# SITEDRAIN™

## PREFABRICATED DRAINS

AWD

AMERICAN WICK DRAIN

AWD
AMERICAN WICK DRAIN

**PRODUCT NAME BREAKDOWN**

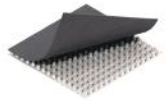
Core Compressive Strength ← 183 → Geotextile Weight

**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.

# SITEDRAIN™ 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 [1] | 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 [2] | | | PP, NPNW | PP, NPNW | PP, NPNW | PP, NPNW | PP, NPNW | PP, NPNW | PP, NPNW | PP, NPNW | PP, NPNW | PP, NPNW | PP, SBNW | PP, NPNW | PP, WM | PP, NPNW | PP, NPNW | PP, NPNW | PP, NPNW | PP, NPNW |
| Survivability | AASHTO M288 | - | - | 3 | 2 | 1 | - | 3 | 2 | 1 | - | 3 | 3 | 2 | - | 1 | - | 3 | 2 | 1 |
| Grab Tensile Strength | ASTM D4632 | lbs | 100 | 135 | 195 | 245 | 100 | 135 | 195 | 245 | 100 | 135 | 150 | 195 | 430 x 240 | 245 | 100 | 135 | 195 | 245 |
| | | N | 445 | 601 | 867 | 1,090 | 445 | 601 | 867 | 1,090 | 445 | 601 | 670 | 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 Strength | ASTM D6241 | lbs | 305 | 365 | 505 | 580 | 305 | 365 | 505 | 580 | 305 | 365 | 315 | 505 | 800 | 580 | 305 | 365 | 505 | 580 |
| | | kN | 1,356 | 1,624 | 2,246 | 2,580 | 1,356 | 1,624 | 2,246 | 2,580 | 1,356 | 1,624 | 1,380 | 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 Size [3] | ASTM D4751 | sieve | 70 | 70 | 70 | 80 | 70 | 70 | 70 | 80 | 70 | 70 | 70 | 70 | 50 | 80 | 70 | 70 | 70 | 80 |
| | | mm | 0.212 | 0.212 | 0.212 | 0.180 | 0.212 | 0.212 | 0.212 | 0.180 | 0.212 | 0.212 | 0.210 | 0.212 | 0.300 | 0.180 | 0.212 | 0.212 | 0.212 | 0.180 |
| 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 | 1.0 | 2.1 | 2.7 | 1.8 | 2.7 | 2.4 | 2.1 | 1.8 |
| Water Flow Rate | ASTM D4491 | $gpm/ft^2$ | 165 | 175 | 155 | 135 | 165 | 175 | 155 | 135 | 165 | 175 | 70 | 155 | 195 | 135 | 165 | 175 | 155 | 135 |
| | | $Lpm/m^2$ | 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 [2] | | | HIPS | HIPS | HIPS | HIPS | HIPS | HIPS | HIPS | HIPS | HIPS | HIPS | HIPS | HIPS | HIPS | HIPS | HIPS | HIPS | HIPS | HIPS |
| Compressive Strength | 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 |
| | ASTM D1621 | kPa | 431 | 431 | 431 | 431 | 527 | 527 | 527 | 527 | 862 | 862 | 862 | 862 | 862 | 862 | 862 | 862 | 862 | 862 |
| Thickness | ASTM 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 |
| | | 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 Rate [4] | ASTM D4716 | gpm/ft | 12 | 12 | 12 | 12 | 18 | 18 | 18 | 18 | 21 | 21 | 21 | 21 | 21 | 21 | 13 | 13 | 13 | 13 |
| | | Lpm/m | 149 | 149 | 149 | 149 | 224 | 224 | 224 | 224 | 261 | 261 | 261 | 261 | 261 | 261 | 161 | 161 | 161 | 161 |

[1] Unless otherwise noted, all physical and performance properties listed are Typical Value or Minimum Average Roll Value (MARV) as defined in ASTM D4439.
[2] PP = Polypropylene; NPNW = Needle-Punched Nonwoven; SBNW = Spunbonded Nonwoven; WM = Woven Monofilament
[3] Values for AOS represent Maximum Average Roll Value (MaxARV).
[4] In-plane flow rate measured at 3,600 psf (172 kPa) compressive load and a hydraulic gradient of 1.0.





