Drain System

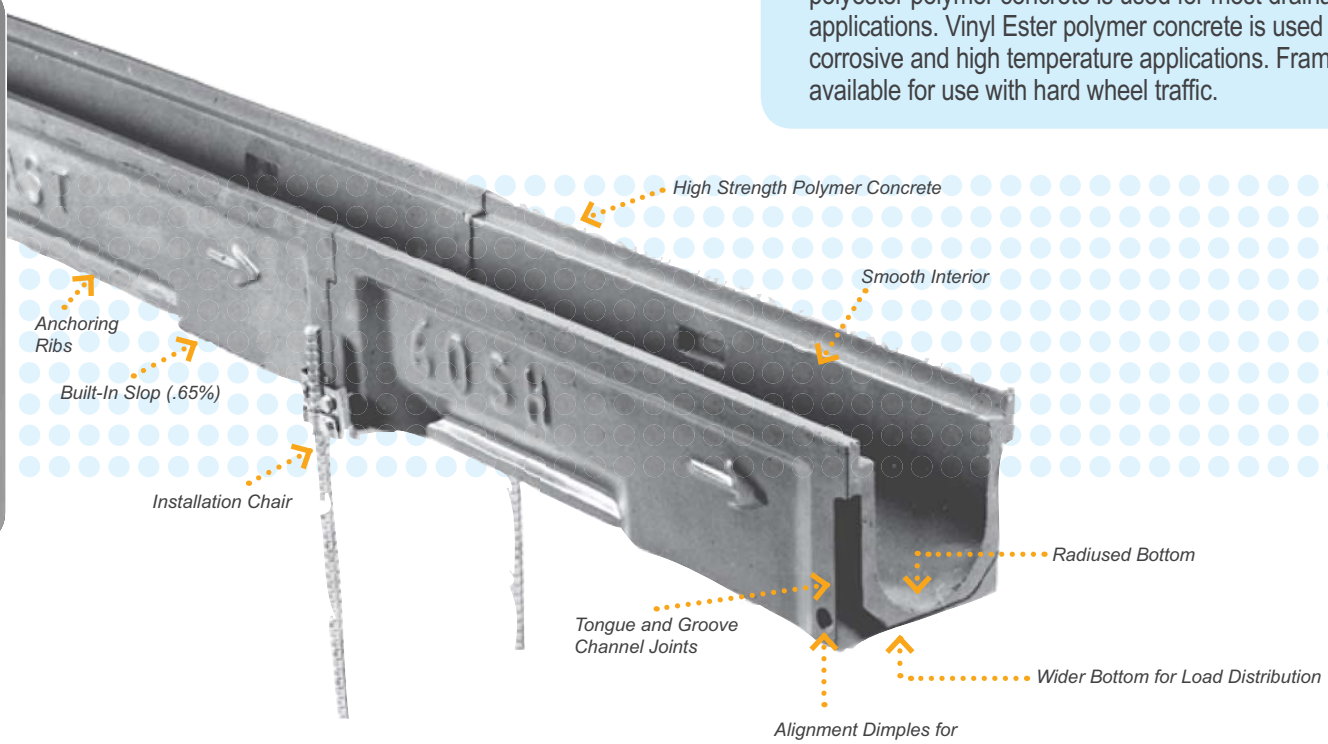
The 20% Advantage

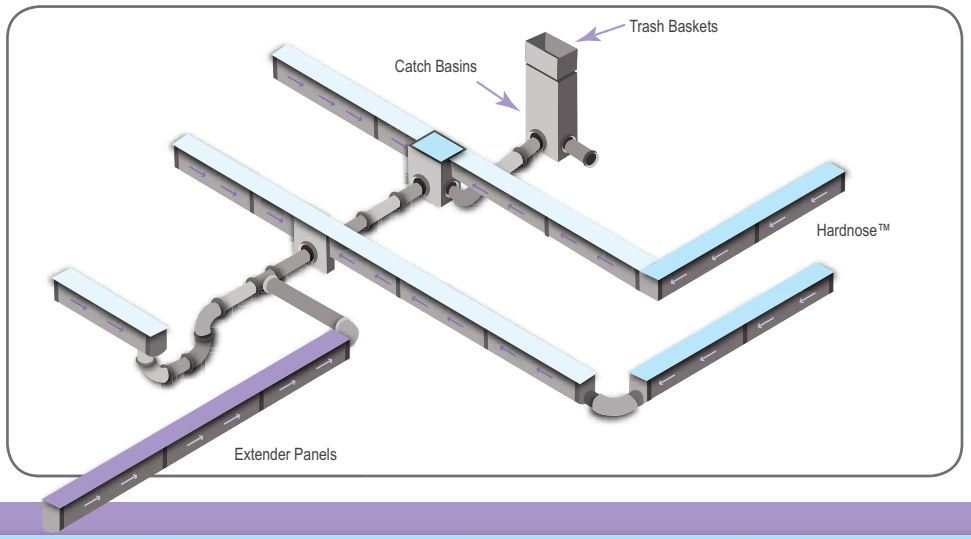
48” vs. 1 Meter channel lengths

- Fewer Channels
- Fewer Joints
- Fewer Problems
- Faster Installation

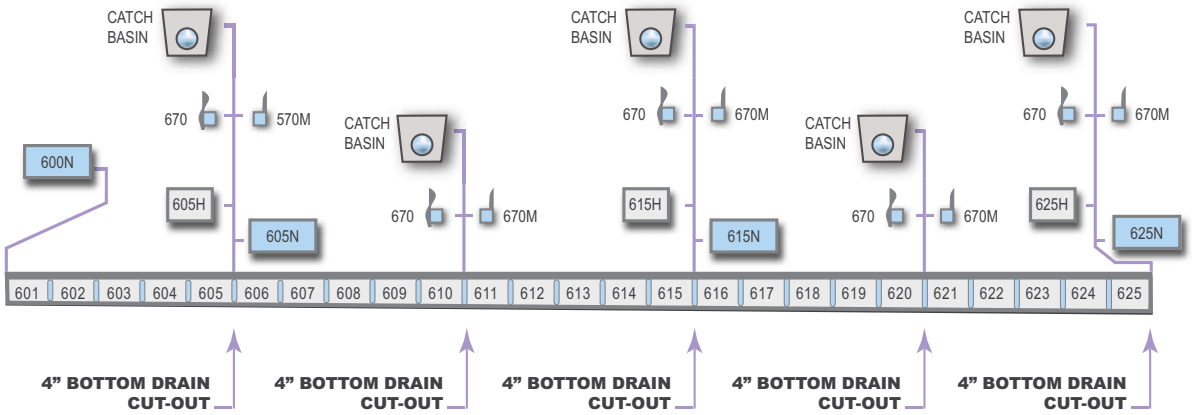
600 Series Presloped

The POLYCAST® 600 Series Presloped System is ideally suited for a variety of commercial and industrial applications. It is designed to have flow rates equal to or greater than, most larger poured-in-place trench drains. With the proper components, flow rates of 470 GPM per outlet are attainable. The precast trench sections and grates are made up of 2’ and 4’ lengths. Certain 4’ channels and all 2' channels have 4” bottom cut-outs for pipe connections. The POLYCAST 600 Series is available in either polyester or Vinyl Ester polymer concrete. The polyester polymer concrete is used for most drainage applications. Vinyl Ester polymer concrete is used for high corrosive and high temperature applications. Frames are available for use with hard wheel traffic.





