

# *Onsite Septic Systems*



THE MOST **ADVANCED** NAME IN WATER MANAGEMENT SOLUTIONS™



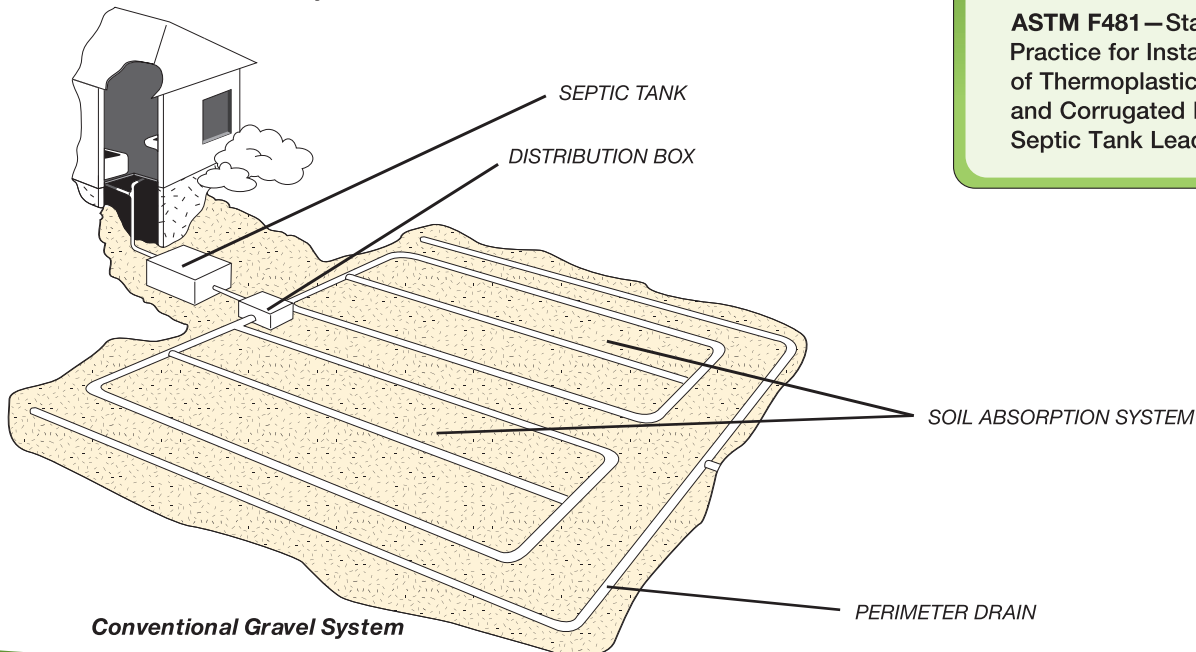
# ADS SOLUTIONS TO MEET YOUR ONSITE NEEDS

Properly performing onsite septic systems provide a critical health and safety function in many American homes. ADS provides a wide range of gravelless products to provide the right solution for your construction needs.

## THE IMPORTANCE OF SEPTIC SYSTEMS

In the U.S. today, most people enjoy the comforts and peace of mind that come from living in a house served by a public sanitary sewer system. However, it is estimated that 25% of the U.S. population live without access to a public sanitary sewer system. They depend upon onsite septic systems for the treatment and disposal of household sewage. Many of these systems consist of a septic tank and a soil absorption area where the effluent is leached into the soil.

A common component of all soil absorption lines and/or fields is a type of conduit that distributes the effluent throughout the soil. The soil has the function of absorbing and treating effluent. If the soil absorption system is designed properly, i.e. there is adequate soil absorption area for the flow of effluent created by the household, then the leach field will function indefinitely with little maintenance.



*"ADS is a leading manufacturer of polyethylene pipe in the world.*

*Since 1966, ADS has supplied contractors with 4" high-density polyethylene septic products which are inert and corrosion resistant to normal household effluents. ADS offers several different types of conduits that can be used in soil absorption areas."*

### Commonly referred to specifications in designing Septic Leachfields:

**ASTM D5925**—Standard Practice for Preliminary Sizing and Delineation of Soil Absorption Field Areas for On-Site Septic Systems.