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# SITEDRAIN™ 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 [1] | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GEOTEXTILE** | | | | | | | | | | | | | | | | | |
| Material [2] | | | PP, NPNW | PP, NPNW | PP, NPNW | PP, NPNW | PP, NPNW | PP, NPNW | PP, NPNW | PP, NPNW | PP, NPNW | PP, NPNW | PP, NPNW | PP, NPNW | PP, NPNW | PP, NPNW | PP, NPNW |
| Survivability | AASHTO M288 | - | - | 3 | 2 | 1 | - | 3 | 2 | 1 | - | 3 | 2 | 1 | - | 3 | 2 |
| Grab Tensile Strength | ASTM D4632 | lbs | 100 | 135 | 195 | 245 | 100 | 135 | 195 | 245 | 100 | 135 | 195 | 245 | 100 | 135 | 195 |
| | | N | 445 | 601 | 867 | 1,090 | 445 | 601 | 867 | 1,090 | 445 | 601 | 867 | 1,090 | 445 | 601 | 867 |
| Grab Elongation | ASTM D4632 | % | 70 | 60 | 60 | 60 | 70 | 60 | 60 | 60 | 70 | 60 | 60 | 60 | 70 | 60 | 60 |
| CBR Puncture Strength | ASTM D6241 | lbs | 305 | 365 | 505 | 580 | 305 | 365 | 505 | 580 | 305 | 365 | 505 | 580 | 305 | 365 | 505 |
| | | 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 |
| UV Resistance | ASTM D4355 | % / 500 Hrs | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 |
| Apparent Opening Size [3] | ASTM D4751 | sieve | 70 | 70 | 70 | 80 | 70 | 70 | 70 | 80 | 70 | 70 | 70 | 80 | 70 | 70 | 70 |
| | | 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 |
| 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 |
| Water Flow Rate | ASTM D4491 | $gpm/ft^2$ | 165 | 175 | 155 | 135 | 165 | 175 | 155 | 135 | 165 | 175 | 155 | 135 | 165 | 175 | 155 |
| | | $Lpm/m^2$ | 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 |
| **CORE** | | | | | | | | | | | | | | | | | |
| Material [2] | | | HIPS | HIPS | HIPS | HIPS | HIPS | HIPS | HIPS | HIPS | HIPS | HIPS | HIPS | HIPS | HIPS | HIPS | HIPS |
| Compressive Strength | ASTM D6364 ASTM D1621 | 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 |
| | | kPa | 431 | 431 | 431 | 431 | 527 | 527 | 527 | 527 | 862 | 862 | 862 | 862 | 862 | 862 | 862 |
| Thickness | ASTM 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 |
| | | 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 Rate [4] | ASTM D4716 | gpm/ft | 12 | 12 | 12 | 12 | 18 | 18 | 18 | 18 | 21 | 21 | 21 | 21 | 13 | 13 | 13 |
| | | Lpm/m | 149 | 149 | 149 | 149 | 224 | 224 | 224 | 224 | 261 | 261 | 261 | 261 | 161 | 161 | 161 |

[1] Unless otherwise noted, all physical and performance properties listed are Typical Value or Minimum Average Roll Value (MARV) as defined in ASTM D4439.
[2] PP = Polypropylene; NPNW = Needle-Punched Nonwoven; HIPS = High Impact Polystyrene
[3] Values for AOS represent Maximum Average Roll Value (MaxARV).
[4] In-plane flow rate measured at 3,600 psf (172 kPa) compressive load and a hydraulic gradient of 1.0.