Drain Configuration

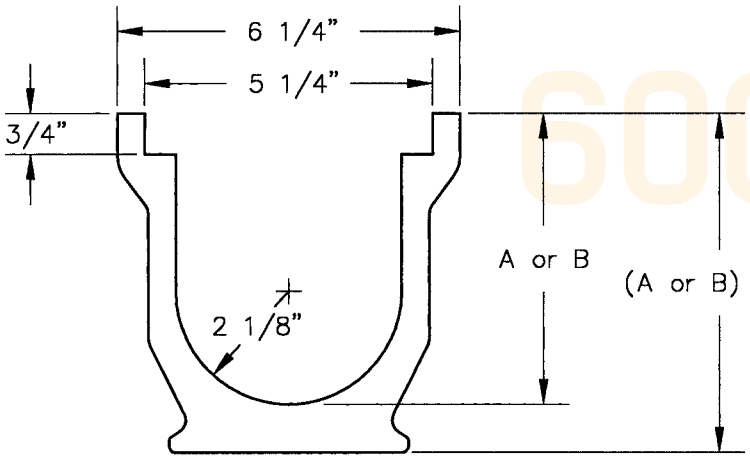


NOTE 1: All half and non-sloped channels have bottom cut outs.
NOTE 2: All half and non-sloped channels accept the corresponding end caps.

Depth and Weight Dimensions

Channel Number	Weight Lbs.	Inlet DIM 'A'	Outlet DIM 'B'
600N (non-sloped)	43	4-1/16	4-1/16
601	44	4-1/16	4-3/8
602	45	4-3/8	4-11/16
603	46	4-11/16	5
604	46	5	5-5/16
605	47	5-5/16	5-5/8
605N (non-sloped)	48	5-5/8	5-5/8
605H (non-sloped 24")	22	5-5/8	5-5/8
606	49	5-5/8	5-15/16
607	50	5-15/16	6-1/4
608	51	6-1/4	6-9/16
609	52	6-9/16	6-7/8
610	54	6-7/8	7-3/16
611	55	7-3/16	7-1/2
612	56	7-1/2	7-13/16
613	57	7-13/16	8-1/8

Channel Number	Weight Lbs.	Inlet DIM 'A'	Outlet DIM 'B'
614	58	8-1/8	8-7/16
615	59	8-7/16	8-3/4
615N (non-sloped)	61	8-3/4	8-3/4
615H (non-sloped 24")	29	8-3/4	8-3/4
616	62	8-3/4	9-1/16
617	63	9-1/16	9-3/8
618	64	9-3/8	9-11/16
619	65	9-11/16	10
620	66	10	10-5/16
621	68	10-5/16	10-5/8
622	71	10-5/8	10-15/16
623	72	10-15/16	11-1/4
624	75	11-1/4	11-9/16
625	76	11-9/16	11-7/8
625N (non-sloped)	76	11-7/8	11-7/8
625H (non-sloped 24")	38	11-7/8	11-7/8



700 Series HARDNOSE and DURAGUARD® frames add 1-3/16" to dimensions A or B.

Extender Panels add 7-13/16" to dimensions A or B.

600 Series Grates

Galvanized Steel Slotted

An economical alternative, the galvanized grate is appropriate for many general use conditions. For use with Grate hold-down device Part No. DA0642.

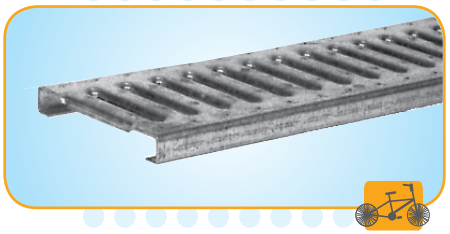
Part No. DG0640

Open Area: 10.2 in^2/Linear Foot

Dimensions: 5-1/4” x 24” or 48”

Weight: 4 lbs. or 8 lbs.

Slot Size: 0.28" x 3.00"



Stainless Steel Slotted

Application for use where sanitary conditions are essential. For use with Grate hold-down device Part No. DA0642S.

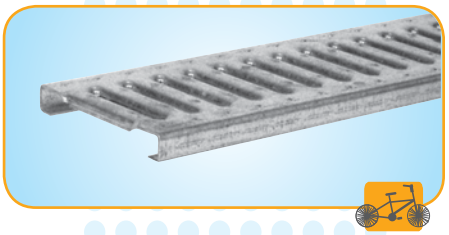
Part No. DG0647

Open Area: 10.2 in^2/Linear Foot

Dimensions: 5-1/4” x 24” or 48”

Weight: 4 lbs. or 8 lbs.

