MultiDrain Systems, Inc.

Manufacturers of Pre-engineered Trench Drain Systems

Alfa Channel[®]

Pre-engineered Precast Polymer Concrete



Surface Drainage Technology & Solutions

EconoDrain[®] ● EconoDrain PT-2[™] ● EconoDrain DG-4[™] ● Alfa Channel[®] ● Alfa Slot[®] ● MultiDrain[®]





Alfa Channel[®]

Alfa Channel[®] is a modular, pre-cast, pre-engineered polymer concrete (PC) trench drain system that has an interior channel width of 4". The system includes 30 presloped channel sections of 1 meter nominal (994mm) each with built in slope of 0.6%. The Alfa Channel system also includes additional neutral or non-sloping channels that may be inserted in 4 locations for additional trench length.

The system is complemented by both in-line catch basin and modular catch basin assemblies. The modular design of the Alfa Channel system provides true on-site adaptability and cuts down overall project costs by reducing excess materials and labor.

Channels are manufactured from UL certified polymeric materials. Alfa Channel features a high precision tongue and groove joint for positive alignment and a superior configuration for sealant application.

Environmental

With today's demands on capturing and conserving water, Alfa Channel is ideal for channeling water runoff where it can be reprocessed for usable water. Alfa Channel is also ideal for capturing and containing rain water for erosion control.

Alfa Channel specified by architects and engineers for many applications such as civil, industrial, DOT, airports, intermodal and many other areas where containment or channeling water is necessary.

Frame Options

Painted ductile iron is standard and galvanized ductile iron or stainless steel are optional. Select the best frame material for your application or adhere to the professional engineer's specification. All frames are independently anchored into the surrounding concrete so that the encapsulation concrete receives the horizontal loads and not the channel walls.

Grating Options

A variety of gratings and covers provide load capabilities from pedestrian up to large aircraft and severe point loads. Grating options include ductile iron, FRP, galvanized and stainless steel stamped grates. Iron grates can be galvanized to meet many commercial and industrial needs. Decorative grates are also available.



Alfa Channel 4"

Without Frame: The grates will lay in the grate track formed within the channel. The grate can be locked in place utilizing an Alfa Toggle Lock at the Black Dot molded in the channel wall.



Alfa Channel 4"

With Frame: The grate will lay within the frame and can be locked in place using the same method as above.



*Stamped Grates - Available in Galvanized and Stainless Steel. Other Grates are available, see website.



Pre-Engineered System

Wood forming requires expensive labor and well-trained carpenters to build forms precisely to match the grating size and meet the engineer's specifications. Carpenters must be able to build wood forms with the proper slope and keep the trench straight and aligned. Once the concrete is placed, the wood forms must be removed the wood forms discarded. Then, the contractor may need to touchup the concrete in the trench. If a radius is required in the bottom of the trench, this will be done the with grouting.

Alfa Channel eliminates the need for carpenters. The channels are nominal 1 meter long, and designed to butt end to end by tongue and groove keeping the channels aligned and straight. Tongue and groove also assist in securing channel connections to prevent fluid migration out of the system. MultiDrain Systems, Inc. maintains a line of sealants that can be applied to channels when a sealed system is required. The channels are manufactured to receive the grating either by inlay or steel frame. With smooth polymer concrete, radius bottoms and 0.6% slope built in, Alfa Channel is designed for excellent hydraulics.



Alfa Channel Sectional End View

Engineered for Fast and Easy Installation

Alfa Channel is well-marked with arrows showing the direction of slope. Each channel is labeled with a number showing the numerical sequence.

Pipe outlets are available for end and vertical outlet assemblies made from polymer and PVC outlet pipe.

Alfa Channel is easy to install utilizing the U-shaped nonfloat support leg to align the channels, adjust the height, and anchor each channel. For complete installation instructions, please see the Alfa Channel Installation Guide.

Alfa Channel is 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.