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# SITEDRAIN™ 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 [1] | 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 [2] | | | PP, NPNW | PP, NPNW | PP, NPNW | PP, NPNW | PP, NPNW | PP, NPNW | PP, NPNW | PP, NPNW | PP, NPNW | PP, NPNW | PP, NPNW | PP, NPNW |
| Survivability | AASHTO M288 | - | 3 | 2 | 1 | 3 | 2 | 1 | 3 | 2 | 1 | 3 | 2 | 1 |
| Grab Tensile Strength | ASTM D4632 | lbs | 135 | 195 | 245 | 135 | 195 | 245 | 135 | 195 | 245 | 135 | 195 | 245 |
| | | N | 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 | ASTM D6241 | lbs | 365 | 505 | 580 | 365 | 505 | 580 | 365 | 505 | 580 | 365 | 505 | 580 |
| | | 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 |
| Apparent Opening Size [3] | ASTM D4751 | sieve | 70 | 70 | 80 | 70 | 70 | 80 | 70 | 70 | 80 | 70 | 70 | 80 |
| | | 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 | $sec^{-1}$ | 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 Rate | ASTM D4491 | $gpm/ft^2$ | 175 | 155 | 135 | 175 | 155 | 135 | 175 | 155 | 135 | 175 | 155 | 135 |
| | | $Lpm/m^2$ | 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 [2] | | | HIPS | HIPS | HIPS | HIPS | HIPS | HIPS | HIPS | HIPS | HIPS | HIPS | HIPS | HIPS |
| Compressive Strength | ASTM D6364 ASTM D1621 | 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 |
| | | kPa | 431 | 431 | 431 | 527 | 527 | 527 | 862 | 862 | 862 | 862 | 862 | 862 |
| Thickness | ASTM 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 |
| | | mm | 6.35 | 6.35 | 6.35 | 10 | 10 | 10 | 10 | 10 | 10 | 6.35 | 6.35 | 6.35 |
| In-Plane Flow Rate [4] | ASTM D4716 | gpm/ft | 12 | 12 | 12 | 18 | 18 | 18 | 21 | 21 | 21 | 13 | 13 | 13 |
| | | Lpm/m | 149 | 149 | 149 | 224 | 224 | 224 | 261 | 261 | 261 | 161 | 161 | 161 |

[1] Unless otherwise noted, all physical and performance properties listed are Typical Value or Minimum Average Roll Value (MARV) as defined in ASTM D4439.
[2] PP = Polypropylene; NPNW = Needle-Punched Nonwoven; HIPS = High Impact Polystyrene
[3] Values for AOS represent Maximum Average Roll Value (MaxARV).
[4] In-plane flow rate measured at 3,600 psf (172 kPa) compressive load and a hydraulic gradient of 1.0.





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# SITEDRAIN™ 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 [1] | TEST METHOD | UNIT OF MEASURE | 6400 | 6400-T | 6600 | 6800 | 9400 | 9400-T | 9600 | 9800 |
|---|---|---|---|---|---|---|---|---|---|---|
| **GEOTEXTILE** | | | | | | | | | | |
| Material [2] | | | 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 | ASTM D4632 | lbs | 135 | 135 | 195 | 245 | 135 | 135 | 195 | 245 |
| | | N | 601 | 601 | 867 | 1,090 | 601 | 601 | 867 | 1,090 |
| Grab Elongation | ASTM D4632 | % | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| CBR Puncture Strength | ASTM D6241 | lbs | 365 | 365 | 505 | 580 | 365 | 365 | 505 | 580 |
| | | kN | 1,624 | 1,624 | 2,246 | 2,580 | 1,624 | 1,624 | 2,246 | 2,580 |
| UV Resistance | ASTM D4355 | % / 500 Hrs | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 |
| Apparent Opening Size [3] | ASTM D4751 | sieve | 70 | 70 | 70 | 80 | 70 | 70 | 70 | 80 |
| | | mm | 0.212 | 0.212 | 0.212 | 0.180 | 0.212 | 0.212 | 0.212 | 0.180 |
| Permittivity | ASTM D4491 | $sec^{-1}$ | 2.4 | 2.4 | 2.1 | 1.8 | 2.4 | 2.4 | 2.1 | 1.8 |
| Water Flow Rate | ASTM D4491 | $gpm/ft^2$ | 175 | 175 | 155 | 135 | 175 | 175 | 155 | 135 |
| | | $Lpm/m^2$ | 7,130 | 7,130 | 6,315 | 5,501 | 7,130 | 7,130 | 6,315 | 5,501 |
| **CORE** | | | | | | | | | | |
| Material [2] | | | HIPS | HIPS | HIPS | HIPS | HIPS | HIPS | HIPS | HIPS |
| Compressive Strength | ASTM D6364 ASTM D1621 | psf | 6,000 | 6,000 | 6,000 | 6,000 | 9,500 | 9,500 | 9,500 | 9,500 |
| | | kPa | 287 | 287 | 287 | 287 | 455 | 455 | 455 | 455 |
| Thickness | ASTM D1777 | in | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| | | mm | 25.4 | 25.4 | 25.4 | 25.4 | 25.4 | 25.4 | 25.4 | 25.4 |
| In-Plane Flow Rate [4] | ASTM D4716 | gpm/ft | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 |
| | | 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.

