PolyDrain®

Pre-Engineered Surface Drainage Manual

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ABT, INC.®

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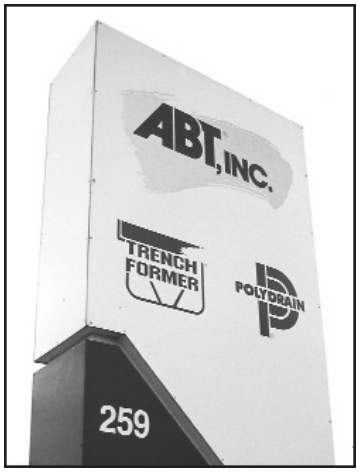
Today's Hydraulic Solutions

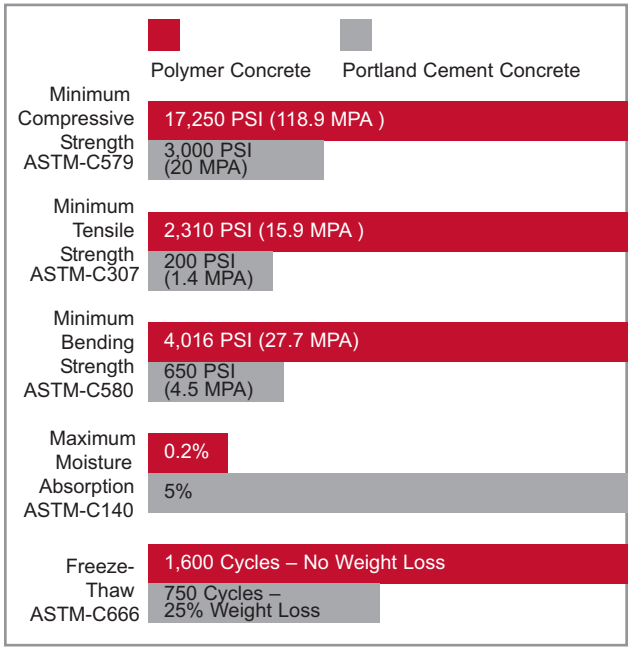
POLY DRAIN



ABT, Inc. manufactures PolyDrain trench drains; the standard for pre-engineered trench drains. Over the years the PolyDrain name has become synonymous with trench drain design. Architects and engineers, recognizing the benefits of pre-engineered polymer concrete trench drains, specify PolyDrain for a wide variety of applications. Included among these applications are food processing plants, airports, highways, loading docks, garden centers and chemical processing plants. PolyDrain polymer concrete trench drain assures the specifier of the precision and accuracy required to satisfy hydraulic or chemical resistant demands. PolyDrain offers design flexibility, as well as ease of installation. In addition, expensive labor and material costs associated with hand-forming methods are eliminated.

PolyDrain channels are a nominal meter (39.19 in., 3.27 ft.) long. Standard channels have a 0.6% built in slope. The 30 standard channels are positioned sequentially in numerical order from 010 to 300, creating a continuously sloped channel run. Channel runs can be designed with intersections or miters and fabricated onsite utilizing commercial grade cutting tools. With PolyDrain, runs of almost any length are possible by varying outlet placements, integrating non-sloping channels and using PolyWall Sidewall Extensions for increased depth.

Polymer Concrete vs. Conventional Concrete



PolyDrain Formulations

ABT offers two compositional formulations for PolyDrain channels, depending on the effluent and chemical environment. Both offer superior strength and durability as well as marked cost advantages over alternative materials.

Standard PolyDrain channels are manufactured from **PolyDyn®**, an advanced formulation of selected quartz aggregates and inert mineral fillers bonded together in a high-grade polyester resin. This formulation is suitable for use in both exterior and interior applications.

When a higher level of chemical resistance is required, ABT offers PolyDrain in a special formulation called **PolyChampion®**, which has the same quartz and mineral fillers as the PolyDyn formulation, but with a premium grade vinylester resin binder. This formulation will withstand a broader range of corrosive salts, fuels, acids and alkalis.

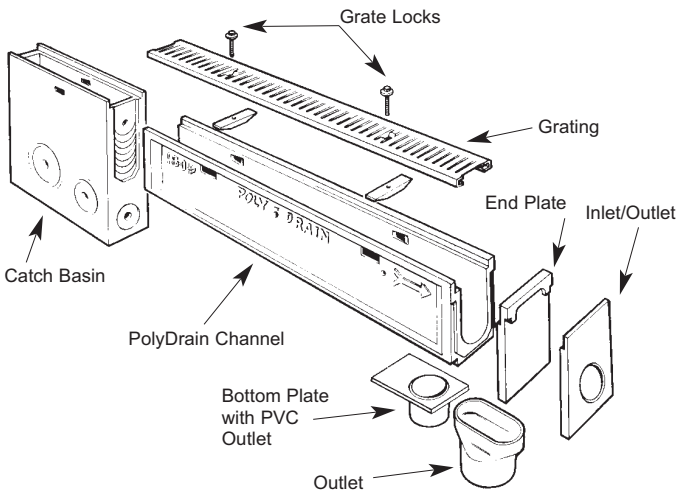
Comparative Analysis

Fluid	Polymer Concrete		Portland Cement
	PolyDyn	PolyChampion	
Water	✔	✔	Permeable
Gasoline	✔	✔	Permeable
Diesel Fuel	✔	✔	Permeable
Aviation Fuel	✔	✔	Permeable
Hydraulic Oil	✔	✔	Permeable
Fuel Oil	✔	✔	Permeable
Hydraulic Fluid	✔	✔	Permeable
Motor Oil	✔	✔	Permeable
Sea Water	✔	✔	Permeable
Acids		✔	Corrodes
Road Salts	✔	✔	Corrodes

Polymer Concrete is resistant to salt, oil, gas, sewage, most acids and many alkalis. This makes it excellent for chemical transport, washdown and food processing, as well as many other applications.

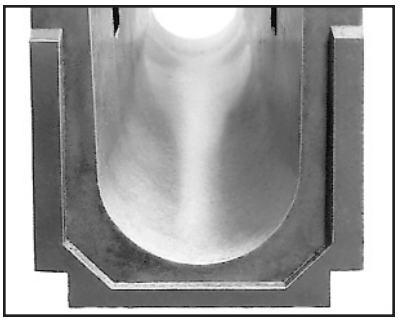
Portland Cement Concrete is subject to deterioration of varying degrees under any of these conditions.

Typical PolyDrain System



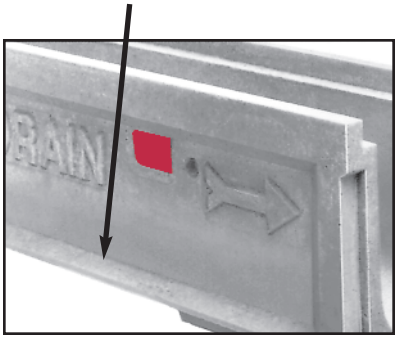
Pre-Sloped Radius Channels

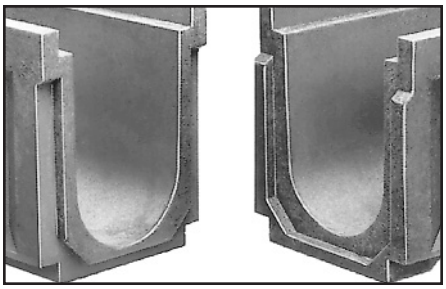
Standard PolyDrain channels have a built-in 0.6% slope with a smooth radius bottom and a narrow cross section. These features provide excellent hydraulic efficiency. Without any site slope, a 3.5 feet per second velocity is obtained when the channels are flowing full.