Slot Size: 0.28" x 3.00"



DURAGUARD® Slotted

A high density polyethylene slotted grate appropriate for corrosive applications or where sanitary conditions are necessary. Provides excellent chemical resistance and durability. Polyethylene construction helps protect bare feet. For use with Grate hold-down device Part No. DA0642.

Part No. DG0670

Open Area: 11 in^2/Linear Foot

Dimensions: 5-1/4” x 24”

Weight: 4 lbs.

Slot Size: 0.32" x 2.95"

NOTE: Part No. DG0670G available, color: gray

DURAGUARD® Longitudinal Slotted

A versatile and economical alternative high density polyethylene composite grate. When used in high velocity transverse sheet flow applications, the longitudinal slots create turbulence to improve entry of flow into the channel. For use with Grate hold-down device Part No. DA0642.

ADA Compliant

Part No. DG0675

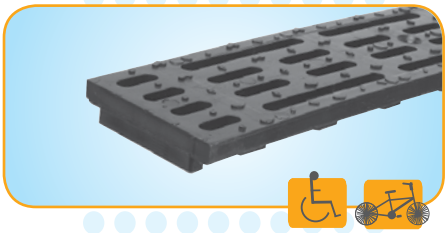
Open Area: 12.6 in^2/Linear Foot

Dimensions: 5-1/4” x 24”

Weight: 3.5 lbs.

Slot Size: 0.51" x 0.88" - 5.45"

NOTE: Part No. DG0675G available, color: gray



Galvanized Steel Perforated

Designed for use in pedestrian areas to minimize heel hazards and prevent entrance of large objects. For use with Grate hold-down device Part No. DA0642.

ADA Compliant

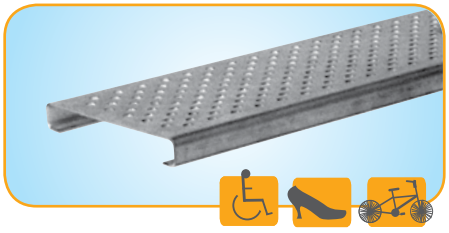
Part No. DG0646

Open Area: 8.5 in^2/Linear Foot

Dimensions: 5-1/4” x 24” or 48”

Weight: 4 lbs. or 8 lbs.

Slot Size: 1/4" dia.



Stainless Steel Perforated

Designed for use where sanitary conditions are essential, as well as the need for heel-resistant gratings. For use with Grate hold-down device Part No. DA0642S.

ADA Compliant

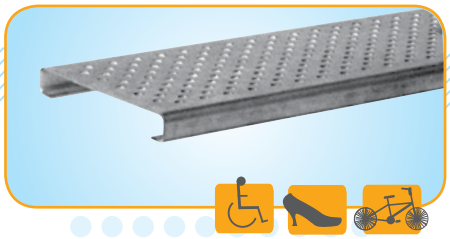
Part No. DG0657

Open Area: 8.5 in²/Linear Foot

Dimensions: 5-1/4" x 24" or 48"

Weight: 4 lbs. or 8 lbs.

Slot Size: 1/4" dia.



Galvanized Steel Solid

Designed for pipe runs, e.g., secondary containment, or cable runs. Removable cover allows full access. For use with Grate hold-down device Part No. DA0642.

ADA Compliant

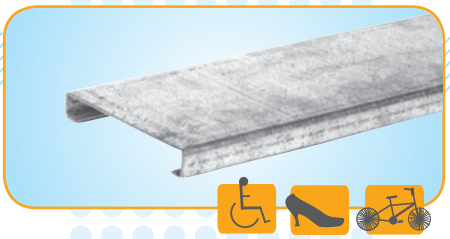
Part No. DG0645

Open Area: N/A

Dimensions: 5-1/4" x 24" or 48"

Weight: 4 lbs. or 8 lbs.

Slot Size: N/A



Stainless Steel Solid

Designed for pipe runs, e.g., secondary containment, or cable runs. Especially suited for areas exposed to mild acids or bases. Removable cover allows full access. For use with Grate hold-down device Part No. DA0642S.