[1] Unless otherwise noted, all physical and performance properties listed are Typical Value or Minimum Average Roll Value (MARV) as defined in ASTM D4439.
[2] PP = Polypropylene; NPNW = Needle-Punched Nonwoven; SBNW = Spunbonded Nonwoven; HIPS = High Impact Polystyrene
[3] Values for AOS represent Maximum Average Roll Value (MaxARV).
[4] 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™ PREFABRICATED HQ 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 [1] | TEST METHOD | UNIT OF MEASURE | 244 | 246 | 248 |
|---|---|---|---|---|---|
| **GEOTEXTILE** | | | | | |
| Material [2] | | | PP, NPNW | PP, NPNW | PP, NPNW |
| Survivability | AASHTO M288 | - | 3 | 2 | 1 |
| Grab Tensile Strength | ASTM D4632 | lbs | 135 | 195 | 245 |
| | | N | 601 | 867 | 1,090 |
| Grab Elongation | ASTM D4632 | % | 60 | 60 | 60 |
| CBR Puncture Strength | ASTM D6241 | lbs | 365 | 505 | 580 |
| | | kN | 1,624 | 2,246 | 2,580 |
| UV Resistance | ASTM D4355 | % / 500 Hrs | 70 | 70 | 70 |
| Apparent Opening Size [3] | ASTM D4751 | sieve | 70 | 70 | 80 |
| | | mm | 0.212 | 0.212 | 0.180 |
| Permittivity | ASTM D4491 | $sec^{-1}$ | 2.4 | 2.1 | 1.8 |
| Water Flow Rate | ASTM D4491 | $gpm/ft^2$ | 175 | 155 | 135 |
| | | $Lpm/m^2$ | 7,130 | 6,315 | 5,501 |
| **CORE** | | | | | |
| Material [2] | | | HIPS | HIPS | HIPS |
| Compressive Strength | ASTM D6364 ASTM D1621 | psf | 9,000 | 9,000 | 9,000 |
| | | kPa | 431 | 431 | 431 |
| Thickness | ASTM D1777 | in | 0.4 / 1.0 | 0.4 / 1.0 | 0.4 / 1.0 |
| | | mm | 10 / 25.4 | 10 / 25.4 | 10 / 25.4 |
| In-Plane Flow Rate [4] | ASTM D4716 | gpm/ft | 21 | 21 | 21 |
| | | Lpm/m | 261 | 261 | 261 |