**ASTM D5921**—Standard Practice for Subsurface Site Characterization of Test Pits for On-Site Septic Systems.

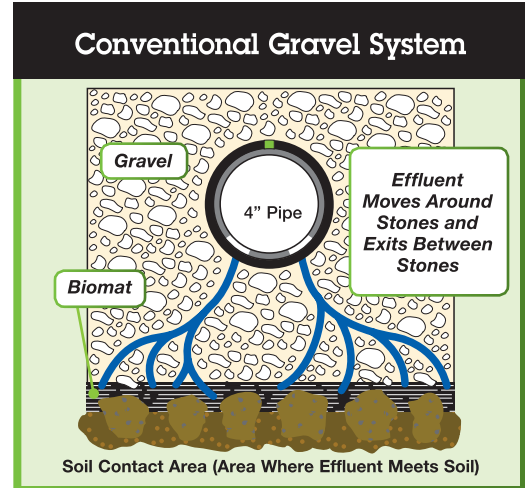
**ASTM F481**—Standard Practice for Installation of Thermoplastic Pipe and Corrugated Pipe in Septic Tank Leach Fields

# BASIC TYPES OF SOIL ABSORPTION SYSTEMS



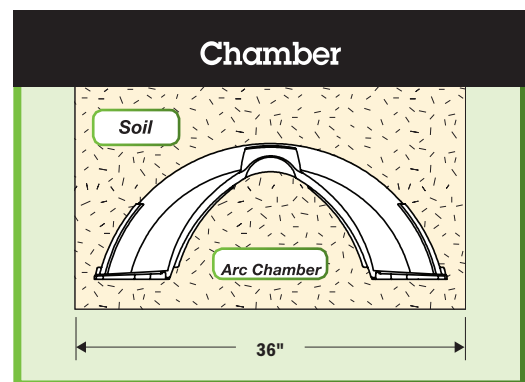
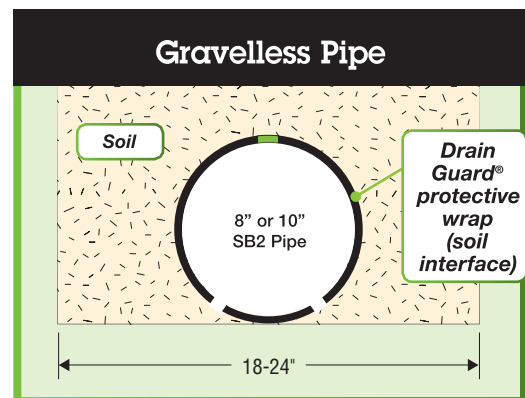
## CONVENTIONAL PIPE AND GRAVEL SYSTEM

In the conventional pipe and gravel system, gravel is used to create an area with voids, which provides storage for the effluent. The gravel also protects the interface contact area of the soil. The gravel does not digest or eliminate the effluent. In fact, gravel causes a dynamic known as "masking" which blocks some effluent from leaching directly into the soil.



## GRAVELLESS SYSTEMS

An increasingly-common type of soil absorption system is the gravelless system. This system incorporates pipe or structures in the soil absorption system that are wrapped with a filter fabric or sock. These commonly used gravelless systems include both plastic leaching chambers and ADS gravelless pipe.



# SB2® PIPE FOR ONSITE WASTEWATER DISPOSAL

Independent research proves it—ADS SB2 Pipe backfilled with native soil provides safe and effective septic tank effluent treatment in sites determined to be suitable by your local health department. It's an excellent low-cost alternative to gravel filled leach field trenches and exceeds ASTM F667 specifications for large diameter pipe.

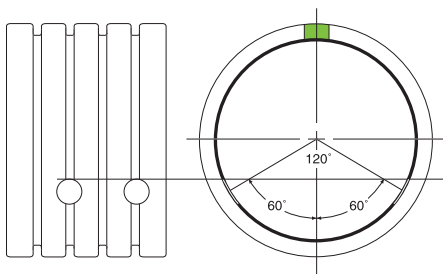
The research, conducted by the University of Minnesota, evaluated the “long-term acceptance rate” of fabric-covered corrugated pipe for eight different soil types. The pipe performed well in those soil types tested, except for fine gravel. (Gravel filled trenches would likely perform in a similar manner.)

