

# AQUADRAIN<sup>®</sup> 100BD

## HIGH-FLOW, BASE DRAINAGE COMPOSITE

### DESCRIPTION

AQUADRAIN<sup>®</sup> 100BD is a high-flow strip drainage composite designed for collection and transport of water to discharge pipes at the base of a below-grade foundation wall. Used in conjunction with Aquadrain sheet drainage composites, AQUADRAIN 100BD provides an uninterrupted drainage flow path.

AQUADRAIN 100BD is a two-part prefabricated drainage composite consisting of a 12" (300 mm) high by 1" (25 mm) thick, 3-dimensional polystyrene core which is wrapped with a heavy 6-oz. non-woven polypropylene filter fabric. The 3-dimensional, dimple core provides compressive strength and allows water to flow to drainage discharge pipes. The filter fabric allows water, or other liquids to pass into the drainage core while restricting the passage of soil particles. The fabric is bonded to the core to minimize fabric intrusion into the core resulting from backfill pressure. AQUADRAIN 100BD replaces aggregate drainage providing a consistent drainage flow within a thin layer.

### APPLICATIONS

AQUADRAIN 100BD is designed for use in conjunction with Aquadrain sheet drainage composites to provide an uninterrupted drainage flow path to discharge pipes at the base of foundation walls, tunnels and retaining walls. It replaces costly conventional perforated pipe/aggregate collection systems at the base of the walls.

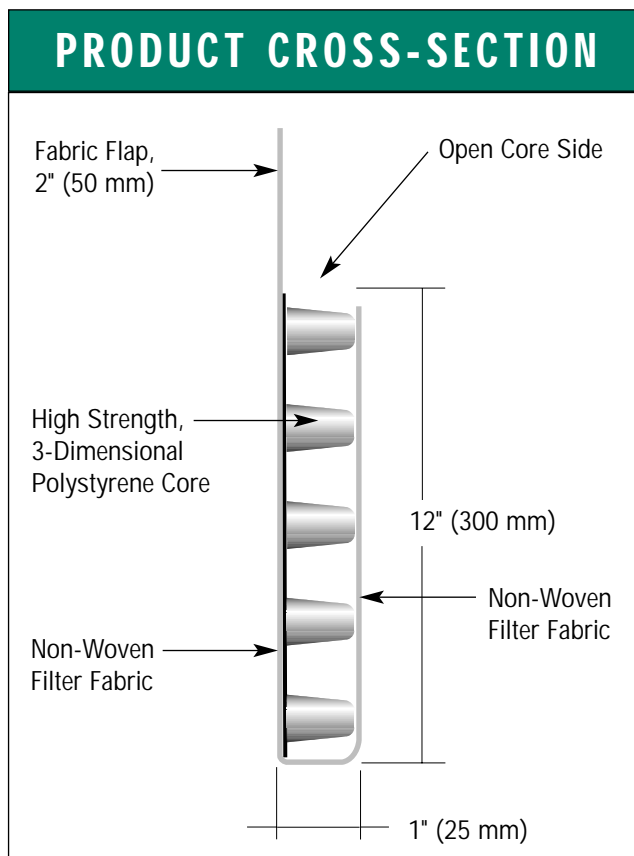
### PACKAGING

AQUADRAIN 100BD is available in 35' rolls (10.6 m); packaged 2 rolls per bag. Roll weight: 18 lbs. (8.1 Kg). Total bag Weight: 37 lbs. (16.8 Kg).

Pallet Packaging consists of 8 bags, for a total of 16 rolls — 560 linear feet (170 m) per pallet.

### INSTALLATION

**Backfilled Foundation Walls:** At the base of a foundation wall, install AQUADRAIN 100BD with the open core side up and the 2" (50mm) flap of filter fabric side against the wall. Secure the base drain to the foundation wall over Volclay<sup>®</sup> bentonite waterproofing with washer-head fasteners placed through the 2" flap of filter fabric. When placed over self-adhering sheet applied or fluid applied waterproofing membranes, use a general construction adhesive, such as Liquid Nails, to secure AQUADRAIN 100BD into position over the waterproofing membrane. Install a continuous strip of AQUADRAIN 100BD along the base of the wall. Use couplers and corner fittings as required to form a continuous installation. Install discharge outlet fittings (Corner OutLet, End Outlet, and Side Outlet) to discharge pipes as required for the project. All the outlet fittings are designed to fit standard 4" (100mm) PVC sewer pipe.