[1] Unless otherwise noted, all physical and performance properties listed are Typical Value or Minimum Average Roll Value (MARV) as defined in ASTM D4439.
[2] PP = Polypropylene; NPNW = Needle-Punched Nonwoven; HIPS = High Impact Polystyrene
[3] Values for AOS represent Maximum Average Roll Value (MaxARV).
[4] 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™ PREFABRICATED HQS 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 [1] | TEST METHOD | UNIT OF MEASURE | 1240 | 1260 | 1280 | 1840 | 1860 | 1880 |
|---|---|---|---|---|---|---|---|---|
| **GEOTEXTILE** | | | | | | | | |
| Material [2] | | | PP, NPNW | PP, NPNW | PP, NPNW | PP, NPNW | PP, NPNW | PP, NPNW |
| Survivability | AASHTO M288 | - | 3 | 2 | 1 | 3 | 2 | 1 |
| Grab Tensile Strength | ASTM D4632 | lbs | 135 | 195 | 245 | 135 | 195 | 245 |
| | | N | 601 | 867 | 1,090 | 601 | 867 | 1,090 |
| Grab Elongation | ASTM D4632 | % | 60 | 60 | 60 | 60 | 60 | 60 |
| CBR Puncture Strength | ASTM D6241 | lbs | 365 | 505 | 580 | 365 | 505 | 580 |
| | | 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 |
| Apparent Opening Size [3] | ASTM D4751 | sieve | 70 | 70 | 80 | 70 | 70 | 80 |
| | | mm | 0.212 | 0.212 | 0.180 | 0.212 | 0.212 | 0.180 |
| Permittivity | ASTM D4491 | $sec^{-1}$ | 2.4 | 2.1 | 1.8 | 2.4 | 2.1 | 1.8 |
| Water Flow Rate | ASTM D4491 | $gpm/ft^2$ | 175 | 155 | 135 | 175 | 155 | 135 |
| | | $Lpm/m^2$ | 7,130 | 6,315 | 5,501 | 7,130 | 6,315 | 5,501 |
| **CORE** | | | | | | | | |
| Material [2] | | | HIPS | HIPS | HIPS | HIPS | HIPS | HIPS |
| Compressive Strength | ASTM D6364 ASTM D1621 | psf | 9,500 | 9,500 | 9,500 | 9,500 | 9,500 | 9,500 |
| | | kPa | 455 | 455 | 455 | 455 | 455 | 455 |
| Thickness | ASTM D1777 | in | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| | | mm | 25.4 | 25.4 | 25.4 | 25.4 | 25.4 | 25.4 |
| In-Plane Flow Rate [4] | ASTM D4716 | gpm/ft | 21 | 21 | 21 | 21 | 21 | 21 |
| | | Lpm/m | 261 | 261 | 261 | 261 | 261 | 261 |

[1] Unless otherwise noted, all physical and performance properties listed are Typical Value or Minimum Average Roll Value (MARV) as defined in ASTM D4439.
[2] PP = Polypropylene; NPNW = Needle-Punched Nonwoven; HIPS = High Impact Polystyrene
[3] Values for AOS represent Maximum Average Roll Value (MaxARV).
[4] In-plane flow rate measured at 3,600 psf (172 kPa) compressive load and a hydraulic gradient of 0.1.





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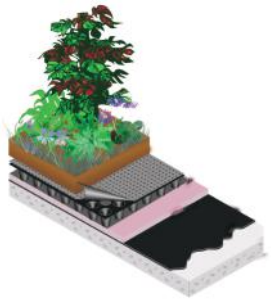
AWD AMERICAN WICK DRAIN

# SITEDRAIN™ VRA SERIES PREFABRICATED GREEN ROOF DRAINS

SITEDRAIN VRA Series geocomposites are designed for vegetative roof assembly (VRA) applications, which are also commonly referred to as "green roof", "roof garden", and "eco-roof" applications. SITEDRAIN VRA products provide the "middle layer" of a complete VRA system, providing lightweight and economical solutions for drainage, aeration, water storage, soil retention, root barrier, and waterproofing membrane protection. SITEDRAIN VRA Series products are composed of a high-strength dimpled polymeric perforated core with a geotextile bonded to both sides. The spunbonded nonwoven geotextile on the top side allows water to pass through while retaining planting media and serving as a physical root barrier to inhibit root penetration by vegetation with low to moderately aggressive root structures. The core provides water storage capacity, as well as a continuous flow path for excess water to designated drainage exits. The needlepunched nonwoven geotextile on the bottom side provides protection to layers below, such as waterproofing membranes and insulation.