Independently anchored frames transfer the dynamic loads directly into the encapsulation concrete and channels are mechanically anchored via the full length rib. This eliminates the wheel load from creating strain on the channel and keeps the channel safely in the concrete

Property	Test Method	Value
Minimum Compressive Strength	ASTM C579	117,2 MPa (17,000 psi)
Minimum Bending Strength	ASTM C580	27,6 MPa (4,000 psi)
Minimum Tensile Strength	ASTM C307	13,8 MPa (2,000 psi)
Maximum Moisture Absorption	ASTM A140	0.2% [PCC 5%]
Freeze Thaw Cycles (1,600 cycles)	ASTM C666	No Weight Loss
Fungi Growth Resistance	ASTM G21	Zero (0) Mold Growth
Flame Spread - UL / ULC	UL 723	Class A - Flame 5; Smoke 95
Chemical Resistance	ASTM C267	Pass - Automotive Fluids



Each segment represents a 1 meter length of channel.

39.9 sq. in. (25,400mm)

Maximum cross section flow area

98.1 feet (30m)

1.0 in. (nom.) (20mm)

Channel bottom thickness

Length of slope system

ALFA CHANNEL HYDRAULIC DATA									
	Channel Only					Channel Only			
	Overall Cha	nnel Depth	Maximum	Weight		Overall Channel Depth		Maximum	Weight
	in. (c	:m)	Flow Rate	lbs (kg)		in. (cm)		Flow Rate	lbs (kg)
Part No.	Minimum	Maximum	gpm (lpm)		Part No.	Minimum	Maximum	gpm (lpm)	
010	5.1 (12.9)	5.3 (13.5)	106.7 (403.8)	31.1 (14.1)	160	8.6 (21.9)	8.9 (22.5)	246.9 (934.4)	44.2 (20.0)
020	5.3 (13.5)	5.6 (14.1)	115.8 (438.3)	32.8 (14.9)	170	8.9 (22.5)	9.1 (23.1)	256.3 (970.4)	45.1 (20.5)
*021	5.6 (14.1)	5.6 (14.1)	-	32.0 (14.5)	180	9.1 (23.1)	9.3 (23.7)	265.8 (1006.3)	46.1 (20.9)
030	5.6 (14.1)	5.8 (14.7)	125.0 (473.1)	33.6 (15.2)	190	9.3 (23.7)	9.6 (24.3)	275.4 (1042.3)	46.8 (21.2)
040	5.8 (14.7)	6.0 (15.3)	134.2 (508.0)	34.3 (15.5)	*191	9.6 (24.3)	9.6 (24.3)	_	46.6 (21.1)
050	6.0 (15.3)	6.3 (15.9)	143.5 (543.0)	33.8 (15.3)	200	9.6 (24.3)	9.8 (24.9)	284.9 (1078.3)	46.9 (21.3)
060	6.3 (15.9)	6.5 (16.5)	152.7 (578.2)	35.2 (16.0)	210	9.8 (24.9)	10.0 (25.5)	294.4 (1114.4)	48.6 (22.0)
070	6.5 (16.5)	6.7 (17.1)	162.1 (613.5)	36.2 (16.4)	220	10.0 (25.5)	10.3 (26.1)	303.9 (1150.5)	49.8 (22.6)
080	6.7 (17.1)	7.0 (17.7)	171.4 (648.9)	37.0 (16.8)	230	10.3 (26.1)	10.5 (26.7)	313.5 (1186.6)	50.0 (22.7)
090	7.0 (17.7)	7.2 (18.3)	180.8 (684.3)	38.0 (17.2)	240	10.5 (26.7)	10.7 (27.3)	323.0 (1222.7)	51.5 (23.4)
*091	7.2 (18.3)	7.2 (18.3)	-	37.4 (17.0)	250	10.7 (27.3)	11.0 (27.9)	332.6 (1258.9)	50.5 (22.9)
*096	7.2 (18.3)	7.2 (18.3)	-	20.1 (9.1)	260	11.0 (27.9)	11.2 (28.5)	342.1 (1295.0)	52.4 (23.7)
100	7.2 (18.3)	7.4 (18.9)	190.2 (719.9)	37.6 (17.1)	270	11.2 (28.5)	11.5 (29.1)	351.7 (1331.2)	53.0 (24.0)
110	7.4 (18.9)	7.7 (19.5)	199.6 (755.5)	39.8 (18.1)	280	11.5 (29.1)	11.7 (29.7)	361.2 (1367.4)	54.5 (24.7)
120	7.7 (19.5)	7.9 (20.1)	209.0 (791.2)	40.6 (18.4)	290	11.7 (27.7)	11.9 (30.3)	370.8 (1403.6)	54.9 (24.9)
130	7.9 (20.1)	8.2 (20.7)	218.5 (826.9)	42.4 (19.2)	*291	11.9 (30.3)	11.9 (30.3)	_	53.4 (24.2)
140	8.2 (20.7)	8.4 (21.3)	227.9 (862.7)	42.8 (19.4)	300	11.9 (30.3)	12.2 (30.9)	380.4 (1439.9)	56.6 (25.3)
150	8.4 (21.3)	8.6 (21.9)	237.4 (898.6)	42.6 (19.3)					