## DRAIN GUARD® PROTECTIVE WRAP

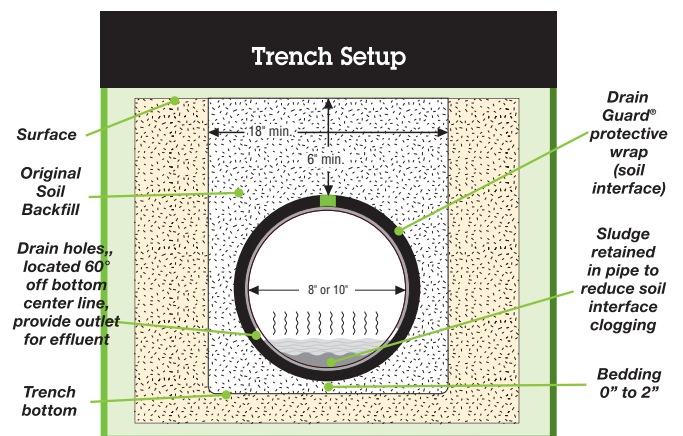
Drain Guard is a spun-bonded nylon wrap that is overlapped and sonically welded. It provides an excellent soil interface for passage of effluent into the soil. The valleys of the corrugations function as additional storage capacity, since the fabric bridges the corrugations and allows for the free movement of the effluent out and around the pipe.

## ADDITIONAL INFORMATION

1. ADS Product Note 3.111 “SB2 Installation Guide”
2. “Evaluation of SB2® Wastewater Disposal Systems in Montgomery County, Texas”, Carlile and Osborne, 1981
3. ASTM F667 “Standard Specification for Large Diameter Corrugated Polyethylene Pipe and Fittings”
4. ASTM D2321 “Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications”



Locating holes 60° off bottom center line creates additional sludge storage space.



Recommended trench width for the SB2 gravelless drainfield is 18"-24". Tight soils may require a 24" wide trench to insure proper backfill around the bottom and sides of the SB2.

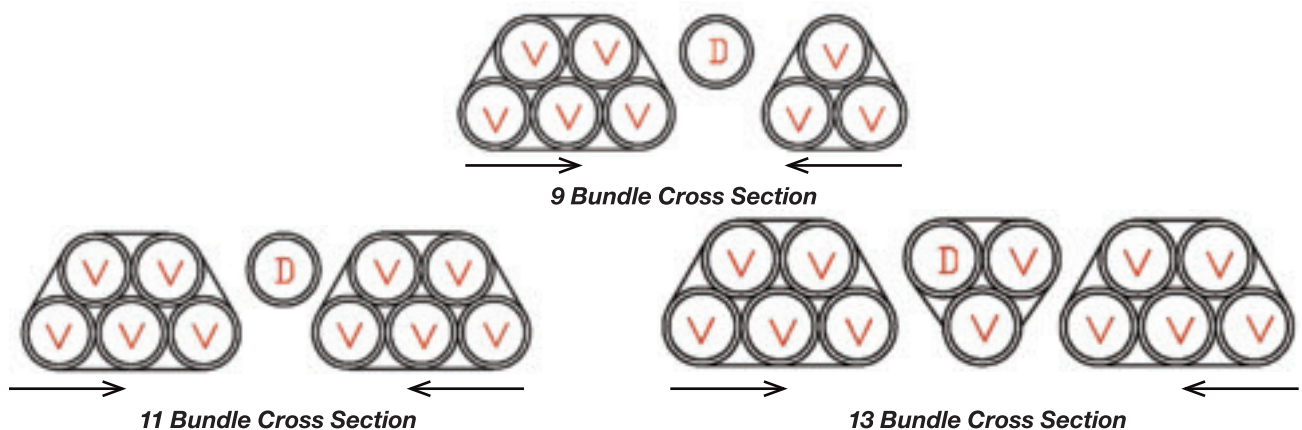
## SEPTIC STACK™ SYSTEMS

Septic Stack units, available in configurations of 9, 11, and 13 pipes, allow for exceptional soil contact without the use of gravel. Septic Stack units function as a trickle filter, dispersing effluent into the voids in and around the specially-banded ADS 4" (100 mm) pipe.

