







# ${\displaystyle SITEDRAIN}^{\text{TM}}_{\text{prefabricated drains}}$





 $\begin{array}{c} \text{Core Compressive} \\ \text{Strength} \end{array} \xleftarrow{183} \longrightarrow \begin{array}{c} \text{Geotextile} \\ \text{Weight} \end{array}$ 

**AMERICAN WICK DRAIN (AWD)** provides high quality subsurface drainage solutions, leveraging decades of expertise in commercial, government and residential applications. Our optimized system and innovative product line combine geotextiles and specially designed drainage cores. From retaining walls, concrete slabs, trench drains, and athletic fields, AWD is the trusted name working below the surface to ensure the surrounding earth is dry, solid and secure. AWD prefabricated drains provide an engineered response to a variety of drainage problems by collecting and redirecting water away from a structure or site.

We manufacture an extensive line of our AWD **SITEDRAIN** products to mitigate subsurface drainage for a broad range of construction applications. Our prefabricated drains consist of formed three-dimensional polymeric cores combined with a geotextile. The core offers strength to withstand soil pressure and provides a secure flow channel for collected water. The geotextile retains soil particles while allowing water to freely enter the drainage core. Our sheet, strip, combination and wick drains provide an engineered response to your drainage problem.

AWD **SITEDRAIN** products are manufactured to meet ASTM standard physical and mechanical properties. Design considerations typically include three basic physical properties: water flow rate, core compressive strength and ability of the geotextile to filter soil particles. Please visit our website for more information.

\*Project Highlights on Cover: Top Left clockwise - Soil Nail Wall: Globe Life Field Arlington, TX Slope Stabilization MSDOT, Jones County, MS MSE Wall Cordlandt Crossing Mohegan Lake, NY Retaining Wall Silver Line Phase 2 Reston, VA/Dulles Va

### **APPLICATIONS SUMMARY**



AWD products can be used in many applications within civil and site construction. Below are the many areas where wall drains can be used along with other systems that AWD has available.



#### STRUCTURAL WALLS

SITEDRAIN Sheet drain is used on the exterior of subsurface walls intercept ground water before it reaches the structure. Wateris easily routed by the SITEDRAIN HQ system to a discharge pipe or other designated drainage outlet. The sheet drain system reduces hydrostatic pressure buildup against walls and slab, reducing the six of leakage and extending the life of the structure.

#### **UNDER SLABS**

SITEDRAIN Sheet drain is used under structural slabs to intercept ground water before it reaches the slab. Water is then routed to a discharge pipe, sump or other designated drainage outlet.

#### LAGGING & SHORING WALLS

Where space is limited or where aggregate drainage is difficult to install, SITEDRAIN Sheet drain provides superior drainage with a low profile, lightweight product that reduces excavation requirements.



#### SHOTCRETE & GUNNITE WALLS

SITEDRAIN Sheet drain provides effective drainage for shotcreted walls. Sheet drain provides a solid surface for adhesion of reinforced shotcrete or other construction materials.

#### **RETAINING WALLS:**

SITEDRAIN Sheet drain reduces hydrostatic pressure from the backfillbehind subsurface walls, assisting in maintaining the structural integrity of the wall from grade to footer.

#### EARTH, ROCK & ROLLED CONCRETE DAMS

SITEDRAIN Sheet drain is used to prevent seepage at the toe of the dam and as a cutoff drain within the dam. Slope stability during rapid draw down is also aided.

#### **CHIMNEY DRAINS**

SITEDRAIN Chimney drain is installed vertically in applications where full wall coverage is not practical due to protrusions in the wall surface, such as soil nails. Chimney drains may also be used in select applications where full wall coverage is not required and/or cost effective.

#### EMBANKMENTS & SLOPES

SITEDRAIN Sheet drain is used in embankment and slope drainage applications to minimize soil swelling, weakening and failure from surface and/or subsurface water sources.





#### **TUNNELS & BOX CULVERTS**

Water can attack these structures from four directions: top, bottom and either side. SITEDRAIN Sheet drain provides rapid removal of water to reduce hydrostatic pressure and to minimize the risk of leakage into the structure.

#### **POND LINERS**

The installation of SITEDRAIN Sheet or Strip drain under pond liners prevents uplift due to methane gas buildup in organic soils.