* Part numbers indicate non-sloping channels.

Channel Specifications

Use this chart to estimate flow capacities and invert elevations. Add a minimum of 4" to overall depths to eliminate 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. (3.1mm) to the overall depth.

Notes:

- Always begin at the appropriate outlet channel, working towards the shallow end.
- Subtract 1 in. (25mm) from minimum and maximum depths shown to obtain invert elevations. .
- Hydraulic data does not have a grate locking device in flow area. .
- Without any site slope, a 3.5 feet per second self cleaning velocity is obtained when the channels are flowing full.
- Alfa Channel 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.
- Polywall I and Polywall 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 Channels is a series of specially modified channels that addresses the difficulties encoun-• tered 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 in molded with female interlocking joint at the low point. This feature provides proper channel alignment and eliminates field fabrication for these center draining configurations.

ALFA CHANNEL HYDRAULIC DATA - POLYWALL I & POLYWALL II

	Channel With PolyWall I					Channel With PolyWall I			
	Overall Cha	nnel Depth	Maximum	Weight		Overall Cha	nnel Depth	Maximum	Weight
	in. (c	cm)	Flow Rate	lbs (kg)		in. (cm)		Flow Rate	lbs (kg)
Part No.	Minimum	Maximum	gpm (lpm)		Part No.	Minimum	Maximum	gpm (lpm)	
010	12.2 (30.9)	12.4 (31.5)	389.9 (1476.1)	82.9 (37.6)	160	15.7 (39.9)	15.9 (40.5)	533.9 (2021.1)	96.0 (43.5)
020	12.4 (31.5)	12.6 (32.1)	399.5 (1512.4)	84.6 (38.4)	170	15.9 (40.5)	16.2 (41.1)	543.5 (2057.5)	96.9 (44.0)
*021	12.6 (32.1)	12.6 (32.1)	_	83.8 (38.0)	180	16.2 (41.1)	16.4 (41.7)	553.2 (2093.9)	97.9 (44.4)
030	12.6 (32.1)	12.9 (32.7)	409.1 (1548.7)	85.4 (38.7)	190	16.4 (41.7)	16.7 (42.3)	562.8 (2130.3)	96.6 (44.7)
040	12.9 (32.7)	13.1 (33.3)	418.7 (1584.9)	86.1 (39.0)	*191	16.7 (42.3)	16.7 (42.3)	-	98.4 (44.6)
050	13.1 (33.3)	13.3 (33.9)	428.3 (1621.)	85.6 (38.8)	200	16.7 (42.3)	16.9 (42.0)	572.4 (2166.8)	96.7 (44.8)
060	13.3 (33.9)	13.6 (34.5)	437.9 (1657.6)	87.0 (39.5)	210	16.9 (42.9)	17.1 (43.5)	582.0 (2203.2)	100.4 (45.5)
070	13.6 (34.5)	13.8 (35.1)	447.5 (1693.9)	88.0 (39.9)	220	17.1 (43.5)	17.4 (44.1)	591.6 (2239.6)	101.6 (46.1)
080	13.8 (35.1)	14.0 (35.7)	457.1 (1730.2)	88.8 (40.3)	230	17.4 (44.1)	17.6 (44.7)	601.3 (2276.0)	101.8 (46.2)
090	14.0 (35.7)	14.3 (36.3)	466.7 (1766.5)	89.8 (40.7)	240	17.6 (44.7)	17.8 (45.3)	610.9 (2312.5)	103.46 (46.9)
*091	14.3 (36.3)	14.3 (36.3)	_	89.2 (40.5)	250	17.8 (45.3)	18.1 (45.9)	620.5 (2348.9)	102.3 (46.4)
*096	14.3 (36.3)	14.3 (36.3)	_	71.9 (32.6)	260	18.1 (45.9)	18.3 (46.5)	630.1 (2385.3)	104.2 (47.2)