| PROPERTY [1] | TEST METHOD | UNIT OF MEASURE | VRA 50 | VRA 100 |
|---|---|---|---|---|
| **GEOTEXTILE - TOP SIDE** | | | | |
| Material [2] | | | PP, SBNW | PP, SBNW |
| Survivability | AASHTO M288 | Class | 3 | 3 |
| Grab Tensile Strength | ASTM D4632 | lbs | 150 | 150 |
| | | N | 670 | 670 |
| Grab Elongation | ASTM D4632 | % | 50 | 50 |
| CBR Puncture | ASTM D6241 | lbs | 315 | 315 |
| | | N | 1,380 | 1,380 |
| UV Resistance | ASTM D4355 | % / 500 Hrs | 70 | 70 |
| Apparent Opening Size (AOS) [3] | ASTM D4751 | sieve | 70 | 70 |
| | | mm | 0.210 | 0.210 |
| Permittivity | ASTM D4491 | $sec^{-1}$ | 1.0 | 1.0 |
| Water Flow Rate | ASTM D4491 | gpm / $ft^2$ | 70 | 70 |
| | | Lpm / $m^2$ | 2,850 | 2,850 |
| **CORE** | | | | |
| Material [2] | | | HIPS | HIPS |
| Compressive Strength | ASTM D6364<br>ASTM D1621 | psf | 15,000 | 9,500 |
| | | kPa | 718 | 455 |
| Thickness | ASTM D5199 | in | 0.4 | 1 |
| | | mm | 10 | 25.4 |
| In-Plane Flow Rate [4]<br>Hydraulic Gradient = 1.0 | ASTM D4716 | gpm/ft | 18 | 80 |
| | | Lpm/m | 224 | 933 |
| In-Plane Flow Rate [4]<br>Hydraulic Gradient = 0.1 | ASTM D4716 | gpm/ft | 6 | 21 |
| | | Lpm/m | 75 | 260 |
| Water Storage Capacity | ASTM E2398 | gal/$ft^2$ | 0.05 | 0.08 |
| | | L/$m^2$ | 2.0 | 3.3 |
| Perforation Open Area | CALCULATED | $in^2/ft^2$ | 3.9 | 8.7 |
| | | $mm^2/m^2$ | 27,080 | 60,400 |
| **GEOTEXTILE - BOTTOM SIDE** | | | | |
| Material [2] | | | PP, NPNW | PP, NPNW |
| Grab Tensile Strength | ASTM D4632 | lbs | 100 | 100 |
| | | N | 445 | 445 |



[1] Unless otherwise noted, all physical and performance properties listed are Typical Value as defined in ASTM D4439.
[2] PP = Polypropylene; HIPS = High Impact Polystyrene; NPNW = Needle-Punched Nonwoven; SBNW = Spunbonded Nonwoven
[3] Values for AOS represent Maximum Average Roll Value (MaxARV).
[4] In-plane flow rate measured at 3,600 psf (172 kPa) compressive load and a hydraulic gradient of 1.0.

All technical information contained in this document is accurate as of publication. AWD reserves the right to make changes to products and literature without notice.
Please refer to our website for the most current technical information available.

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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

# FITTINGS & ACCESSORIES

## CONNECTORS:

### 12" Corner Guard
**20/box**

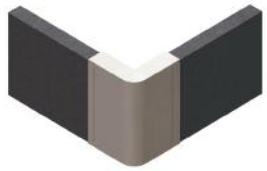
Item: #20022

### 6" Tee Connector
**10/box**

Item: #20014

### Step-Down Fittings
**10/box**

| | |
|---|---|
| 6" Strip Drain | Item: #20012 |
| 12" Strip Drain | Item: #20013 |