#### **CONCRETE CHANNEL LINERS**

The installation of SITEDRAIN Sheet drain under concrete- lined channels prevents uplift due to hydrostatic pressure, greatly reducing the risk of leakage or structural failure.

#### **CUT-OFF DRAINS**

SITEDRAIN Sheet, Strip or Combination drains are used instead of, or in addition to, aggregate to intercept, collect and transport water flow.

#### FRENCH, TRENCH DRAINS

SITEDRAIN Sheet, Strip or Combination drains are used instead of, or in addition to, aggregate to intercept, collect and transport water flow.

#### PERIMETER COLLECTION DRAINS SITEDRAIN Strip or Combination

drains are used as a direct replacement to perforated pipe and stone perimeter drain systems. Combination drains have an engineered core flange designed to connect to sheet drains to provide a complete drainage system.

#### LANDFILL CAPS & UNDERDRAINS

SITEDRAIN Sheet drain is used above landfill caps to intercept water from the surface and route it to designated drainage exits. Sheet drain is used below landfill caps and liners as a leachate collection.



### $SITEDRAIN^{\text{TM}}_{\text{ prefabricated sheet drains}}$



SITEDRAIN Sheet prefabricated drains combine a formed polymeric drainage core with a filter fabric bonded to one side. The filter fabric is bonded to each dimple to prevent soil intrusion into the core flow channels while allowing water to freely enter the drain core. The core provides an uninterrupted path for water to flow to designated drainage exits.

SITEDRAIN Sheet Drains are an economical solution for subsurface, single-sided drainage applications. SITEDRAIN prefabricated sheet drains are manufactured to meet various compressive strengths and flow capacities and are available with filter fabrics meeting AASHTO M 288-06 specifications.

PROPERTY <sup>1</sup>	TEST Method	UNIT OF Measure	93*	94	96	98	113	114	116	118	183	184	184-T	186	186-W	188	303	304	306	308
GEOTEXTILE																				
Material <sup>2</sup>			PP, NPNW	PP, SBNW	PP, NPNW	PP, WM	PP, NPNW													
Survivability	AASHTO M288	-	-	3	2	1	-	3	2	1	-	3	3	2	-	1	-	3	2	1
Grab Tensile	ACTM D/672	lbs	100	135	195	245	100	135	195	245	100	135	150	195	430 x 240	245	100	135	195	245
Strength	A3111 D403Z	Ν	445	601	867	1,090	445	601	867	1,090	445	601	667	867	1,914 x 1,068	1,090	445	601	867	1,090
Grab Elongation	ASTM D4632	%	70	60	60	60	70	60	60	60	70	60	50	60	30 x 15	60	70	60	60	60
CBR Puncture		lbs	305	365	505	580	305	365	505	580	305	365	295	505	800	580	305	365	505	580
Strength	A3111 D0241	kN	1,356	1,624	2,246	2,580	1,356	1,624	2,246	2,580	1,356	1,624	1,312	2,246	3,560	2,580	1,356	1,624	2,246	2,580
UV Resistance	ASTM D4355	% / 500 Hrs	70	70	70	70	70	70	70	70	70	70	70	70	90	70	70	70	70	70
Apparent Opening	AOTM D/ 7E1	sieve	70	70	70	80	70	70	70	80	70	70	80	70	50	80	70	70	70	80
Size <sup>3</sup>	A2111 D4/21	mm	0.212	0.212	0.212	0.180	0.212	0.212	0.212	0.180	0.212	0.212	0.180	0.212	0.300	0.180	0.212	0.212	0.212	0.180
Permittivity	ASTM D4491	sec <sup>-1</sup>	2.7	2.4	2.1	1.8	2.7	2.4	2.1	1.8	2.7	2.4	1.0	2.1	2.7	1.8	2.7	2.4	2.1	1.8
Water Flow Pote	ACTM D///01	gpm/ft <sup>2</sup>	165	175	155	135	165	175	155	135	165	175	70	155	195	135	165	175	155	135
	A3111 D4491	Lpm/m <sup>2</sup>	6,724	7,130	6,315	5,501	6,724	7,130	6,315	5,501	6,724	7,130	2,850	6,315	7,944	5,501	6,724	7,130	6,315	5,501
CORE																				
Material <sup>2</sup>			HIPS	HIPS	HIPS	HIPS	HIPS	HIPS												
Compressive	ASTM D6364	psf	9,000	9,000	9,000	9,000	11,000	11,000	11,000	11,000	18,000	18,000	18,000	18,000	18,000	18,000	30,000	30,000	30,000	30,000
Strength	ASTM D1621	kPa	431	431	431	431	527	527	527	527	862	862	862	862	862	862	862	862	862	862
Thickness	AOTM D1777	in	0.25	0.25	0.25	0.25	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.25	0.25	0.25	0.25
THICKNESS	A3111 D1///	mm	6.35	6.35	6.35	6.35	10	10	10	10	10	10	10	10	10	10	6.35	6.35	6.35	6.35
In-Plane Flow	AOTM D//710	gpm/ft	12	12	12	12	18	18	18	18	21	21	21	21	21	21	13	13	13	13
Rate <sup>4</sup> ASTM D4716	Lpm/m	149	149	149	149	224	224	224	224	261	261	261	261	261	261	161	161	161	161	