100	14.3 (36.3)	14.5 (36.9)	476.3 (1802.9)	89.4 (40.6)	270	18.3 (46.5)	18.5 (47.1)	639.8 (2421.8)	104.8 (47.5)
110	14.5 (36.9)	14.8 (37.5)	485.9 (1839.2)	91.6 (41.5)	280	18.5 (47.1)	18.8 (47.7)	649.4 (2458.2)	106.3 (48.2)
120	14.8 (37.5)	15.0 (38.1)	495.5 (1875.6)	92.4 (41.9)	290	18.8 (47.7)	19.0 (48.3)	659.0 (2494.7)	106.7 (48.4)
130	15.0 (38.1)	15.2 (38.7)	505.1 (1912.0)	94.2 (42.7)	*291	19.0 (48.3)	19.0 (48.3)	-	105.2 (47.7)
140	15.2 (38.7)	15.5 (39.3)	514.7 (1948.4)	94.6 (42.9)	300	19.0 (48.9)	19.3 (48.9)	668.7 (2531.2)	107.4 (48.7)
150	15.5 (39.3)	15.7 (39.9)	524.3 (1984.7)	94.4 (42.8)					

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

Alfa Channel Inline Debris & Filtration



Alfa Chanel[®] Filtration





Alfa Channel[®] Polymer Concrete Channels

Alfa Channel[®] **Filtration** patented Drop Inlet Filter for Catch Basins 610 and 611 manufactured from UL/ULC certified polymeric material. Alfa Channel Filtration comes complete with stainless steel funnel, filter box and filter media.

Alfa Channel Filtration is fast and easy to install with minimal excavation required. Alfa Channel polymer concrete channels captures water runoff and drains to Alfa Channel Filtration. When site space is restricted, Alfa Channel Filtration technology is perfect for sites that lack the necessary area for retention ponds and larger structures.

Alfa Channel Filtration is designed especially for sites under 100 acres where specific pollutants such as oils, greases and hydrocarbons must be captured without impeding bypass flow particularly during the first fifteen minutes of rainfall or first flush effect.

The 2600 series of filtration catch basins feature a two or three-part, stackable structure that is made of polymer concrete and comes with grated cover. It can be used in conjunction with the Alfa Channel trench drain or as stand-alone unit. The basket inserts that hold the replaceable filter have built-in overflow relief. Units are easy inspect and clean. Basket and filter modules can be retrofitted to existing Alfa Channel 600 catch basins.

Storm water Filtration Media

Alfa Channel Filtration is the perfect solution when seeking a BMP that must handle sheet flow, control vectors, collect debris, treat bacteria and capture hydrocarbons all at the same site. This system utilizes a variety of filtration media and fabrics.

- Standard Filtration "Blankets"
- Antimicrobial Filtration Media
- Hydrocarbon Media
- Heavy Metals Removal Media (HMR)



Description	Dimensions (in)	Debris Volume (cu. ft.)	Bypass Flow Area (in-sq)	
	Width, Depth, Length			
2610FF	20" x 13" x 32"	.16	52.2	
2611FF	20" x 13" x 48"	.24	52.2	









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