After completing the AQUADRAIN 100BD installation, place Aquadrain sheet drainage, such as AQUADRAIN 15X, with the bottom core edge overlapping the top flap filter fabric to the core edge of AQUADRAIN 100BD (See "Backfill" Detail on back page). Position filter fabric flap from bottom of Aquadrain sheet over the front of AQUADRAIN 100BD to cover the open top edge of the AQUADRAIN 100BD. Secure the overlapping filter fabric flap with duct tape or a general construction caulk adhesive.

Install subsequent rolls of Aquadrain sheet drainage to finished grade or as shown on the drawings. Interlock the core cones of adjoining sheet drainage rolls. Secure excess filter fabric flap over roll lap joints with construction adhesive or duct tape. Cut as required to fit around penetrations and other details.

**Property Line Walls:** At the base of a foundation wall, install the bottom course of Aquadrain sheet drainage (ie, Aquadrain 15X) horizontally at 12" (300 mm) high on the retaining wall. Fasten the extra fabric flap on the bottom of the sheet drainage with washer-head fasteners to the retaining wall. Install AQUADRAIN 100BD under the bottom edge of the installed sheet drainage with the open core side up and the 2" (50mm) flap of filter fabric side away from the retaining wall (See "Property Line" Detail on back page). The top edge of AQUADRAIN 100BD should overlap the fabric flap of the sheet drainage so that the soil can not get into the drain composite.

Position the 2" (50mm) fabric flap from top of AQUADRAIN 100BD over the bottom edge of the Aquadrain sheet drainage core and secure the overlapping filter fabric flap with duct tape or general construction caulk adhesive. This will enclose the open top edge of the AQUADRAIN 100BD.

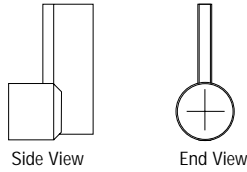
Use In-Line Couplers, RT-Angle Corner and Outlet fittings as required to form a continuous installation. Install discharge outlet fittings (Corner OutLet, End Outlet, and Side Outlet) to discharge pipes as required for the project. All the outlet fittings are designed to fit standard 4" (100mm) PVC sewer pipe.

Install subsequent rolls of Aquadrain sheet drainage to finished grade or as shown on the drawings. Interlock the core cones of adjoining sheet drainage rolls. Secure excess filter fabric flap over roll lap joints with construction adhesive or duct tape. Cut as required to fit around penetrations and other details.

# FITTINGS SCHEDULE

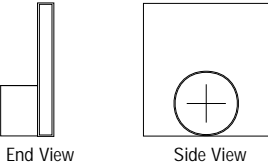
## END OUTLET

End Outlet is used to connect 100BD to a standard 4" (100mm) PVC sewer discharge pipe at the end of a wall.



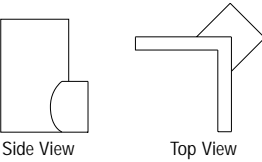
## SIDE OUTLET

Side Outlet is used to connect 100BD to a standard 4" PVC sewer discharge pipe for intermediate collection of water along footing. Also designed for property line applications.



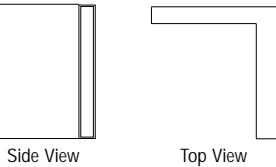
## CORNER OUTLET

Corner Outlet is used to connect 100BD to a standard 4" PVC sewer discharge pipe at an outside corner.



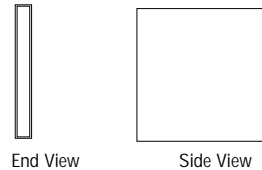
## CORNER

Corner is used to connect two strips of 100BD at an inside or outside corner.