Anchoring Ribs

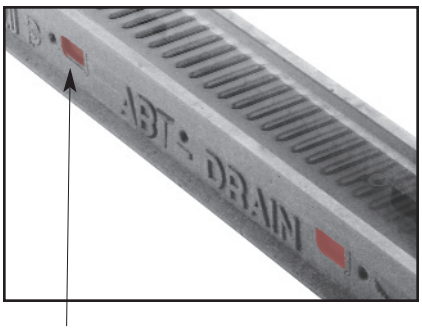
PolyDrain channels are formed with full-length anchoring ribs on each side of the channel at the base of the side wall. These anchoring ribs provide a positive mechanical lock with surrounding concrete.





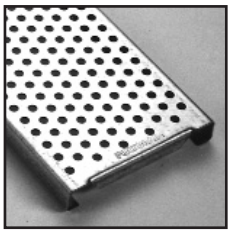
Interlocking Joints

PolyDrain channels have interlocking tongue-and-groove joints that serve two important functions. First they aid in maintaining proper channel alignment during the pour. Second, they assist in securing channel connections to prevent fluid migration out of the system. ABT maintains a line of sealants that can be applied to channels when a sealed system is required.



PolyLock™ Inserts

PolyDrain channels feature RedDot® polyethylene inserts or GreenDot® polypropylene inserts. These, together with the grate locking devices comprise the PolyLock grate lock-down system. RedDot inserts also provide vibration dampening that helps keep grates secure under traffic conditions.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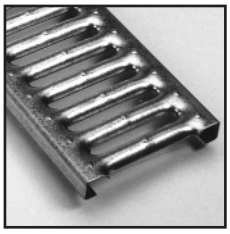
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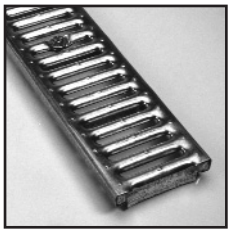
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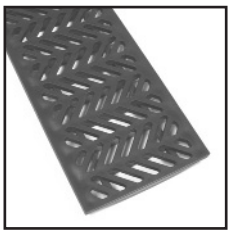
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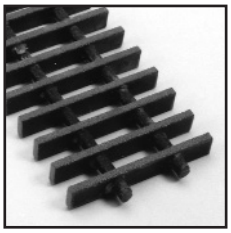
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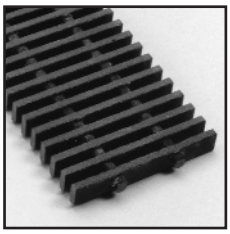
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400 Series Stamped Grates

Perforated Heel-Proof Grates

Part No.	Material	Proof Load PSI	Length in (m)	Weight lb (kg)	Locking Device
2410	Galvanized steel	15	39.19 (1.0)	6 (2.7)	2810A
2452	18-8 Stainless steel	15	39.19 (1.0)	6 (2.7)	2840A
2486	Brass	15	39.19 (1.0)	8 (3.6)	2892A

Reinforced Perforated Heel-Proof Grates

Part No.	Material	Proof Load PSI	Length in (m)	Weight lb (kg)	Locking Device
2412	Galvanized steel	150	39.19 (1.0)	8 (3.6)	2810A
2454	Stainless steel	150	39.19 (1.0)	8 (3.6)	2840A

Perforated grating for 300 psi proof load available on special order basis.

Slotted Steel Grates

Part No.	Material	Proof Load PSI	Length in (m)	Weight lb (kg)	Locking Device
2420	Galvanized steel	150	39.19 (1.0)	6 (2.7)	2811A
2440	Stainless steel	150	39.19 (1.0)	6 (2.7)	2841A

Reinforced Slotted Steel Grates

Part No.	Material	Proof Load PSI	Length in (m)	Weight lb (kg)	Locking Device
2422	Galvanized steel	300	39.19 (1.0)	8 (3.6)	2811A
2442	Stainless steel	300	39.19 (1.0)	8 (3.6)	2841A
2442.19	Stainless steel	300	39.19 (1.0)	8 (3.6)	2841A

300 & 700 Series Non-Metal Grates

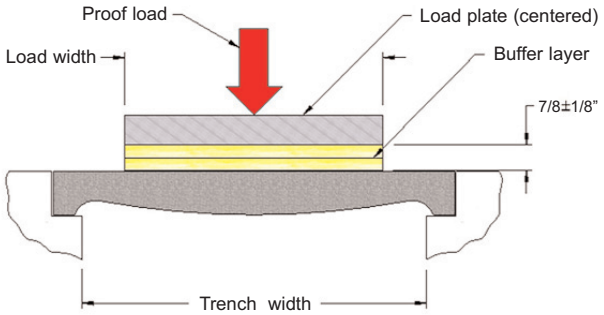
Part No.	Material	Proof Load PSI	Length in (m)	Weight lb (kg)	Locking Device
2336	Thermoplastic Heel-proof	15	19.60 (0.5)	1.1 (.50)	2840.25A
2720	Vinylester FRP(bars on 1" centers)	150	39.19 (1.0)	4 (1.8)	2887
2722	Vinylester FRP(bars on 0.6" centers)	300	39.19 (1.0)	6 (2.7)	2887

Special Accessories

Part No.	Material	Length in (m)	Weight lb (kg)
2498.04SS	Stainless Steel Heavy Duty Frame	39.19 (1.0)	19 (8.6)
2459	Stainless Steel Overlay Rails	39.19 (1.0)	1.5 (.68)

Note: Always use a frame when hard wheel traffic is anticipated. ABT recommends a frame or overlay rail if regular or frequent pneumatic traffic is expected.

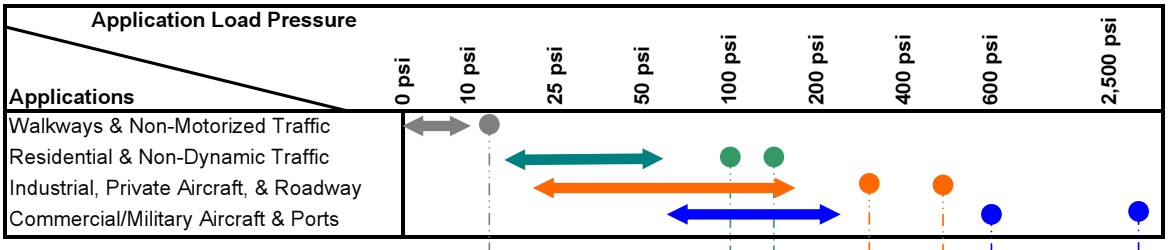
Modified AASHTO M306-05 Proof Test Procedure



Test Parameters

1. Buffer layer is one or more layers of grade PS 2-92 oriented strand board with same width and length as load plate.
2. Load plate width = 9" ± 1/8" (229 mm ± 3 mm) or 75% trench width ± 1/8" (3 mm), whichever is less, centered on grate.
3. Load plate length = 9" ± 1/8" (229 mm ± 3 mm) for all trench widths.
4. Proof pressure as per application specification requirement.
5. Proof load = proof pressure * load width * load length reached within 1 minute, ± 10 seconds, for 1 minute duration.
6. Pass/fail criteria = no cracks and <= 5% trench width permanent deformation in grate after proof load.

GRATE APPLICATION TABLE



Proof Load Equivalent Pressure:

1. ABT Pedestrian Proof Pressure (15 psi)
2. AASHTO H-20 (100 psi)
3. ABT Automotive Proof Pressure - No Dymanic Loading - (150 psi)
4. ABT Industrial & Roadway Proof Pressure (300 psi)
5. AASHTO M306 (494 psi)
6. ABT Ports & Airport Proof Pressure (600 psi)
7. FAA AC150/5320-6D Appendix 3 load (2X Safety Factor) applied to 9' x 9" area (2,469 psi)

Notes:

The above table shows the range of loads for applications common in a category. For pneumatic tire applications, load pressure is approximately inflation pressure. Dynamic forces are also created by traffic braking, accelerating, or turning while contacting the grate and are not reflected in the table above. Where and/or if an application falls within one of the ranges and any special conditions is the sole responsibility of the Buyer or their Professional Representative.