### 6" Corner Fitting
**10/box**

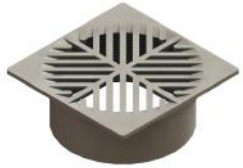
Item: #20002

### Fitting & Joint Tape
**Minimum 1 Roll**

Item: #29000

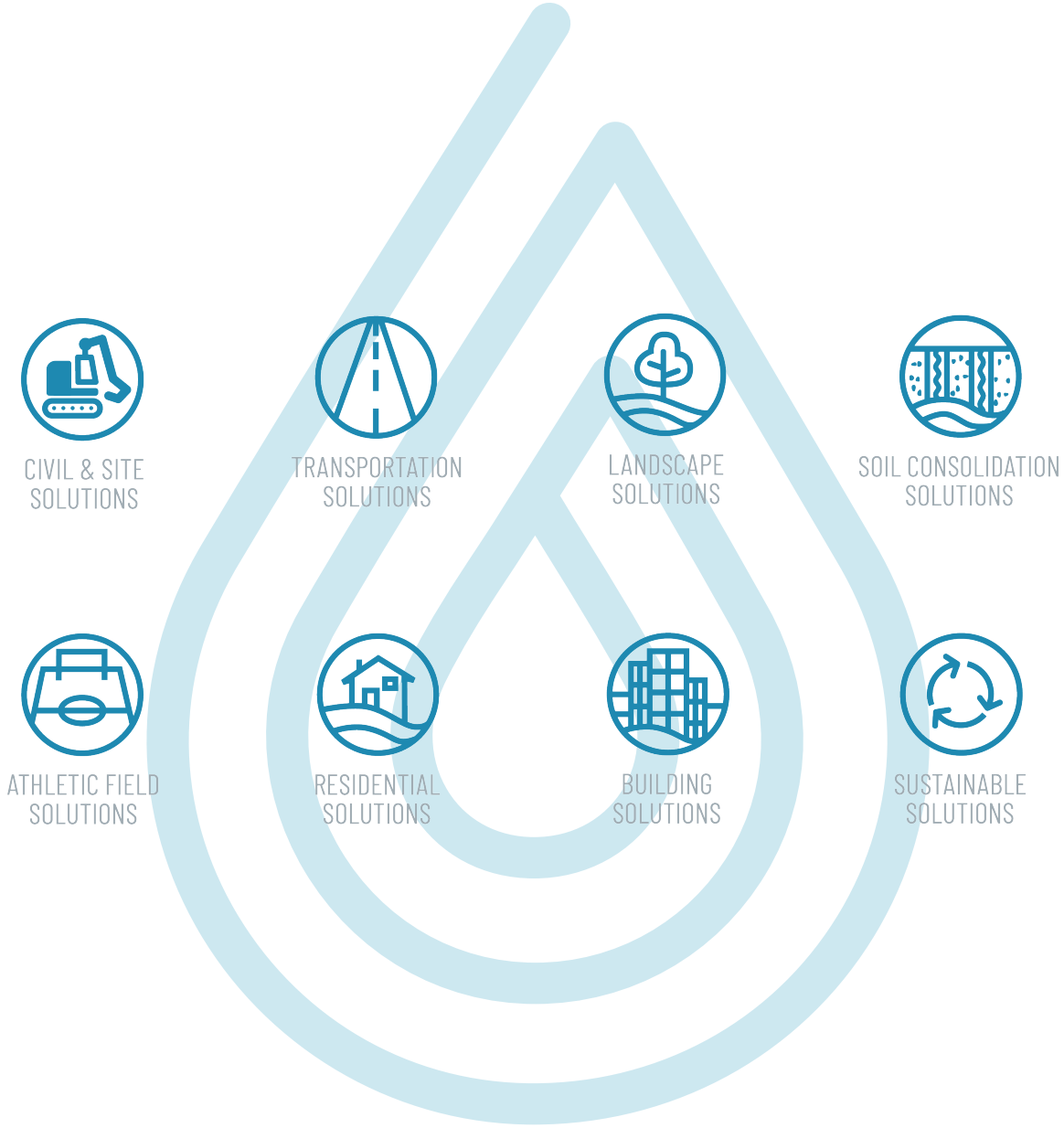
### 6" Splice Connector
**10/box**

Item: #20011



### Drain Grates
**Minimum 1 Unit**

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

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