<sup>1</sup> Unless otherwise noted, all physical and performance properties listed are Typical Value or Minimum Average Roll Value (MARV) as defined in ASTM D4439.

<sup>2</sup> PP = Polypropylene; NPNW = Needle-Punched Nonwoven; SBNW = Spunbonded Nonwoven; WM = Woven Monofilament

<sup>3</sup> Values for AOS represent Maximum Average Roll Value (MaxARV).

<sup>4</sup> In-plane flow rate measured at 3,600 psf (172 kPa) compressive load and a hydraulic gradient of 1.0.

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\*Product Name Breakdown: Compressive Strength ←93→Geotextile Weight

### $SITEDRAIN^{\text{TM}}_{\text{ prefabricated ds-sheet drains}}$



SITEDRAIN DS-Sheet Drain prefabricated products combine a formed and perforated polymeric drainage core with a filter fabric bonded to both sides. The filter fabric is bonded securely to prevent soil intrusion into the core flow channels while allowing water to freely enter the drain core. The core provides an uninterrupted path for water to flow to designated drainage exits.

SITEDRAIN DS-Sheet Drains are an economical solution for subsurface, double-sided drainage applications. SITEDRAIN DS-Sheet Drains are manufactured to meet various compressive strengths and flow capacities and are available with filter fabrics meeting AASHTO M 288-06 specifications.