2501

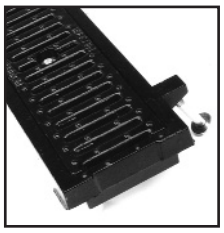

2502


2504


2506


2510MFFAF


2512AF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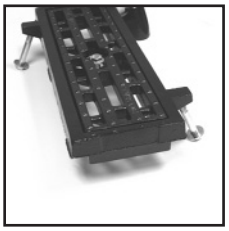
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2516AF


2507

500 Series Cast Grates

Ductile Iron Solid Cover

Part No.	Material*	Proof Load PSI	Length in (m)	Weight lb (kg)	Locking Device
♿ 2501	Ductile iron	300	19.60 (0.5)	12 (5.4)	2811B

Slotted Grates

Part No.	Material*	Proof Load PSI	Length in (m)	Weight lb (kg)	Locking Device
2502	Ductile iron	300	19.60 (0.5)	8 (3.6)	2811B

Longitudinally Slotted Grates

Part No.	Material*	Proof Load PSI	Length in (m)	Weight lb (kg)	Locking Device
♿ 2504	Ductile iron	600	19.60 (0.5)	10 (4.5)	2811B

Ornamental Ductile Iron Grate

Part No.	Material*	Proof Load PSI	Length in (m)	Weight lb (kg)	Locking Device
	Call ABT Inc. for additional Ornamental Options 1-800-438-6057				
♿ 2506	Ductile iron	300	19.60 (0.5)	7 (3.2)	2811B

510AF Frame & Grate Assemblies

Part No.	Material*	Proof Load PSI	Length in (m)	Weight lb (kg)	Locking Device
2511AF	Ductile iron frame and 501	300	19.60 (0.5)	21 (9.5)	2815B
2512AF	Ductile iron frame and 502	300	19.60 (0.5)	15 (6.8)	2815B
2513AF	Ductile iron frame and 503	600	19.60 (0.5)	18 (8.5)	2815B
♿ 2514AF	Ductile iron frame and 504	600	19.60 (0.5)	17 (7.7)	2815B
♿ 2515AF	Ductile iron frame and 505	300	19.60 (0.5)	17 (7.7)	2815B
♿ 2516AF	Ductile iron frame and 506	300	19.60 (0.5)	11 (5.0)	2810AXL

530 Frame & Grate Assemblies

Part No.	Material*	Proof Load PSI	Length in (m)	Weight lb (kg)	Locking Device
2532	Gray iron (class 30) and 502	600	19.60 (0.5)	30 (13.6)	2815F
2534	Gray iron (class 30) frame, ductile iron longitudinally-slotted grate	600	19.60 (0.5)	25 (11.3)	2815F

510MFFAF Fabrication/End Frame

Part No.	Material*	Length in (m)	Weight lb (kg)	Locking Device
2510MFFAF	Ductile iron	19.60 (0.5)	9 (4.1)	N/A

NOTE: One is required at each end run, one at each tee, two are required at 90° turn.

Ornamental ADA Heel-Proof Grate/Frame

Part No.	Material*	Length in (m)	Weight lb (kg)	Locking Device
♿ 507	Ductile iron Ornamental	19.60 (0.5)	10 (4.5)	811B

*All ductile iron grates and frames available with galvanized coating. All ductile and cast grates have compatible anchor frames.

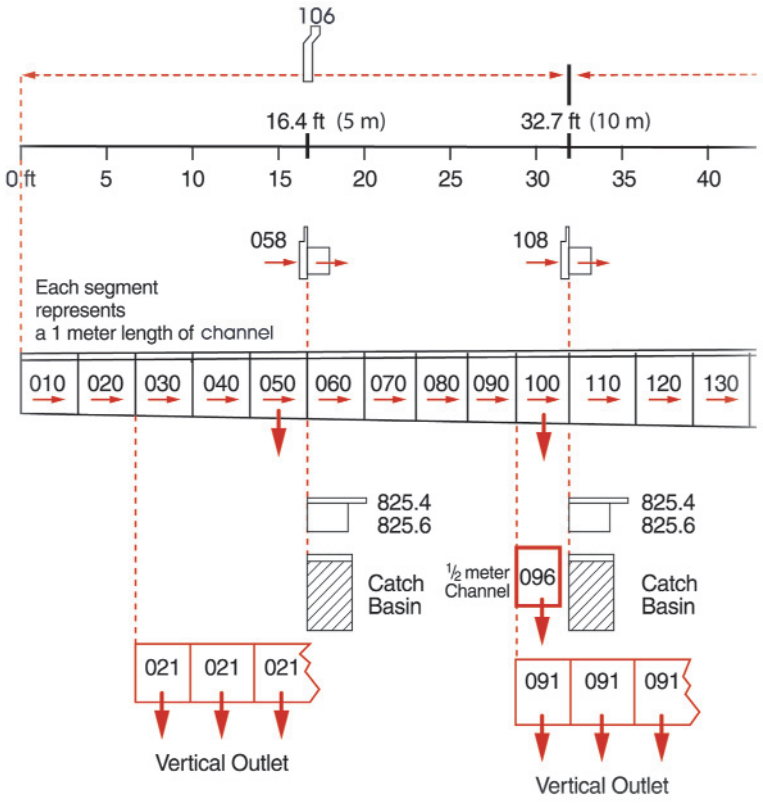
Key to special compliance grates

♿ Meets Americans with Disabilities Act (ADA) Requirements. All ADA rated grates are also heelproof (excluding 2504).

Note:
Custom grates are available in other materials.
All grates are available in 1/2 meter length.
Light duty solid covers are available (not shown).

The **PolyDrain Trench Drain System** consists of 30 interlocking sloped channels and 4 non-sloped channels. Special non-sloping channels can be inserted at specified intervals in order to extend channel runs. Catch basins, horizontal outlet plates, closed end plates and vertical outlet plate adapters can be installed at designated locations. Closed end plates terminate channel runs. To determine number of channels required simply divide footage by 3.27.

NOTE: Always begin at the appropriate outlet channel, working towards the shallow end.



Channel Specifications

Use this chart to estimate flow capacities and invert elevations. Add a minimum of 4" to overall depths to estimate necessary excavation or as recommended by Structural Engineer. Actual depth of excavation is governed by slab or pavement thickness.

When using the Model 510 or 530 Series frame and grate systems, add 1.2 in. (31 mm) to the overall depths.

