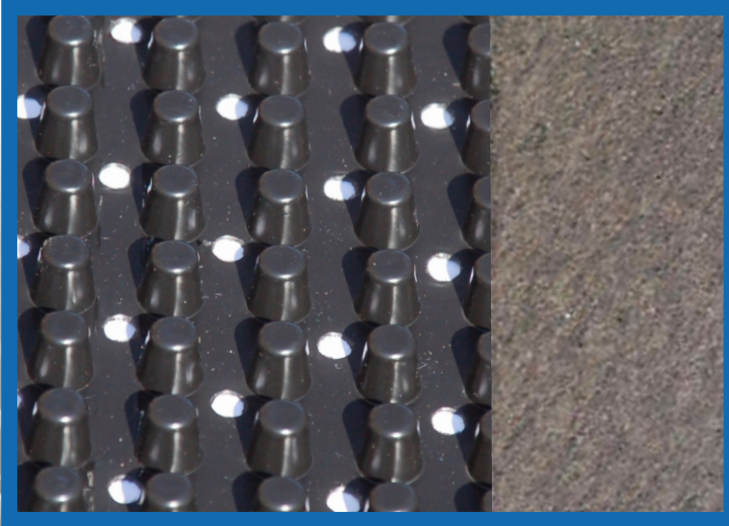




# J•DRAIN®

Engineered Drainage Systems



## DUAL SIDED DRAINAGE

### APPLICATIONS

TRENCH DRAINS

INTERCEPTOR DRAINS

LANDFILL ENCLOSURES

SLOPED EMBANKMENTS

## J-DRAIN® ES 3302 Series

Meets AASHTO M 288 Requirements

### J-DRAIN ES 3302

For over 30 years, J-DRAIN drainage composites have been successfully installed to relieve hydrostatic pressure in building construction, civil engineering, environmental and landscape applications. Eliminating the costly and time-consuming installation of drainage aggregate, J-DRAIN drainage composites provide a more efficient, cost effective way to provide sub-surface drainage. The **ES 3302** series of prefabricated drainage composites are engineered to provide superior performance to meet specific project conditions. The multi-directional flow design allows for a continuous path for water discharge. **ES 3302** is lightweight, easy to install and has drainage flow capacities that are 3-5 times that of traditional aggregate systems.

The **ES 3302's** three dimensional dimpled core is formed from a chemical resistant polypropylene polymer. By extruding each dimple to exact performance standards, the high compressive strength of the core withstands installation and in-situ earth stresses. The core is punched to allow double sided drainage, then bonded to a layer of geotextile filter fabric on each side of the core. The integrated core and fabric system optimizes drainage channel consistency, minimizing soil particle intrusion for maximum flow capacity, allowing water to freely enter the drainage channel. The **ES 3302** series is engineered for high flow requirements with heavy soil pressure conditions in vertical and horizontal applications, available with nonwoven filter fabrics meeting AASHTO M288-06 specifications for survivability.

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# J·DRAIN<sup>®</sup>

## ES 3302 Series

### Physical Properties

Property	Test Method	UOM	ES 3332	ES 3342	ES 3362	ES 3382
FABRIC						
Material			Non woven PP	Non woven PP	Non woven PP	Non woven PP
AASHTO M 288	Survivability		-	Class 3	Class 2	Class 1
Grab Tensile Strength	ASTM D 4632	lbs	80	120	160	205
		N	356	534	712	912
Apparent Opening Size	ASTM D 4751	U.S. Sieve	70	70	70	80
		mm	0.212	0.212	0.212	0.18
Flow Rate	ASTM D 4491	gal/min/ft <sup>2</sup>	160	135	110	95
		l/min/m <sup>2</sup>	6519	5500	4481	3870
CBR Puncture Strength	ASTM D 6241	lbs	210	310	410	500
		N	934	1380	1825	2224
Permittivity	ASTM D 4491	sec <sup>-1</sup>	2.2	1.7	1.5	1.4
Grab Tensile Elongation	ASTM D 4632	%	50	50	50	50
UV Resistance	ASTM D 4355	% (@ 500 hrs)	70	70	80	70
CORE						
Thickness	ASTM D 1777	inch	0.4	0.4	0.4	0.4
		mm	10.16	10.16	10.16	10.16
Compression	ASTM D 1621	psf	33,000	33,000	33,000	33,000
		kNm <sup>2</sup>	1580	1580	1580	1580
Flow Rate Hydraulic Gradient = 1 @3,600 psf	ASTM D 4716	gal/min/ft	24	24	24	24
		l/min/m	298	298	298	298
ES 3302 Series has 2 layers of Filter Fabric bonded to both front and back side of punched core. Roll Size: 4 foot width x 50 foot length. Specialty roll widths and fabrics require additional lead time and minimum quantity orders.						

The information contained herein is believed by JDR Enterprises, Inc. to be accurate and is offered solely for the customer's consideration, investigation and verification. Determination of suitability for use is the responsibility of the user. JDR's Limitations, Limited Warranty, & Disclaimer along with Standard Terms & Conditions apply. See [www.j-drain.com](http://www.j-drain.com) for more info. **Limitations:** J-DRain is resistant to chemicals in normal soil environments. However, some reagents may affect the performance of J-DRain. A JDR representative should be contacted for further information to determine the suitability of use of J-DRain in unusual soil environments. J-DRain should be limited to its exposure to ultra-violet sunlight. J-DRain should be backfilled or covered within seven days of installation. **Disclaimer:** All information, drawings and specifications are based on the latest published information at the time of printing. JDR reserves the right to make changes due to manufacturing improvements and engineering at any time. All physical properties are minimum average roll values (MARV). Standard variations of 10% in mechanical properties and 15% in hydraulic properties are normal.

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