PROPERTY in the sum of the sum o																		
CHCYLIC         Material	PROPERTY <sup>1</sup>	TEST METHOD	UNIT OF Measure	DS-93*	DS-94	DS-96	DS-98	DS-113	DS-114	DS-116	DS-118	DS-183	DS-184	DS-186	DS-188	DS-303	DS-304	DS-306
<table-container>Meterial: Meterial:Version&lt;</table-container>	GEOTEXTILE	GEOTEXTILE																
Survisility         ASMITO 288         · ·    <	Material <sup>2</sup>			PP, NPNW														
BATH 9482         Ibs         I	Survivability	AASHTO M288	-	-	3	2	1	-	3	2	1	-	3	2	1	-	3	2
NameNa	Crob Toncilo Strongth		lbs	100	135	195	245	100	135	195	245	100	135	195	245	100	135	195
Grab Langation         ASTM 0432         %         70         60         60         70         60         70         60         70         60         70         60         70         60         70         60         70         60         70         60         70         60         70         60         70 <td>orab rensile strength</td> <td>A3111 D4032</td> <td>Ν</td> <td>445</td> <td>601</td> <td>867</td> <td>1,090</td> <td>445</td> <td>601</td> <td>867</td> <td>1,090</td> <td>445</td> <td>601</td> <td>867</td> <td>1,090</td> <td>445</td> <td>601</td> <td>867</td>	orab rensile strength	A3111 D4032	Ν	445	601	867	1,090	445	601	867	1,090	445	601	867	1,090	445	601	867
CRR Puncture Strength         As Th De24         Ibs         365         465         505	Grab Elongation	ASTM D4632	%	70	60	60	60	70	60	60	60	70	60	60	60	70	60	60
chr nucler stering         ASI 10244         kN         1,356         1,824         2,246         2,580         1,356         1,824         2,246         2,280         1,356         1,824         2,246         2,248         2,580         1,356         1,824         2,246         2,300         3,00 <td rowspan="2">CBR Puncture Strength</td> <td></td> <td>lbs</td> <td>305</td> <td>365</td> <td>505</td> <td>580</td> <td>305</td> <td>365</td> <td>505</td> <td>580</td> <td>305</td> <td>365</td> <td>505</td> <td>580</td> <td>305</td> <td>365</td> <td>505</td>	CBR Puncture Strength		lbs	305	365	505	580	305	365	505	580	305	365	505	580	305	365	505
VV ResistanceASTM 94355% / 500 Hrs70		ASTM 06241	kN	1,356	1,624	2,246	2,580	1,356	1,624	2,246	2,580	1,356	1,624	2,246	2,580	1,356	1,624	2,246
Append part part part part part part part part	UV Resistance	ASTM D4355	% / 500 Hrs	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
Application prime         Astronom         0.212         0.212         0.212         0.101         0.212<	Annount Opening Cine 3	ASTM D4751	sieve	70	70	70	80	70	70	70	80	70	70	70	80	70	70	70
PermittivityASTM 04491Sec <sup>-1</sup> 2.72.42.11.82.72.42.11.82.72.42.11.82.72.42.1 $M_{Mer}$ $M$	Apparent opening Size *		mm	0.212	0.212	0.212	0.180	0.212	0.212	0.212	0.180	0.212	0.212	0.212	0.180	0.212	0.212	0.212
Math Prescription         Aggm/rf2         165         175         155         175         155	Permittivity	ASTM D4491	sec-1	2.7	2.4	2.1	1.8	2.7	2.4	2.1	1.8	2.7	2.4	2.1	1.8	2.7	2.4	2.1
Mater 100 MaterLpm/m²Lpm/m²6,7247,1306,3155,5016,7247,1306,3155,5016,7247,1306,315COREMaterial ²Image: 10 m/m²MIPS <td>Water Flow Pate</td> <td></td> <td>gpm/ft<sup>2</sup></td> <td>165</td> <td>175</td> <td>155</td> <td>135</td> <td>165</td> <td>175</td> <td>155</td> <td>135</td> <td>165</td> <td>175</td> <td>155</td> <td>135</td> <td>165</td> <td>175</td> <td>155</td>	Water Flow Pate		gpm/ft <sup>2</sup>	165	175	155	135	165	175	155	135	165	175	155	135	165	175	155
CORE         Material <sup>2</sup> Image: Mage in the image in the image.       Image: The image in the image.       Image: The image in the image.       Image in the image.       Image in the image.       Image in the image in the image in the image.       Image: The image inthe image inter		A3111 D4431	Lpm/m <sup>2</sup>	6,724	7,130	6,315	5,501	6,724	7,130	6,315	5,501	6,724	7,130	6,315	5,501	6,724	7,130	6,315
Material <sup>2</sup> Image of the state         HIPS         HIPS <th< td=""><td>CORE</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>	CORE																	
$ \begin{array}{c} \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$	Material <sup>2</sup>			HIPS														
$\frac{1}{10000000000000000000000000000000000$	O	ASTM D6364	psf	9,000	9,000	9,000	9,000	11,000	11,000	11,000	11,000	18,000	18,000	18,000	18,000	30,000	30,000	30,000
heat         inimatic         0.25         0.25         0.25         0.4 <t< td=""><td>Compressive Strength</td><td>ASTM D1621</td><td>kPa</td><td>431</td><td>431</td><td>431</td><td>431</td><td>527</td><td>527</td><td>527</td><td>527</td><td>862</td><td>862</td><td>862</td><td>862</td><td>862</td><td>862</td><td>862</td></t<>	Compressive Strength	ASTM D1621	kPa	431	431	431	431	527	527	527	527	862	862	862	862	862	862	862
MAXIM D1///         Mm         6.35         6.35         6.35         6.35         10         10         10         10         10         10         10         6.35         6.35         6.35           1n-Plane Flow Rate <sup>4</sup> ASTM D47/6         gpm/ft         12         12         12         18         18         18         18         21         21         21         13         13         13           Lpm/m         149         149         149         24         224         224         261         261         261         261         161         161         161	Thistory	AOTM D1777	in	0.25	0.25	0.25	0.25	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.25	0.25	0.25
In-Plane Flow Rate <sup>4</sup> ASTM D4716         Igpm/ft         12         12         12         18         18         18         21         21         21         13         13         13           In-Plane Flow Rate <sup>4</sup> Lpm/m         149         149         149         24         224         224         224         261         261         261         161         161         161	INICKNESS	ASTM D1///	mm	6.35	6.35	6.35	6.35	10	10	10	10	10	10	10	10	6.35	6.35	6.35
In-Plane Flow Kate" ASTITUD4/Ib Lpm/m 149 149 149 149 149 224 224 224 224 224 261 261 261 261 161 161 161	In Diana Flaux Data (	AOTM D/710	gpm/ft	12	12	12	12	18	18	18	18	21	21	21	21	13	13	13
	In-Plane Flow Rate*	ASTM 04716	Lpm/m	149	149	149	149	224	224	224	224	261	261	261	261	161	161	161