This pipe is engineered with holes and slots, allowing it to collect and disperse the effluent as it passes over the pipe's corrugations.

An ADS Septic Stack system can be utilized in residential or commercial applications. Various applications of the system include: trench configuration, mound configuration, pressure distribution, bed configuration and low pressure piping.

The ADS pipe used in the systems is lightweight and provides excellent abrasion and corrosion resistance. The 10' (3 m) lengths provide fast installation times and allow for design flexibility. A Septic Stack System will support H-10 load ratings with 12" (300 mm) of settled cover and the 8.6" (218 mm) height provides a low profile.



# ONSITE PLASTIC LEACHING CHAMBERS

## ARC® STANDARD LEACHING CHAMBER

The ARC septic leaching chamber can help you save labor, time on the job, and materials without sacrificing performance. Its sturdy design and lightweight plastic construction combine maximized infiltrative surface area and storage capacity with an improved structural design to handle most any conventional leach field system challenge. This allows for increased effluent dispersal performance and improved structural integrity. The ARC design features:

- Convenient five-foot lengths which are lightweight and easy to handle
- Integral 20-degree articulation joint for all applications
- True corrugated chamber design for increased load bearing
- "Lock and Drop" joint which provides a more positive connection during installation and backfill
- Increased plumbing option with Side Port Coupler component which snaps in place to allow side entry at any joint throughout the trench line
- Diamond plate texture which increases slip resistance and enhances ease of installation



*Lock and Drop Joint*



*Arc 36/36 HC Side Port Coupler*



*Arc 24 Side Port Coupler*



*Diamond Plate Texture*

## ARC SPECIFICATIONS

|                                    | ARC 18         | ARC 24         | ARC 36          | ARC 36 HC        | ARC 36 LP       |
|------------------------------------|----------------|----------------|-----------------|------------------|-----------------|
| Length                             | 67"            | 67"            | 63"             | 63"              | 63"             |
| Repeat Length                      | 60"            | 60"            | 60"             | 60"              | 60"             |
| Side Wall Height                   | 7.7"           | 7.5"           | 7.13"           | 10.75"           | 5.32"           |
| Overall Height                     | 12"            | 12"            | 12"             | 16"              | 8"              |
| Overall Width                      | 16"            | 22.5"          | 34"             | 34.5"            | 34"             |
| Capacity, ft <sup>3</sup><br>(gal) | 3.42<br>(25.6) | 5.02<br>(37.5) | 8.00<br>(60.14) | 10.70<br>(80.04) | 5.80<br>(43.37) |
| Pallet Quantity                    | 180 chambers   | 120 chambers   | 70 chambers     | 60 chambers      | 60 chambers     |
| Van (Box Trailer) Quantity         | 18 pallets     | 17 pallets     | 25 pallets      | 25 pallets       | 24 pallets      |
| Flatbed Quantity                   | 16 pallets     | 15 pallets     | 22 pallets      | 22 pallets       | 24 pallets      |



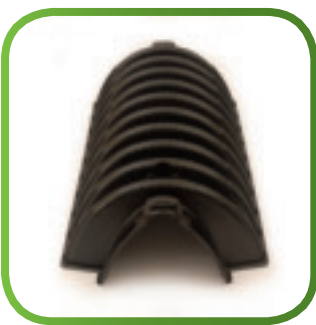
*Arc 18*



*Arc 24*



*Arc 36*



*Arc 36 HC*



*Arc 36 LP*

# BIODIFFUSER® LEACHING CHAMBERS

The BioDiffuser plastic leaching chamber is a gravelless alternative for onsite septic leachfield systems. The BioDiffuser chambers provide maximum infiltrative surface area while allowing effluent to flow in all directions. This is achieved by combining the traditional, open bottom with a series of louvers along the sides. The louvers are designed to allow effluent to pass into the backfill while preventing the backfill from migrating into the chamber. BioDiffuser chambers are constructed of high density polyethylene which is inert to sewage.