NOTES:

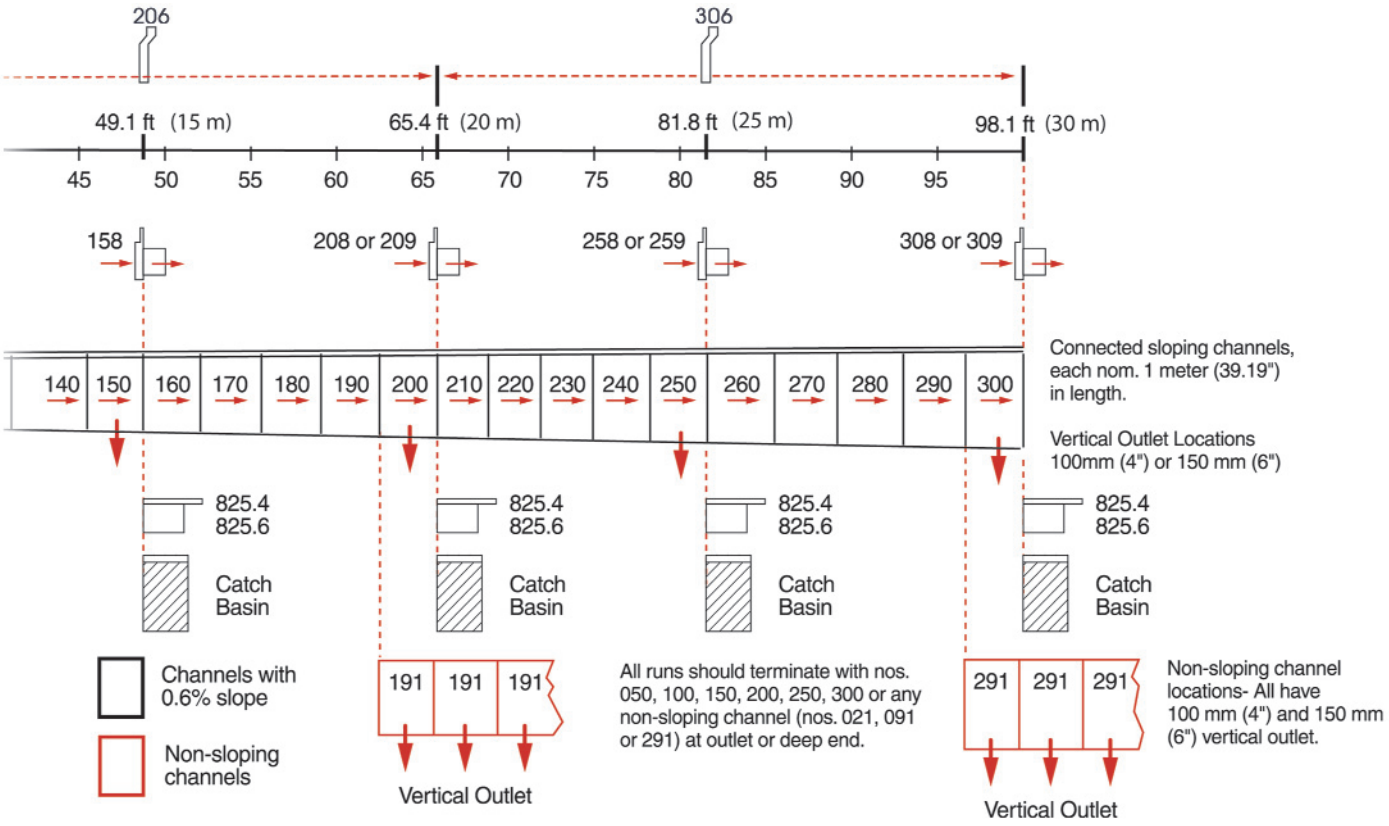
Subtract 1 in. (25 mm) from minimum and maximum depths shown to obtain invert elevations.

Red part numbers indicate non-sloping channels.

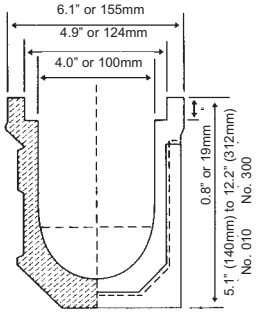
Hydraulic data does not have a grate locking device in flow area.

n=0.010

Part No.	Channel Only				Channel With PolyWall I			
	Overall Channel Depth in. (cm)		Maximum Flow Rate gpm (lpm)	Weight lbs (kg)	Overall Channel Depth in. (cm)		Maximum Flow Rate gpm (lpm)	Weight lbs (kg)
	Minimum	Maximum			Minimum	Maximum		
010	5.1 (12.9)	5.3 (13.5)	106.7 (403.8)	31.1 (14.1)	12.2 (30.9)	12.4 (31.5)	389.9 (1476.1)	82.9 (37.6)
020	5.3 (13.5)	5.6 (14.1)	115.8 (438.3)	32.8 (14.9)	12.4 (31.5)	12.6 (32.1)	399.5 (1512.4)	84.6 (38.4)
021	5.6 (14.1)	5.6 (14.1)	—	32.0 (14.5)	12.6 (32.1)	12.6 (32.1)	—	83.8 (38.0)
030	5.6 (14.1)	5.8 (14.7)	125.0 (473.1)	33.6 (15.2)	12.6 (32.1)	12.9 (32.7)	409.1 (1548.7)	85.4 (38.7)
040	5.8 (14.7)	6.0 (15.3)	134.2 (508.0)	34.3 (15.5)	12.9 (32.7)	13.1 (33.3)	418.7 (1584.9)	86.1 (39.0)
050	6.0 (15.3)	6.3 (15.9)	143.5 (543.0)	33.8 (15.3)	13.1 (33.3)	13.3 (33.9)	428.3 (1621.2)	85.6 (38.8)
060	6.3 (15.9)	6.5 (16.5)	152.7 (578.2)	35.2 (16.0)	13.3 (33.9)	13.6 (34.5)	437.9 (1657.6)	87.0 (39.5)
070	6.5 (16.5)	6.7 (17.1)	162.1 (613.5)	36.2 (16.4)	13.6 (34.5)	13.8 (35.1)	447.5 (1693.9)	88.0 (39.9)
080	6.7 (17.1)	7.0 (17.7)	171.4 (648.9)	37.0 (16.8)	13.8 (35.1)	14.0 (35.7)	457.1 (1730.2)	88.8 (40.3)
090	7.0 (17.7)	7.2 (18.3)	180.8 (684.3)	38.0 (17.2)	14.0 (35.7)	14.3 (36.3)	466.7 (1766.5)	89.8 (40.7)
091	7.2 (18.3)	7.2 (18.3)	—	37.4 (17.0)	14.3 (36.3)	14.3 (36.3)	—	89.2 (40.5)
096	7.2 (18.3)	7.2 (18.3)	—	20.1 (9.1)	14.3 (36.3)	14.3 (36.3)	—	71.9 (32.6)
100	7.2 (18.3)	7.4 (18.9)	190.2 (719.9)	37.6 (17.1)	14.3 (36.3)	14.5 (36.9)	476.3 (1802.9)	89.4 (40.6)
110	7.4 (18.9)	7.7 (19.5)	199.6 (755.5)	39.8 (18.1)	14.5 (36.9)	14.8 (37.5)	485.9 (1839.2)	91.6 (41.5)
120	7.7 (19.5)	7.9 (20.1)	209.0 (791.2)	40.6 (18.4)	14.8 (37.5)	15.0 (38.1)	495.5 (1875.6)	92.4 (41.9)
130	7.9 (20.1)	8.2 (20.7)	218.5 (826.9)	42.4 (19.2)	15.0 (38.1)	15.2 (38.7)	505.1 (1912.0)	94.2 (42.7)
140	8.2 (20.7)	8.4 (21.3)	227.9 (862.7)	42.8 (19.4)	15.2 (38.7)	15.5 (39.3)	514.7 (1948.4)	94.6 (42.9)
150	8.4 (21.3)	8.6 (21.9)	237.4 (898.6)	42.6 (19.3)	15.5 (39.3)	15.7 (39.9)	524.3 (1984.7)	94.4 (42.8)
160	8.6 (21.9)	8.9 (22.5)	246.9 (934.4)	44.2 (20.0)	15.7 (39.9)	15.9 (40.5)	533.9 (2021.1)	96.0 (43.5)
170	8.9 (22.5)	9.1 (23.1)	256.3 (970.4)	45.1 (20.5)	15.9 (40.5)	16.2 (41.1)	543.5 (2057.5)	96.9 (44.0)
180	9.1 (23.1)	9.3 (23.7)	265.8 (1006.3)	46.1 (20.9)	16.2 (41.1)	16.4 (41.7)	553.2 (2093.9)	97.9 (44.4)
190	9.3 (23.7)	9.6 (24.3)	275.4 (1042.3)	46.8 (21.2)	16.4 (41.7)	16.7 (42.3)	562.8 (2130.3)	98.6 (44.7)
191	9.6 (24.3)	9.6 (24.3)	—	46.6 (21.1)	16.7 (42.3)	16.7 (42.3)	—	98.4 (44.6)
200	9.6 (24.3)	9.8 (24.9)	284.9 (1078.3)	46.9 (21.3)	16.7 (42.3)	16.9 (42.9)	572.4 (2166.8)	98.7 (44.8)
210	9.8 (24.9)	10.0 (25.5)	294.4 (1114.4)	48.6 (22.0)	16.9 (42.9)	17.1 (43.5)	582.0 (2203.2)	100.4 (45.5)
220	10.0 (25.5)	10.3 (26.1)	303.9 (1150.5)	49.8 (22.6)	17.1 (43.5)	17.4 (44.1)	591.6 (2239.6)	101.6 (46.1)
230	10.3 (26.1)	10.5 (26.7)	313.5 (1186.6)	50.0 (22.7)	17.4 (44.1)	17.6 (44.7)	601.3 (2276.0)	101.8 (46.2)
240	10.5 (26.7)	10.7 (27.3)	323.0 (1222.7)	51.5 (23.4)	17.6 (44.7)	17.8 (45.3)	610.9 (2312.5)	103.3 (46.9)
250	10.7 (27.3)	11.0 (27.9)	332.6 (1258.9)	50.5 (22.9)	17.8 (45.3)	18.1 (45.9)	620.5 (2348.9)	102.3 (46.4)
260	11.0 (27.9)	11.2 (28.5)	342.1 (1295.0)	52.4 (23.7)	18.1 (45.9)	18.3 (46.5)	630.1 (2385.3)	104.2 (47.2)
270	11.2 (28.5)	11.5 (29.1)	351.7 (1331.2)	53.0 (24.0)	18.3 (46.5)	18.5 (47.1)	639.8 (2421.8)	104.8 (47.5)
280	11.5 (29.1)	11.7 (29.7)	361.2 (1367.4)	54.5 (24.7)	18.5 (47.1)	18.8 (47.7)	649.4 (2458.2)	106.3 (48.2)
290	11.7 (29.7)	11.9 (30.3)	370.8 (1403.6)	54.9 (24.9)	18.8 (47.7)	19.0 (48.3)	659.0 (2494.7)	106.7 (48.4)
291	11.9 (30.3)	11.9 (30.3)	—	53.4 (24.2)	19.0 (48.3)	19.0 (48.3)	—	105.2 (47.7)
300	11.9 (30.3)	12.2 (30.9)	380.4 (1439.9)	55.6 (25.3)	19.0 (48.3)	19.3 (48.9)	668.7 (2531.2)	107.4 (48.7)