<sup>1</sup> Unless otherwise noted, all physical and performance properties listed are Typical Value or Minimum Average Roll Value (MARV) as defined in ASTM D4439.

<sup>2</sup> PP = Polypropylene; NPNW = Needle-Punched Nonwoven; HIPS = High Impact Polystyrene

<sup>3</sup> Values for AOS represent Maximum Average Roll Value (MaxARV).

<sup>4</sup> In-plane flow rate measured at 3,600 psf (172 kPa) compressive load and a hydraulic gradient of 1.0.

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\*Product Name Breakdown: Compressive Strength ←93→Geotextile Weight

### $SITEDRAIN^{\text{TM}}_{\text{ prefabricated chimney drains}}$



SITEDRAIN Chimney Drain prefabricated products are constructed by fully wrapping a special width perforated polymeric drainage core with a nonwoven filter fabric. The filter fabric is bonded securely and prevents soil intrusion into the flow channels while allowing water to freely enter the drain core from both sides. The core provides an uninterrupted path for water to flow to designated drainage exits.

SITEDRAIN Chimney Drains are available in 12", 18" and 24" widths and provide a time saving, effective solution for reducing hydrostatic pressure in applications where full wall drain coverage is not required or feasable. SITEDRAIN Chimney Drains are manufactured to meet various compressive strengths and flow capacities and are available with filter fabrics meeting AASHTO M 288-06 specifications.

PROPERTY <sup>1</sup>	TEST METHOD	UNIT OF Measure	C-94*	C-96	C-98	C-114	C-116	C-118	C-184	C-186	C-188	C-304	C-306	C-308
GEOTEXTILE														
Material <sup>2</sup>			PP, NPNW											
Survivability	AASHTO M288	-	3	2	1	3	2	1	3	2	1	3	2	1
Crob Topoilo Strongth	ASTM D4632	lbs	135	195	245	135	195	245	135	195	245	135	195	245
orab rensile screngti		Ν	601	867	1,090	601	867	1,090	601	867	1,090	601	867	1,090
Grab Elongation	ASTM D4632	%	60	60	60	60	60	60	60	60	60	60	60	60
CBR Puncture Strength		lbs	365	505	580	365	505	580	365	505	580	365	505	580
	A2111 D0241	kN	1,624	2,246	2,580	1,624	2,246	2,580	1,624	2,246	2,580	1,624	2,246	2,580
UV Resistance	ASTM D4355	% / 500 Hrs	70	70	70	70	70	70	70	70	70	70	70	70
Annount Opening Cine 3	ASTM D4751	sieve	70	70	80	70	70	80	70	70	80	70	70	80
Apparent opening Size		mm	0.212	0.212	0.180	0.212	0.212	0.180	0.212	0.212	0.180	0.212	0.212	0.180
Permittivity	ASTM D4491	sec <sup>-1</sup>	2.4	2.1	1.8	2.4	2.1	1.8	2.4	2.1	1.8	2.4	2.1	1.8
Water Flow Pate	ASTM D/401	gpm/ft <sup>2</sup>	175	155	135	175	155	135	175	155	135	175	155	135
	A3111 D4431	Lpm/m <sup>2</sup>	7,130	6,315	5,501	7,130	6,315	5,501	7,130	6,315	5,501	7,130	6,315	5,501
CORE														
Material <sup>2</sup>			HIPS											
O	ASTM D6364	psf	9,000	9,000	9,000	11,000	11,000	11,000	18,000	18,000	18,000	30,000	30,000	30,000
Compressive Strength	ASTM D1621	kPa	431	431	431	527	527	527	862	862	862	862	862	862
Thistophysic	AOTM D1777	in	0.25	0.25	0.25	0.4	0.4	0.4	0.4	0.4	0.4	0.25	0.25	0.25
INICKNESS	ASTM DI///	mm	6.35	6.35	6.35	10	10	10	10	10	10	6.35	6.35	6.35
In Diana Flaux Data (		gpm/ft	12	12	12	18	18	18	21	21	21	13	13	13
In-Plane Flow Rate 4	ASTM D4716	Lpm/m	149	149	149	224	224	224	261	261	261	161	161	161

