m	>=8	>=9	>=10	>=11	>=12
Published compressive strength	ASTM D6364 / D1621	kPa	400	400	500	500-550	500-600
Bare-core flow at 480 kPa, i=1.0, 15 min	ASTM D4716	L/min/m	>=90	>=100	>=110	>=124	>=140

Finished double-sided PET composite

Property	Method	Unit	50	55	60	63	70
Flow at 480 kPa, i=1.0, 15 min	ASTM D4716	L/min/m	>=30	>=35	>=40	>=45	>=55
Equivalent transmissivity at i=1.0	Calculated from flow	m2/s	>=5.00E-4	>=5.83E-4	>=6.67E-4	>=7.50E-4	>=9.17E-4
Ply adhesion	ASTM D7005	N/m	>=170	>=170	>=170	>=170	>=170

Geotextile component data

Property	Method	150 g/m2 PET filament	200 g/m2 PET nonwoven
Grab tensile strength	ASTM D4632	550 N	710 N
Wide-width tensile strength	ISO 10319	9 kN/m	12 kN/m
Tensile elongation	ISO 10319	40-80%	40-80%
Tear strength	ASTM D4533	250 N	330 N
CBR puncture	ASTM D6241	1.6 kN	2.1 kN
AOS O90 (O95)	ASTM D4751	0.07-0.20 mm	0.07-0.20 mm
UV stability, 500 h	ASTM D7238	50% retained	50% retained

Polymer boundary: the composite values in this TDS represent PET geotextile facings. PP nonwoven facings are available by project order but do not inherit the PET mechanical or hydraulic values; PP properties and certification must be stated on the order-specific schedule.

Use the short-term result as an index value, not the answer

GRI-GC8 ALLOWABLE FLOW FRAMEWORK

$$q_{allow} = q_{100} / (RF_{CR} \times RF_{CC} \times RF_{BC})$$

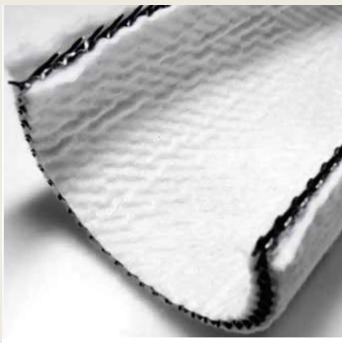
q_{100} is the 100-hour finished-composite flow under site-specific orientation, stress, gradient, liquid and upper/lower boundary materials. GRI-GC8 then applies creep, chemical-clogging and biological-clogging reduction factors. The required flow and final factor of safety remain project-specific.

Current independent testing

Independent sample evidence	Result	Boundary and limitation
ASTM D4716 transmissivity	Mean 1.71E-3 m2/s Range 1.66E-3 to 1.76E-3 m2/s	Two MD specimens of submitted 5.6 mm bare geonet; 480 kPa, $i=1.0$, 15 min, rigid plates. Not a finished composite or MARV.
ASTM D6364 compression	Mean yield 649.6 kPa Range 549.9 to 702.0 kPa	Five submitted bare-geonet specimens; fixed plates; loaded to rib lay-down yield. Short-term behaviour only.

Recommended qualification sequence

01	Finished-composite q_{100} ASTM D4716 for 100 hours using the project stress, gradient, liquid, orientation and actual boundary materials.
02	Core creep RF Typically a 10,000-hour GRI GS4 or modified ASTM D6364 core test to derive RF_{CR} for the selected product and load.
03	Clogging and chemistry Select chemical and biological clogging factors for the application. Treat adverse polymer interaction as a go/no-go durability decision.
04	Complete design Compare allowable flow with the project required flow, apply the Engineer-selected factor of safety and verify interfaces, outlets, overlaps and installation.



SUPPLY FORMATS

Standard widths: 4, 5 and 6 m
Standard lengths: 30 and 40 m
Facings: PET construction represented by this TDS; PP by separate order schedule.
Custom manufacture: core thickness up to 8 mm and project lengths by confirmation.

Rolls per container are not declared in the current evidence pack. Kontain confirms roll outside diameter, core, wrap, compression limits, loading method and factory loading plan before quoting container utilisation.

Evidence: current manufacturer drainage-net data; TRI Suzhou report SCH26061 (31 March 2026); GRI-GC8 Rev. 1; GRI-GN4 Rev. 5. This sheet supports preliminary product review and supply identification. It is not a project specification, long-term design, authority approval or guarantee of field performance. The Engineer of Record remains responsible for the complete design.