BioDiffuser chambers provide maximum benefits to your project:

- Installation requires no stone or gravel
- Easily transported to the job site
- Sturdy injection molded HDPE design
- 45° angle sections available

## BIODIFFUSER SPECIFICATIONS

|                                    | 11"<br>Standard | 16"<br>High Capacity | 15"<br>Narrow | 22"<br>Narrow |
|------------------------------------|-----------------|----------------------|---------------|---------------|
| Length                             | 76"             | 76"                  | 87"           | 87"           |
| Repeat Length                      | 75"             | 75"                  | 86"           | 86"           |
| Side Wall Height                   | 6.35"           | 11.17"               | 9.03"         | 9.03"         |
| Overall Height                     | 11"             | 16"                  | 12"           | 12"           |
| Overall Width                      | 34"             | 34"                  | 15"           | 22"           |
| Capacity, ft <sup>3</sup><br>(gal) | 9.21<br>(68.4)  | 13.58<br>(101.0)     | 5.0<br>(37.1) | 8.5<br>(62.8) |
| Units/Pallet                       | 27 chambers     | 45 chambers          | 90 chambers   | 70 chambers   |
| Truck Load Quantity*               | 39 pallets      | 21 pallets           | 14 pallets    | 14 pallets    |

\*End Caps may reduce flatbed pallet quantity.



*11" Standard*



*16" High Capacity*



*15" and 22" Narrow*

## CHAMBER ACCESSORIES



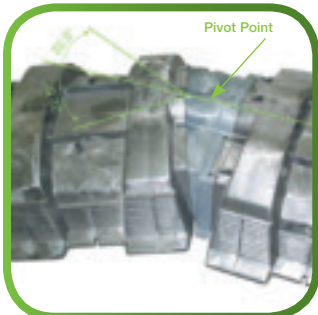
*Universal End Caps*

- One style fits both ends
- Easy to assembly
- No screws required
- Easy knockout holes



*Optional Splash Plates*

- 6" x 8"
- 150 mil plastic splash plates



*BioDiffuser Angle Section*

- Accommodates 0° to 22° angles
- Universal left or right turns
- One-foot standard chamber extension
- Available for standard and narrow chambers



*Arc Side Port Coupler*

- Available for 24, 36 and 36HC
- Allows for side entry at any joint throughout the trench line

# ADS 3000 TRIPLEWALL® AND SMOOTHWALL PIPE

ADS 3000 Triplewall Pipe and Smoothwall Pipe is made with recycled HDPE from post-consumer and industrial sources. All materials used, recycled and virgin HDPE resins alike, are tested and classified in accordance with ASTM D3350. 3000 Triplewall is co-extruded with a corrugated structural core, which is then extrusion laminated with a smooth white outer wall. Smoothwall Pipe is made with a white high-density polyethylene layer around a black polyethylene core. These lightweight pipes offer excellent beam stiffness and are unaffected by extended exposure to the sun's heat and ultraviolet radiation and are immune to freeze/thaw conditions and continuous subzero temperatures. In addition, each pipe is corrosion resistant to acids, alkalis, and salts, and will not rust.

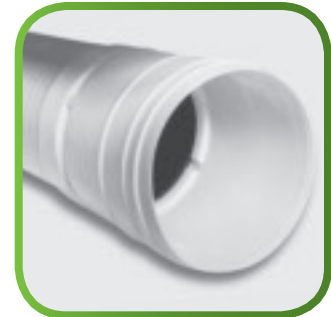
## A VERSATILE, FUNCTIONAL AND ECONOMICAL PIPE FOR A VARIETY OF APPLICATIONS:

- Waste management absorption fields
- Basement and foundation drainage
- Golf course drainage
- Temporary plumbing
- Downspouts
- Terrace risers
- Sidewalk "culverts"
- Waterway Terracing
- Irrigation Ditch Enclosures