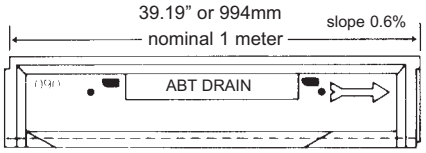


Channel With PolyWall II				Part No.
Overall Channel Depth in. (cm)		Maximum Flow Rate gpm (lpm)	Weight lbs (kg)	
Minimum	Maximum			
19.3 (48.9)	19.5 (49.5)	678.3 (2567.6)	106.5 (46.3)	010
19.5 (49.5)	19.7 (50.1)	687.9 (2604.1)	108.2 (47.1)	020
19.7 (50.1)	19.7 (50.1)	—	107.4 (46.7)	021
19.7 (50.1)	20.0 (50.7)	697.6 (2640.5)	109.0 (47.4)	030
20.0 (50.7)	20.2 (51.3)	707.2 (2677.0)	109.7 (47.7)	040
20.2 (51.3)	20.4 (51.9)	716.8 (2713.5)	109.2 (47.5)	050
20.4 (51.9)	20.7 (52.5)	726.5 (2750.0)	110.6 (48.2)	060
20.7 (52.5)	20.9 (53.1)	736.1 (2786.4)	111.6 (48.6)	070
20.9 (53.1)	21.1 (53.7)	745.7 (2822.9)	112.4 (49.0)	080
21.1 (53.7)	21.4 (54.3)	755.4 (2859.4)	113.4 (39.4)	090
21.4 (54.3)	21.4 (54.3)	—	112.8 (49.2)	091
21.4 (54.3)	21.4 (54.3)	—	95.5 (41.3)	096
21.4 (54.3)	21.6 (54.9)	765.0 (2895.9)	113.0 (49.3)	100
21.6 (54.9)	21.9 (55.5)	774.7 (2932.4)	115.2 (50.3)	110
21.9 (55.5)	22.1 (56.1)	784.3 (2968.9)	116.0 (50.6)	120
22.1 (56.1)	22.3 (56.7)	793.9 (3005.4)	117.8 (51.4)	130
22.3 (56.7)	22.6 (57.3)	803.6 (3041.9)	118.2 (51.6)	140
22.6 (57.3)	22.8 (57.9)	813.2 (3078.4)	118.0 (51.5)	150
22.8 (57.9)	23.0 (58.5)	822.9 (3114.9)	119.6 (52.3)	160
23.0 (58.5)	23.3 (59.1)	832.5 (3151.4)	120.5 (52.7)	170
23.3 (59.1)	23.5 (59.7)	842.1 (3187.9)	121.5 (53.1)	180
23.5 (59.7)	23.7 (60.3)	851.8 (3224.4)	122.2 (53.4)	190
23.7 (60.3)	23.7 (60.3)	—	122.0 (53.3)	191
23.7 (60.3)	24.0 (60.9)	861.4 (3260.9)	122.3 (53.5)	200
24.0 (60.9)	24.2 (61.5)	871.1 (3297.4)	124.0 (54.2)	210
24.2 (61.5)	24.4 (62.1)	880.7 (3333.9)	125.2 (54.8)	220
24.4 (62.2)	24.7 (62.7)	890.4 (3370.4)	125.4 (54.9)	230
24.7 (62.7)	24.9 (63.3)	900.0 (3406.9)	126.9 (55.6)	240
24.9 (63.3)	25.2 (63.9)	909.7 (3443.4)	125.9 (55.1)	250
25.2 (63.9)	25.4 (64.5)	919.3 (3480.0)	127.8 (55.9)	260
25.4 (64.5)	25.6 (65.1)	929.0 (3516.5)	128.4 (56.2)	270
25.6 (65.1)	25.9 (65.7)	938.6 (3553.0)	129.9 (56.9)	280
25.9 (65.7)	26.1 (66.3)	948.2 (3589.5)	130.3 (57.1)	290
26.1 (66.3)	26.1 (66.3)	—	128.8 (56.4)	291
26.1 (66.3)	26.3 (66.9)	957.9 (3626.0)	131.0 (57.4)	300