## IN-LINE COUPLER

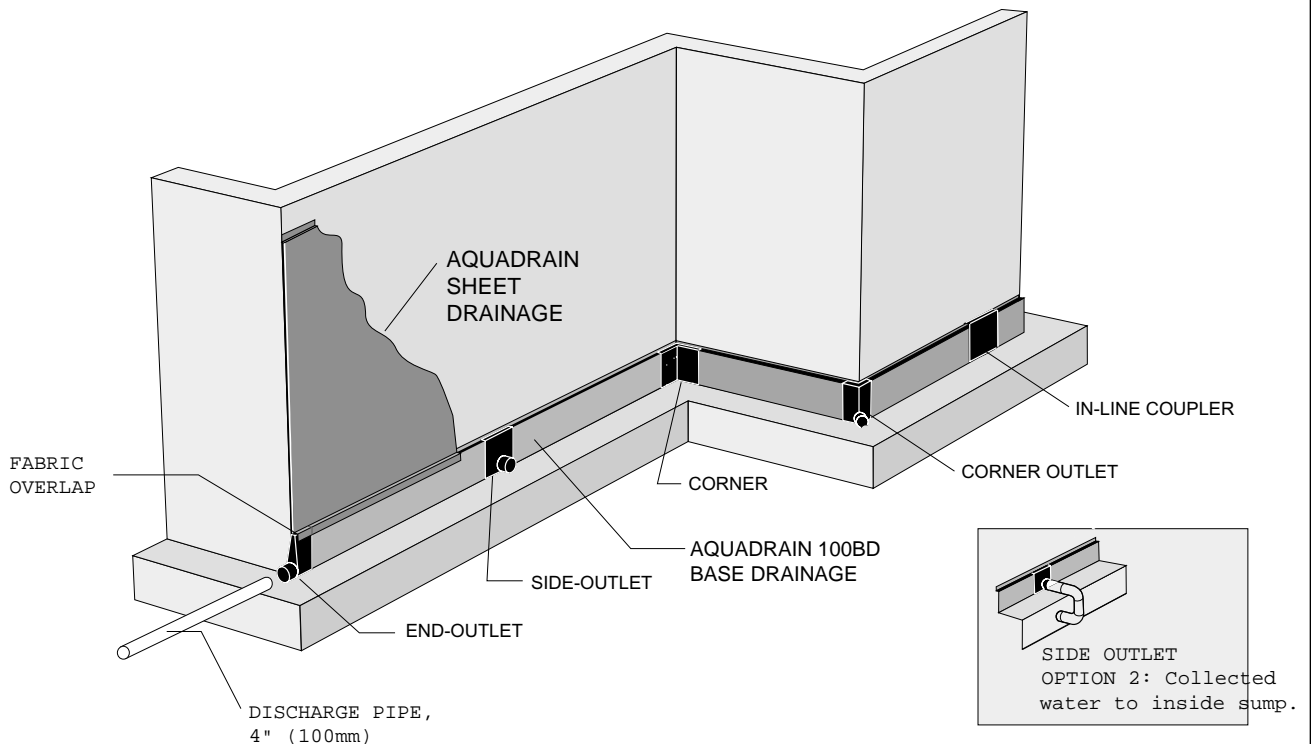
In-Line Coupler is used to connect two strips of 100BD to form a continuous base drain.



# TECHNICAL DATA

Physical Property	Test Method	Typical Value
Flow Capacity of Composite	ASTM D4716	97 gpm/ft width (1,197 l/m width)
Compressive Strength, Composite	ASTM D1621 (mod.)	10,000 lbs./ft <sup>2</sup> (457 kPa)
Fabric Weight	ASTM D3776	6 oz/yd <sup>2</sup> (203 g/m <sup>2</sup> )
Grab Tensile Strength of Fabric	ASTM D4632	160 lbs. (700 N)
Puncture Resistance of Fabric	ASTM D3787	90 lbs. (400 N)
Apparent Opening Size of Fabric	ASTM D4751	70-100 US Sieve (0.15-0.21 mm)
Burst Strength of Fabric	ASTM D3786	350 PSI (2,410 kPa)
Trapezoidal Tear of Fabric	ASTM D4533	65 lbs. (280 N)
Flow Rate of Fabric	ASTM D4491	110 gpm/ft <sup>2</sup> (4,470 l/min/m <sup>2</sup> )
Elongation of Fabric	ASTM D4632	50 percent