## NOMINAL DIAMETER, IN. (MM)

| Nominal Pipe I.D., in.<br>(mm) | 3<br>(75)                                             | 4<br>(100)     | 6*<br>(150)    |
|--------------------------------|-------------------------------------------------------|----------------|----------------|
| Approx. Pipe O.D., in.<br>(mm) | 3.25<br>(83)                                          | 4.215<br>(107) | 6.275<br>(159) |
| SDR Rating                     | 38                                                    | 38             | 43             |
| Pipe Stiffness Pii<br>(kPa)    | 19<br>(0.52)                                          | 11<br>(0.82)   | 8<br>(1.74)    |
| Perforations                   | All diameters available with or without perforations. |                |                |

\*6" diameter available in Smoothwall only



***Triplewall***



***Smoothwall***



## ADDITIONAL INFORMATION

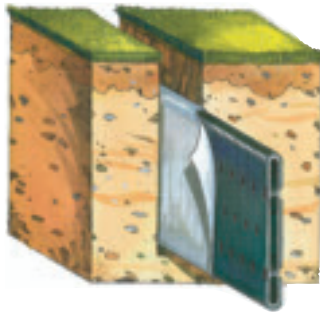
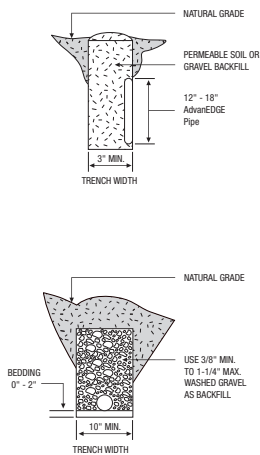
1. ASTM D2412 "Standard Test Method for Determination of External Loading Characteristics of Plastic Pipe by Parallel-Plate Loading"
2. ASTM F481 "Standard Practice for Installation of Thermoplastic Pipe and Corrugated Pipe in Septic Tank Leach Fields"

# ADVANEDGE® CURTAIN DRAINS

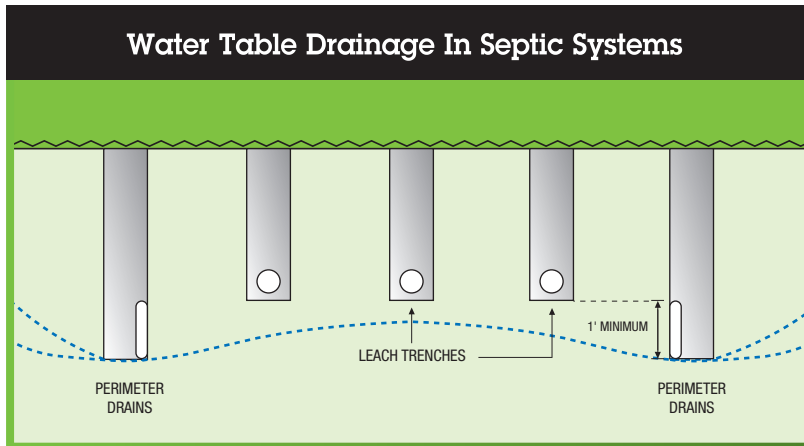
High water tables can cause flooding of the soil absorption septic system. Perimeter drains, also called curtain drains, are installed to prevent water seepage into the leach field area.

AdvanEDGE® pipe is panel-shaped, offered in 12" and 18" heights, and in coils up to 400 ft. The primary benefit of its panel design is quick drainage response after introduction of water, making it ideal for time-critical applications as opposed to 4" and gravel trench drains.

## ADVANEDGE PIPE PERIMETER DRAIN

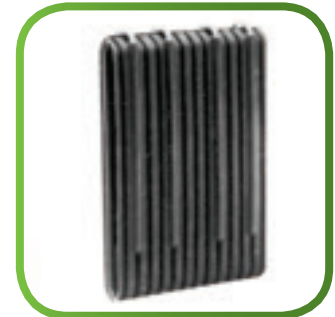


*The AdvanEDGE pipe's increased contact area allows faster drainage than conventional pipe.*



## ADDITIONAL INFORMATION

1. ASTM F481 "Standard Practice for Installation of Thermoplastic Pipe and Corrugated Pipe in Septic Tank Leach Fields"



**Coupling**



**End Outlet**



**Side Outlet**



ADS "Terms and Conditions of Sale" are available on the ADS website, [www.ads-pipe.com](http://www.ads-pipe.com)  
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