<sup>1</sup> Unless otherwise noted, all physical and performance properties listed are Typical Value or Minimum Average Roll Value (MARV) as defined in ASTM D4439.

<sup>2</sup> PP = Polypropylene; NPNW = Needle-Punched Nonwoven; HIPS = High Impact Polystyrene

<sup>3</sup> Values for AOS represent Maximum Average Roll Value (MaxARV).

<sup>4</sup> In-plane flow rate measured at 3,600 psf (172 kPa) compressive load and a hydraulic gradient of 1.0.

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\*Product Name Breakdown: Compressive Strength ←94→Geotextile Weigh

### $SITEDRAIN^{\text{TM}}_{\text{ prefabricated strip drains}}$



SITEDRAIN Strip Series prefabricated drains are constructed by fully wrapping a perforated, high strength, high flow capacity polymeric core with a geotextile filter fabric. The filter fabric is securely bonded to prevent soil intrusion into the flow channels while allowing water to freely enter the drain core from all sides.

SITEDRAIN Strip Series products have more than 70% open area for water collection and provide a cost-effective, sustainable, performance driven alternative to perforated pipe & stone systems. SITEDRAIN Strip Series prefabricated drains are manufactured to meet various compressive strengths and flow capacitied and are available with filter fabrics meeting AASHTO M 288-06 specifications.

PROPERTY <sup>1</sup>	TEST METHOD	UNIT OF Measure	6400*	6400-T	6600	6800	9400	9400-T	9600	9800			
GEOTEXTILE	GEOTEXTILE												
Material <sup>2</sup>			PP, NPNW	PP, SBNW	PP, NPNW	PP, NPNW	PP, NPNW	PP, SBNW	PP, NPNW	PP, NPNW			
Survivability	AASHTO M288	-	3	3	2	1	3	3	2	1			
Grab Tensile Strength		lbs	135	150	195	245	135	150	195	245			
	A3111 D4032	Ν	601	667	867	1,090	601	667	867	1,090			
Grab Elongation	ASTM D4632	%	60	50	60	60	60	50	60	60			
CBR Puncture Strength		lbs	365	295	505	580	365	295	505	580			
	ASTM D6241	kN	1,624	1,312	2,246	2,580	1,624	1,312	2,246	2,580			
UV Resistance	ASTM D4355	% / 500 Hrs	70	70	70	70	70	70	70	70			
	ASTM D4751	sieve	70	80	70	80	70	80	70	80			
Apparent opening size °		mm	0.212	0.180	0.212	0.180	0.212	0.180	0.212	0.180			
Permittivity	ASTM D4491	sec <sup>-1</sup>	2.4	1.0	2.1	1.8	2.4	1.0	2.1	1.8			
Water Flow Data	ACTM D//01	gpm/ft <sup>2</sup>	175	70	155	135	175	70	155	135			
	A3111 D4491	Lpm/m <sup>2</sup>	7,130	2,850	6,315	5,501	7,130	2,850	6,315	5,501			
CORE													
Material <sup>2</sup>			HIPS										
Commence in Change with	ASTM D6364	psf	6,000	6,000	6,000	6,000	9,500	9,500	9,500	9,500			
compressive strength	ASTM D1621	kPa	287	287	287	287	455	455	455	455			
Thislance	AOTM D1777	in	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0			
THICKNESS	A2111 D1/11	mm	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4			
In Diana Flau Data (	ACTM D/ 710	gpm/ft	21	21	21	21	21	21	21	21			
In-Plane Flow Rate*	ASTM D4716	Lpm/m	261	261	261	261	261	261	261	261			

#### ROLL DIMENSIONS:

WIDTH	ROLL LENGTH
6"	150'
12″	150' or 500'
18″	150' or 500'
24″	150' or 500'
36″	100'

#### FITTINGS:

AWD has a full line of fittings that transition collected water from strip drains to standard 4" pipe.