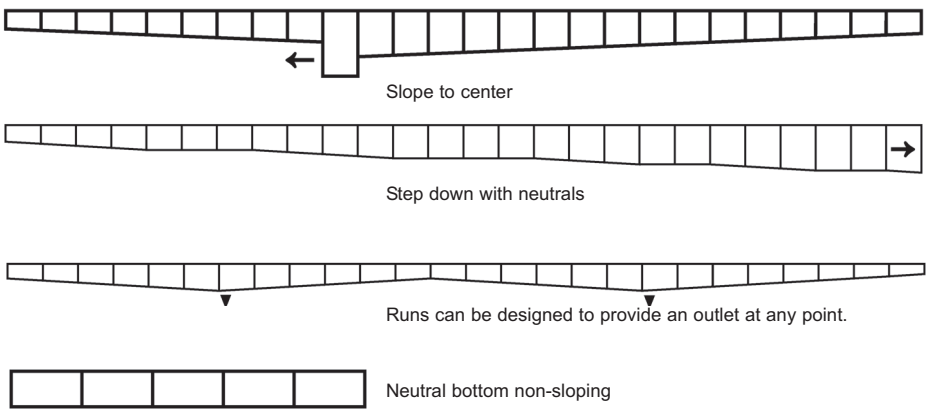


Minimum overall depth (No. 010)	5.1 in. (128 mm)
Maximum overall depth (No. 300)	12.2 in. (309 mm)
Inside top width (all channels)	4.0 in. (100 mm)
Maximum cross section flow area	39.9 sq. in. (25,400 mm[2])
Length of slope system	98.1 feet (30 m)
Channel bottom thickness	1.0 in. (nom.) (20 mm)

PolyDrain systems can be extended to greater lengths by insertion of any number of non-slope channels (No. 021, 091, 096, 191, and 291) at the appropriate locations, or by the addition of PolyWall sidewall extensions.

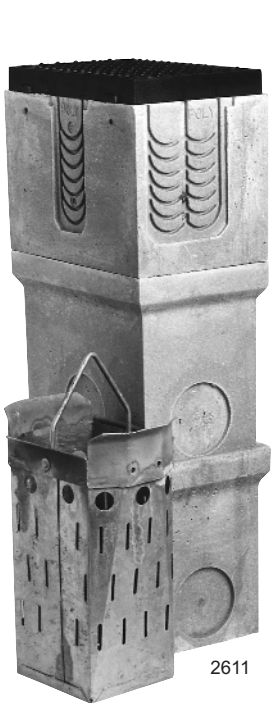


Run Variations



610-611 Large Catch Basins

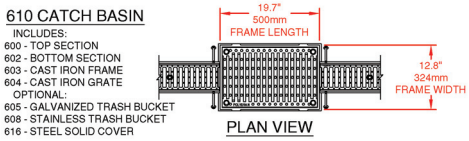
PolyDrain's 610 and 611 Large Catch Basins are designed to accept large volumes of fluids. Removable stainless or galvanized steel trash buckets are available and a cast iron grate and frame is included. Catch basins are 19.6" long and 12.8" wide and have pre-formed cutouts for insertion of channels and 6 in. (150 mm) outlets on all four sides of the basin, although other pipe sizes can be fitted to the catch basin as required. PolyDrain Large Catch Basins have a stackable design which allows for installation to any required depth.

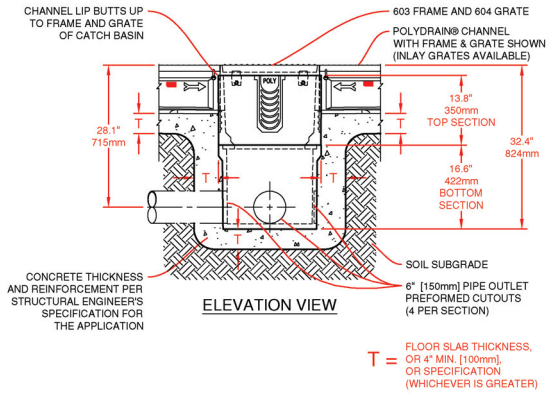


2611

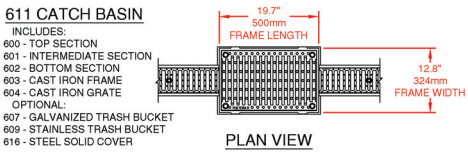
2610

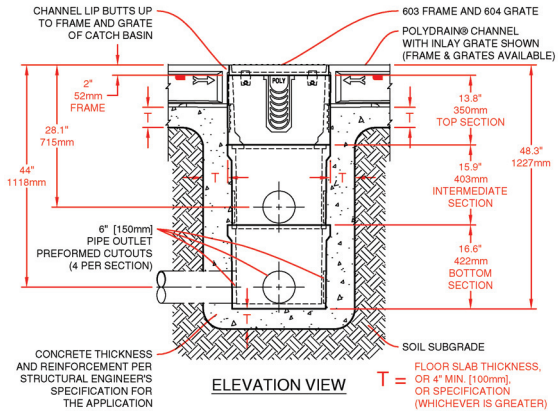
610 Large Catch Basin





611 Large Catch Basin





600 Series Grates

Slotted Grates for 600 Series Catch Basins

	Part No.	Material	Proof Load PSI	Length in (m)	Weight lb (kg)	Locking Device
H20	2604	Gray iron (class 30)	600	18.87 (0.48)	55 (24.9)	2828

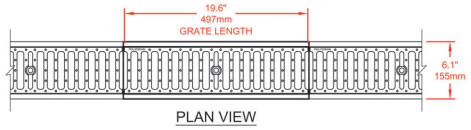
900 Series Small Catch Basins

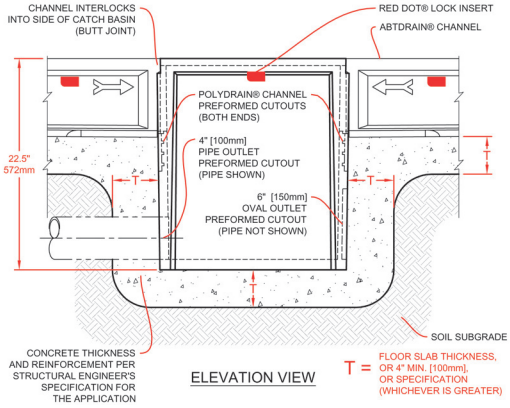
PolyDrain's 900 Series Catch Basins have the same outside dimensions as standard PolyDrain channels. Designed to accept side-wall extensions, they can be positioned any place in a channel run. The 900 Series Catch Basins are available with easy-to-remove stainless or galvanized steel trash buckets and can accept the full range of lockable inlay or frame-and-grate systems. Available with foul air traps when required.

2905 Trash Bucket 2903/2904 Trash

900 Series

900 Series Small Catch Basins

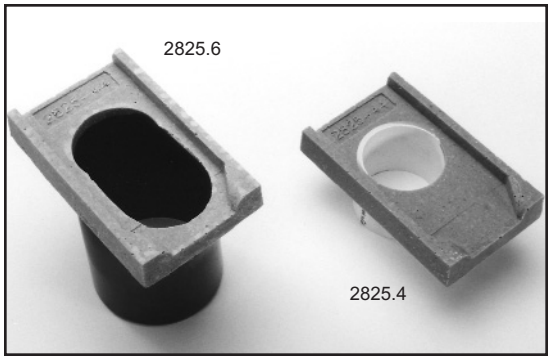




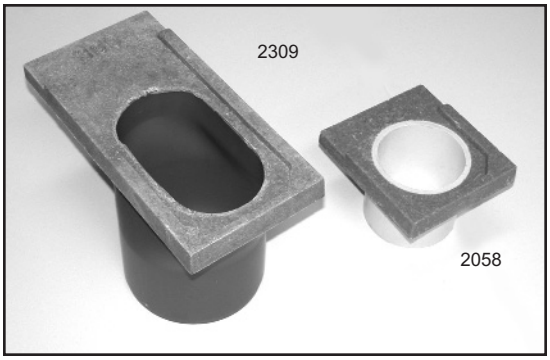
Inlets and Outlets

All 4 in. (100 mm) horizontal plates have inlet or outlet capability. As outlets, they fit the downstream end of every fifth channel, or as inlets, the upstream end of the following channel. All 4 in. (100 mm) plates are made with a PVC sleeve to accept either SCH40 or SDR35 pipe. 6 in. (150 mm) outlet plates are made with a special adapter flume. Vertical outlet plates fit over the cutouts on each of the outlet channels. 8 in. and 12 in. outlets are also available.