ADA Compliant

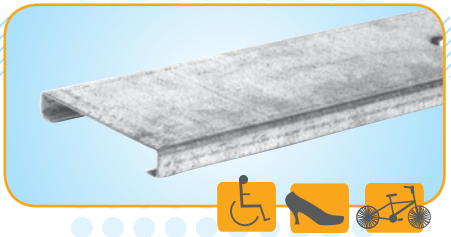
Part No. DG0667

Open Area: N/A

Dimensions: 5-1/4" x 24" or 48"

Weight: 4 lbs. or 8 lbs.

Slot Size: N/A



Fiberglass

Designed for use with POLYCAST® Vinyl Ester trench in areas requiring extreme chemical resistance. For use with Grate hold-down device Part No. DA0642F.

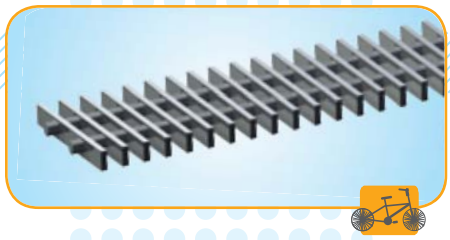
Part No. DG0644

Open Area: 29.6 in²/Linear Foot

Dimensions: 5-1/4" x 24" or 48"

Weight: 2-1/2 lbs. or 5 lbs.

Slot Size: 0.63" wide



600 SERIES GRATES

Galvanized Steel Perforated

Designed for use in pedestrian areas to minimize heel hazards and prevent entrance of large objects. For use with Grate hold-down device Part No. DA0642.

ADA Compliant

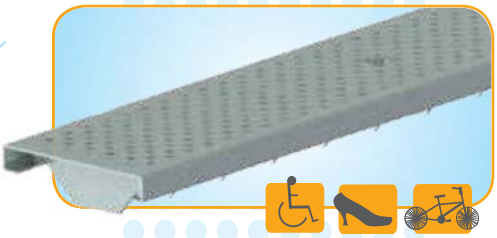
Part No. DG0646R

Open Area: 8.5 in^2/Linear Foot

Dimensions: 5-1/4" x 24" or 48"

Weight: 7 lbs. or 14 lbs.

Slot Size: 1/4" dia.



Stainless Steel Perforated

Designed for use where sanitary conditions are essential, as well as the need for heel-resistant gratings. For use with Grate hold-down device Part No. DA0642S.

ADA Compliant

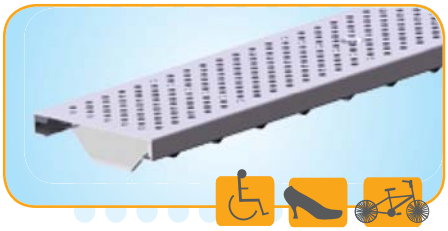
Part No. DG0657R

Open Area: 8.5 in^2/Linear Foot

Dimensions: 5-1/4" x 24" or 48"

Weight: 6 lbs. or 12 lbs.

Slot Size: 1/4" dia.



Galvanized Steel Slotted

An economical alternative, the galvanized reinforced slotted grate is appropriate for many heavy use applications. For use with Grate hold-down device Part No. DA0642.

Part No. DG0640R

Open Area: 10.2 in^2/Linear Foot

Dimensions: 5-1/4" x 24" or 48"

Weight: 6 lbs. or 12 lbs.

Slot Size: 0.28" x 3.00"

Stainless Steel Slotted

Designed for use where sanitary conditions are essential. For use with Grate hold-down device Part No. DA0642S.

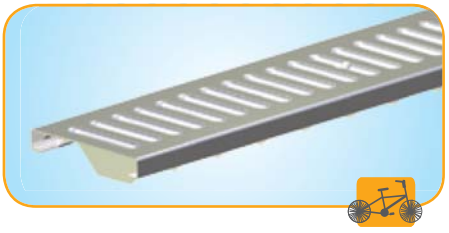
Part No. DG0647R

Open Area: 10.2 in^2/Linear Foot

Dimensions: 5-1/4" x 24" or 48"

Weight: 6 lbs. or 12 lbs.