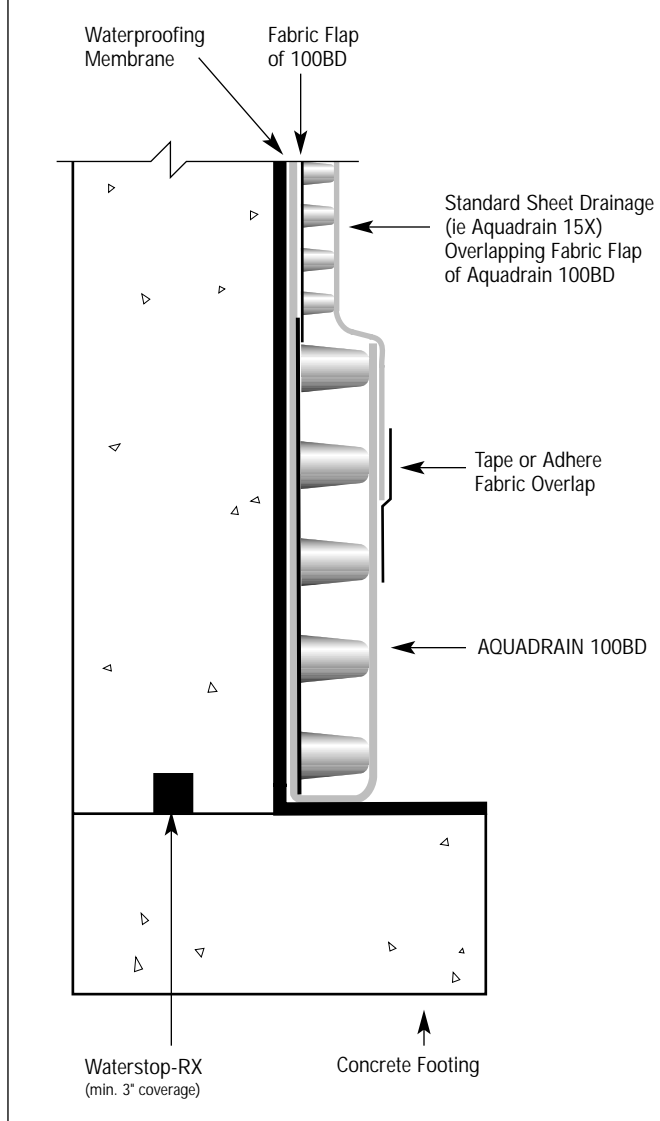
# AQUADRAIN 100BD DRAINAGE SYSTEM ILLUSTRATION



# AQUADRAIN™ 100BD BASE DRAIN

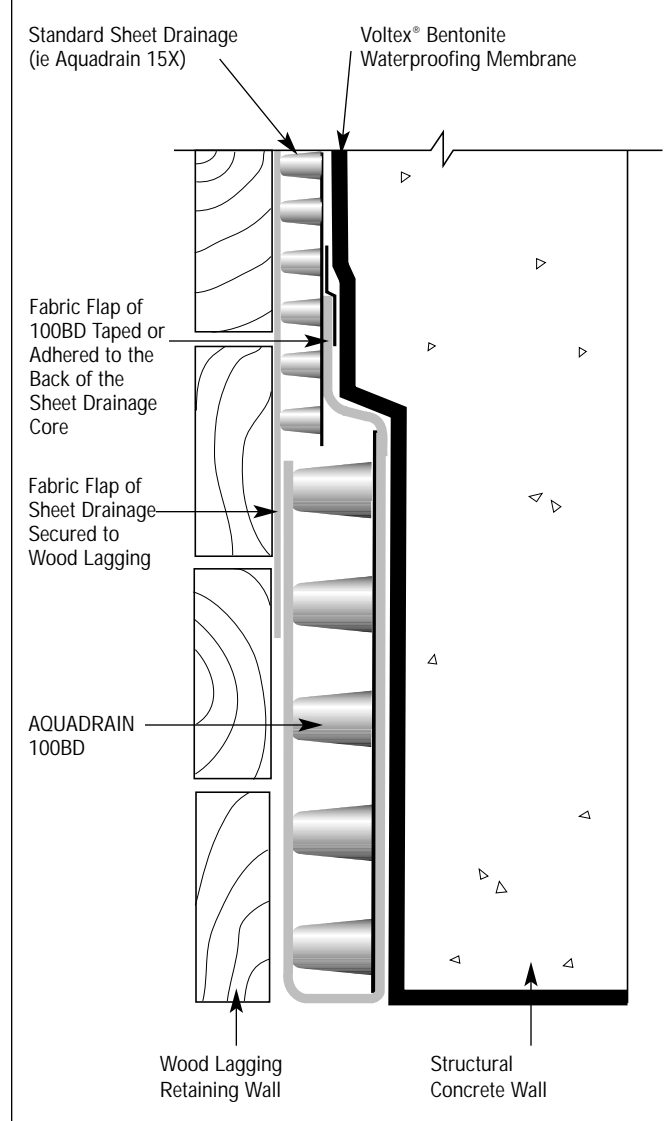
## GENERAL APPLICATION DETAILS

### BACKFILLED FOUNDATION WALL



**ON BACKFILLED WALLS, INSTALL AQUADRAIN 100BD PRIOR TO INSTALLING THE SHEET DRAIN COMPOSITE**

### PROPERTY LINE WALL



**ON PROPERTY LINE WALLS, INSTALL BOTTOM COURSE OF SHEET DRAINAGE ONTO LAGGING WALL PRIOR TO AQUADRAIN 100BD**

June 2004  
(Supersedes All Previous Versions)

The information contained herein supersedes all previous versions printed prior to June 2004, and is believed to be accurate and reliable. CETCO warrants that the product conforms to the specifications published in this literature. Contact CETCO for limitations to this warranty. CETCO reserves the right to update information without notice.

# CETCO

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