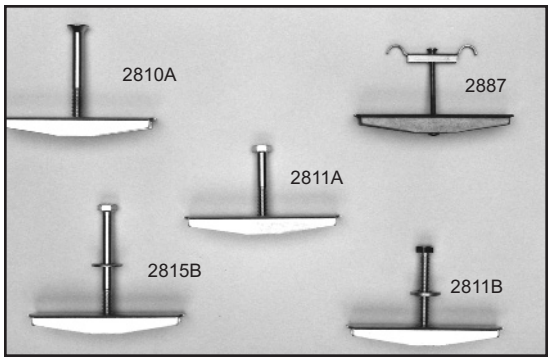
8" Outlet (12" Outlet Available)

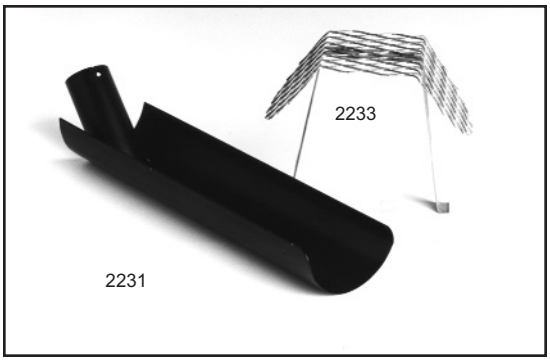


Vertical Outlet Plates



Horizontal End Plates





Locking Devices

Grate locking devices are recommended for all applications involving vehicular traffic, or where vandalism may be a problem. Locking devices are provided in zinc-plated, stainless steel and brass. The bolt is threaded into the lock toggle through the hole provided in the grate prior to grate installation. As the bolt is tightened, the toggle cams into place for hands-free installation.

Shovel Head

Designed to conform to the PolyDrain channel bottom.

4 in. (100 mm) Strainer

The zinc-plated strainer is designed to intercept leaves and similar type trash to prevent it from entering the sewer system. Fits all 4 in. (100 mm) vertical channel outlets. Also available in stainless.

PolySeal

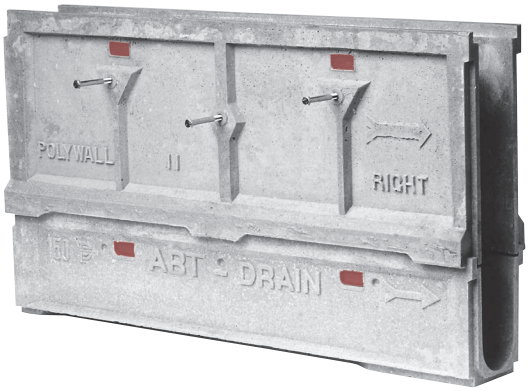
PolySeal 1 is a single-part polyurethane in a standard paper caulk tube, and is used as a general purpose sealant for gray water applications.

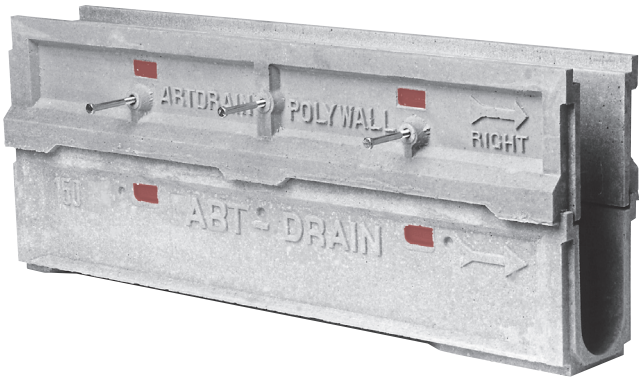
PolySeal 2 is a two-part epoxy in a double tube with a static mixing nozzle. PolySeal 2 maintains a permanent flexibility and offers chemical resistant properties.

PolySeal 3 is a two-part vinylester sealant which sets hard in about 30 minutes. It is recommended for sealing all joints in a PolyChampion installation. It is also ideal for bonding all PolyDrain fabrications and mitres.

PolyWall® Sidewall Extensions

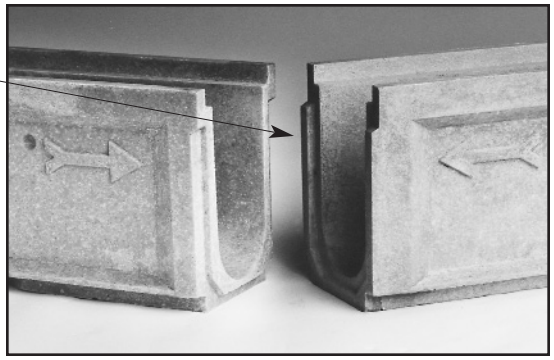
PolyWall I and II Sidewall Extensions allow the designer or contractor to extend a continuous-sloping channel run from 98.1 ft. (30 m) to 294.3 ft. (90 m) without necessity of a catch basin or outlet.

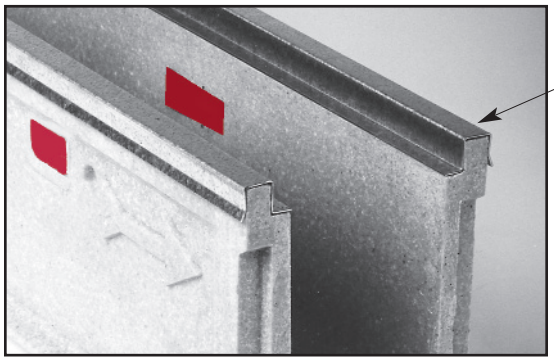




Gender Mender Outlet Channel

A series of specially modified channels that addresses the difficulties encountered when two sloping channels converge where a vertical outlet is required. For every outlet channel (050, 100, 150, 200, 250 and 300), a Gender Mender channel is molded with a female interlocking joint at the low point. This feature provides proper channel alignment and eliminates field fabrication for these center draining configurations.

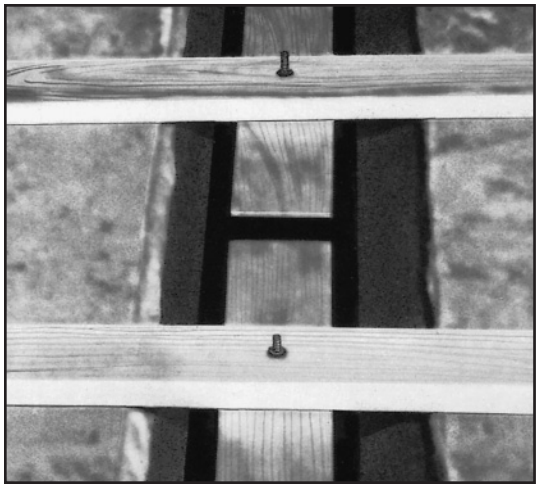




Overlay Rails

Overlay Rails are made of galvanized steel, stainless steel or brass and are applied to any standard channels. They cover and protect the channel edge in medium-duty traffic applications. When visual aesthetics are important, the Overlay Rails enhance the appearance of the PolyDrain channels.

(Overlay rails for end plates are available).