\*Product Name Breakdown: Compressive Strength ←64→Geotextile Weight

<sup>1</sup> Unless otherwise noted, all physical and performance properties listed are Typical Value or Minimum Average Roll Value (MARV) as defined in ASTM D4439.

<sup>2</sup> PP = Polypropylene; NPNW = Needle-Punched Nonwoven; SBNW = Spunbonded Nonwoven; HIPS = High Impact Polystyrene

<sup>3</sup> Values for AOS represent Maximum Average Roll Value (MaxARV).

<sup>4</sup> In-plane flow rate measured at 3,600 psf (172 kPa) compressive load and a hydraulic gradient of 0.1.

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### $SITEDRAIN^{\text{TM}}_{\text{ prefabricated ho drains}}$

SITEDRAIN HQ Series geocomposite combination drain products are composed of a dimpled polymeric core with a geotextile bonded to the dimple side. The geotextile allows water to pass through while retaining backfill materials. The solid core allows water collection from one side and provides a continuous flow path to designated drainage exits. The 24"-wide product combines 12" of high-profile 1"-thick core with 12" of low-profile 7/16"-thick core and includes an integrated transition flange for easy connection to SITEDRAIN geocomposite sheet drain products.

SITEDRAIN HQ Series products provide a value engineered alternative to perforated pipe and aggregate subsurface drainage systems in applications requiring high strength and high flow capacity. Various geotextile options are available to meet project-specific requirements.

PROPERTY <sup>1</sup>	TEST METHOD	UNIT OF Measure	244	246	248
GEOTEXTILE					
Material <sup>2</sup>			PP, NPNW	PP, NPNW	PP, NPNW
Survivability	AASHTO M288	-	3	2	1
Grab Tensile Strength	ACTM D/670	lbs	135	195	245
	A2111 D4032	Ν	601	867	1,090
Grab Elongation	ASTM D4632	%	60	60	60
CBR Puncture Strength		lbs	365	505	580
	A2111 D0241	kN	1,624	2,246	2,580
UV Resistance	ASTM D4355	% / 500 Hrs	70	70	70
American 0:	ACTM D/7E1	sieve	70	70	80
Apparent opening Size °	A3111 D4751	mm	0.212	0.212	0.180
Permittivity	ASTM D4491	sec <sup>-1</sup>	2.4	2.1	1.8
Water Flow Date		gpm/ft²	175	155	135
	A3111 04491	Lpm/m <sup>2</sup>	7,130	6,315	5,501
CORE					
Material <sup>2</sup>			HIPS	HIPS	HIPS
Communications Obviour with	ASTM D6364	psf	9,000	9,000	9,000
compressive strength	ASTM D1621	kPa	431	431	431
Thislance	AOTM D1777	in	0.4 / 1.0	0.4 / 1.0	0.4 / 1.0
THICKNESS	A2111 D1/11	mm	10 / 25.4	10 / 25.4	10 / 25.4
In Diana Flow Data 4	ACTM D/710	gpm/ft	21	21	21
In-Plane Flow Kate*	A3111 D4710	Lpm/m	261	261	261

<sup>1</sup> Unless otherwise noted, all physical and performance properties listed are Typical Value or Minimum Average Roll Value (MARV) as defined in ASTM D4439.

<sup>2</sup> PP = Polypropylene; NPNW = Needle-Punched Nonwoven; HIPS = High Impact Polystyrene

<sup>3</sup> Values for AOS represent Maximum Average Roll Value (MaxARV).

<sup>4</sup> In-plane flow rate measured at 3,600 psf (172 kPa) compressive load and a hydraulic gradient of 0.1.

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### $SITEDRAIN^{\text{TM}}_{\text{prefabricated hos drains}}$



SITEDRAIN HQS Series geocomposite strip drain products are composed of a dimpled polymeric perforated core fully wrapped in geotextile with an integrated transition flange for connection to SITEDRAIN geocomposite sheet drain products. The geotextile allows water to pass through while retaining backfill materials. The perforated core allows water collection from all sides and provides a continuous flow path to designated drainage exits.