Suspended Installation

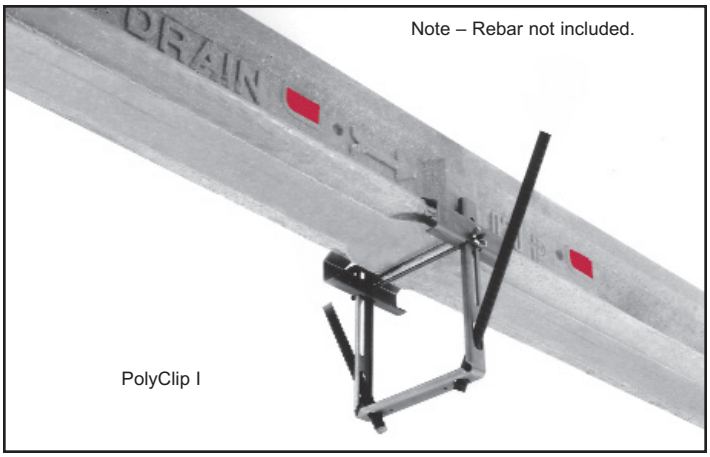
This method is best suited for retrofit installations. The existing slab serves to suspend channel sections, or in a new construction using forming boards for the same purpose.

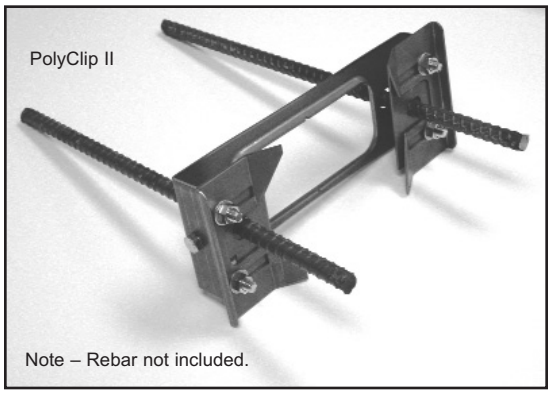
Using 2" x 4" boards of sufficient length to span the trench, and 6" long threaded bolts or all thread bolts with toggle bars, secure channels to the boards.

With channels properly positioned, place and consolidate concrete under and around the channels, then finish to the proper grade.

PolyClip I Installation Aids

PolyClip™ was developed to speed channel installation and make the joining of the channels more secure before the pour. PolyClip consists of: two special securing brackets (one for either side of the channel); a "no-float" U-shaped leg that serves to maintain proper height and keep channels from floating during the pour; and a securing bolt to keep the entire appliance attached to the channel.





PolyClip II Installation

PolyClips are installed at the channel joints. Height adjustment is made by loosening the clamp bolt and sliding base brackets up or down on the rebar legs. Lateral and longitudinal adjustment plus retention are made by positioning and tightening adjustment clips on the top of the installation device.

Other quality products by ABT, Inc.

Available for download on our website

www.abtdrains.com

Suggested Specification (Short Form)

Section 02725 — Precast Trench Drain and Catch Basin System

Part 2 — Products

A. Acceptable manufacturers:
1. Surface drain system:
a. Base: PolyDrain; manufactured by ABT, Inc., PO Box 837, 259 Murdock Rd., Troutman, NC 28166; 1-800-438-6057.

B. Components:
1. Drain trench: Fabricated of polyester polymer concrete, 6.1 in. (155 mm) wide, 4 in. (100 mm) ID with radiused bottom, having following attributes:
a. Lengths: 19.6 in. (Nominal 0.5 meter) and 39.19 in. (1.0 meter).
b. Bottoms: Sloped to provide 0.6% slope.
c. Anchoring ribs: Full length.
d. Grate locking slots: Blind, vibration damping, thermoplastic.
e. Interlocking ends.
f. Available to 294 ft. (90 m), continuous slope using sidewall extensions.

Specifier: If corrosive products will be transported with this system, change polyester to vinylester and add compatible sealant. See the *PolyDrain Chemical Resistance Guide* for suitable material specification information.

2. Grates:
a. Perforated heel-proof, steel.
b. Slotted steel.
c. Ductile iron anchor frames.
d. Grey iron anchor frames.
e. Fiberglass.
f. Engineering grade thermoplastic.

3. Accessories:
a. End plates.
b. Outlet plates.
c. Strainer.
d. Locking devices.
e. Sealant.
f. Polywall sidewall extensions.
g. Installation devices.
h. Catch basins.

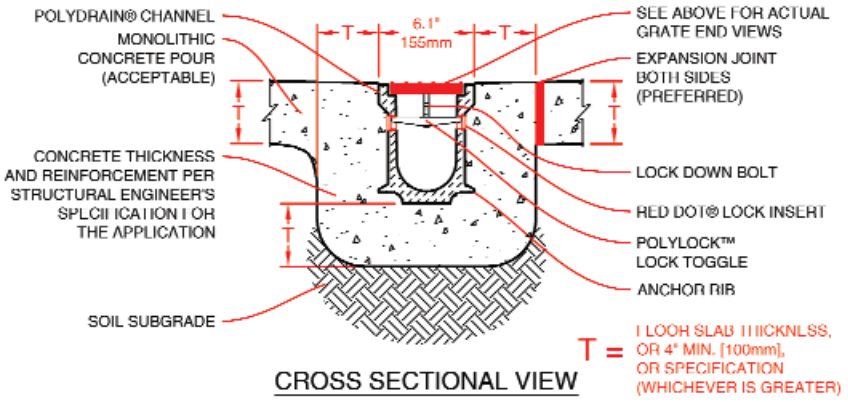
Specifier: Select grate type from catalog and enter part number. Assure that selected type meets loading requirements. Select proper accessories, insert model numbers. Always use cast anchor frames for hard tire loadings. Delete items not used.

Part 3 — Execution

3.02 Preparation

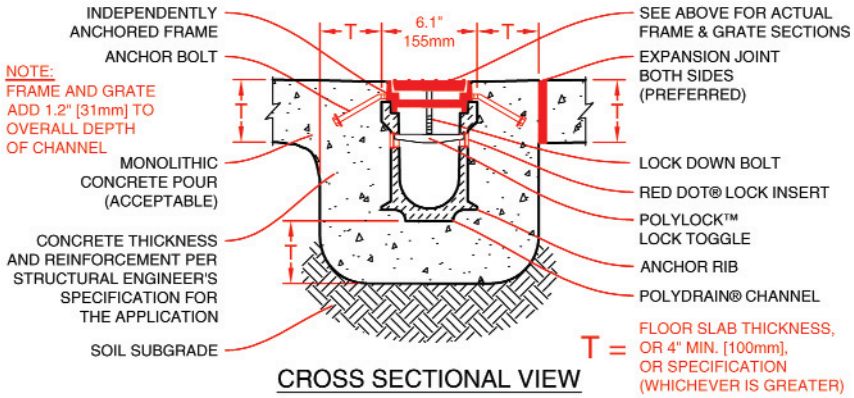
A. Where sealant is required, roughen surface, and acetone wash area to receive sealant.

Cross-Sectional View
Channel with In-lay Type Grate



The encapsulation concrete shall be placed on both sides and under the channels. The strength, thickness, and reinforcement should be that recommended by the customer's structural engineer for the intended application.

Cross-Sectional View
Channel with Frame and Grate



The encapsulation concrete shall be placed on both sides and under the channels. The strength, thickness, and reinforcement should be that recommended by the customer's structural engineer for the intended application.

3.03 Installation

A. In accord with manufacturer's instructions.

B. Utilize manufacturer's approved installation device to assure proper joints, drawn tightly together by device.

C. The trench excavation must allow for the placement of the concrete on both sides and the bottom of the channel(s) for the thickness and reinforcement specified by the designer or structural engineer.

D. The trench drain and its encapsulating concrete should be isolated from the expansion and contraction stress of the adjacent slabs.

For comprehensive long-form specifications and details in print or digital format visit our website at

www.abtdrains.com

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Toll Free 800-438-6057 ▪ Email:sales@abtdrains.com ▪