SITEDRAIN HQS Series products provide a value engineered alternative to perforated pipe and aggregate subsurface drainage systems in applications requiring high strength and high flow capacity. Various geotextile options and product widths are available to meet project-specific requirements.

				· · · · · · · · · · · · · · · · · · ·									
PROPERTY <sup>1</sup>	TEST METHOD	UNIT OF Measure	1240	1260	1280	1840	1860	1880					
GEOTEXTILE	GEOTEXTILE												
Material <sup>2</sup>			PP, NPNW	PP, NPNW	PP, NPNW	PP, NPNW	PP, NPNW	PP, NPNW					
Survivability	AASHTO M288	-	3	2	1	3	2	1					
Grab Tensile Strength	ACTM D/ 670	lbs	135	195	245	135	195	245					
	A3111 D4032	N	601	867	1,090	601	867	1,090					
Grab Elongation	ASTM D4632	%	60	60	60	60	60	60					
CBR Puncture Strength		lbs	365	505	580	365	505	580					
	A2111 D0241	kN	1,624	2,246	2,580	1,624	2,246	2,580					
UV Resistance	ASTM D4355	% / 500 Hrs	70	70	70	70	70	70					
A	ASTM D4751	sieve	70	70	80	70	70	80					
Apparent opening Size <sup>3</sup>		mm	0.212	0.212	0.180	0.212	0.212	0.180					
Permittivity	ASTM D4491	sec <sup>-1</sup>	2.4	2.1	1.8	2.4	2.1	1.8					
Water Flow Pate	ASTM D///01	gpm/ft <sup>2</sup>	175	155	135	175	155	135					
	A3111 D4491	Lpm/m <sup>2</sup>	7,130	6,315	5,501	7,130	6,315	5,501					
CORE													
Material <sup>2</sup>			HIPS	HIPS	HIPS	HIPS	HIPS	HIPS					
0	ASTM D6364	psf	9,500	9,500	9,500	9,500	9,500	9,500					
compressive Strength	ASTM D1621	kPa	455	455	455	455	455	455					
Thistory	AOTM 01777	in	1.0	1.0	1.0	1.0	1.0	1.0					
INICKNESS	ASTM D1777	mm	25.4	25.4	25.4	25.4	25.4	25.4					
In Plana Flow Pote 4	ACTM D/ 710	gpm/ft	21	21	21	21	21	21					
In-Plane Flow Kate*	ASTM 04/16	Lpm/m	261	261	261	261	261	261					

<sup>1</sup> Unless otherwise noted, all physical and performance properties listed are Typical Value or Minimum Average Roll Value (MARV) as defined in ASTM D4439.

<sup>2</sup> PP = Polypropylene; NPNW = Needle-Punched Nonwoven; HIPS = High Impact Polystyrene

<sup>3</sup> Values for AOS represent Maximum Average Roll Value (MaxARV).

<sup>4</sup> In-plane flow rate measured at 3,600 psf (172 kPa) compressive load and a hydraulic gradient of 0.1.

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## FITTINGS & ACCESSORIES

PIPE OUTLETS: Transition water to 4" smooth or corrugated pipe



6" End Outlet 10/box

Item: #20005



End Outlet 10/box

 12" Strip Drain
 Item: #20006

 18" Strip Drain
 Item: #20007

 24" Strip Drain
 Item: #20008

 36" Strip Drain
 Item: #20009

 Combination Drain: Item: #20008



Tee Outlet 10/box

 6" Strip Drain
 Item: #20024

 12" Strip Drain
 Item: #20015

 18" Strip Drain
 Item: #20016

 24" Strip Drain
 Item: #20017

 36" Strip Drain
 Item: #20018

 Combination Drain: Item: #20019



Geo-Outlet 10/box

Item: #20026



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# FITTINGS & ACCESSORIES

### **CONNECTORS:**





**Step-Down Fittings** 10/box

Item: #20012 Item: #20013 6" Corner Fitting 10/box

Item: #20002



**Drain Grates** Minimum 1 Unit

3" Pipe Item: #29001 4" Pipe Item: #29002









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