Slot Size: 0.28" x 3.00"



Stainless Steel Solid

Designed for pipe runs, e.g., secondary containment, or cable runs. Especially suited for areas exposed to mild acids or bases. Removable cover allows full access.For use with Grate hold-down device Part No. DA0642S.

ADA Compliant

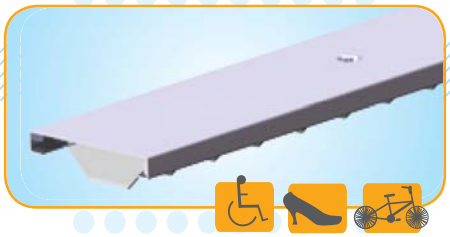
Part No. DG0667R

Open Area: N/A

Dimensions: 5-1/4” x 24” or 48”

Weight: 7 lbs. or 14 lbs.

Slot Size: N/A



Galvanized Steel Solid

Designed for pipe runs, e.g., secondary containment, or cable runs. Removable cover allows full access. For use with Grate hold-down device Part No. DA0642.

ADA Compliant

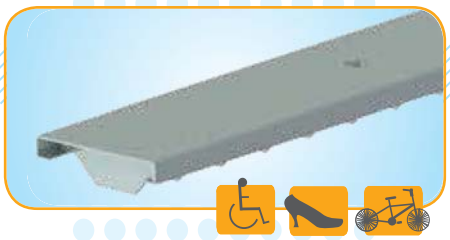
Part No. DG0645R

Open Area: N/A

Dimensions: 5-1/4” x 24” or 48”

Weight: 7 lbs. or 14 lbs.

Slot Size: N/A



Fiberglass

Designed for use with POLYCAST® Vinyl Ester trench in areas requiring extreme chemical resistance. For use with Grate hold-down device Part No. DA0642F.

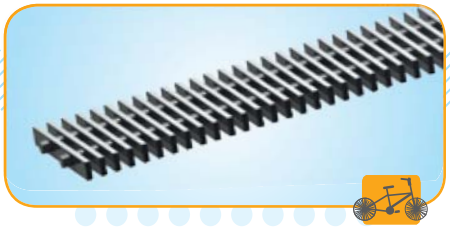
Part No. DG0644SP

Open Area: 25.5 in^2/Linear Foot

Dimensions: 5-1/4” x 24” or 48”

Weight: 3 lbs. or 6 lbs.

Slot Size: 0.38" wide



Gray Iron Slotted

The gray iron grate is appropriate for many general use conditions. For use with Grate hold-down device Part No. DA0642B.

Part No. DG0641

Open Area: 19.8 in^2/Linear Foot

Dimensions: 5-1/4” x 24”

Weight: 15 lbs.

Slot Size: 0.50" x 4.19"

600 SERIES GRATES

NOTE: 600 Series Class E grates require a frame. When used without a frame, DIN E-F grates are suitable for DIN D applications.

Ductile Iron Slotted

Designed for general use and pedestrian traffic applications. This heavy duty grate is also suitable for frequent traffic applications. Exceeds AASHTO H-20 and FAA requirements. For use with Grate hold-down device Part No. DA0642BH.

Part No. DG0641D

Open Area: 19.8 in^2/Linear Foot

Dimensions: 5-1/4" x 24"

Weight: 15 lbs.

Slot Size: 0.50" x 4.32"

Ductile Iron Longitudinal Slotted

Designed for general use and pedestrian traffic applications, as well as heavy vehicular traffic applications. For use with Grate hold-down device Part No. DA0642BH.

ADA Compliant

Part No. DG0675HD

Open Open Area: 32 in^2/Linear Foot (26%)

Dimensions: 5-1/4" x 24"

Weight (grate plus frame): 30 lbs.

Slot Size: 0.32" wide

NOTE: 600 Series Class F grates require a frame. When used without a frame, DIN E-F grates are suitable for DIN D applications.

Gray Iron Solid

Designed for pipe raceway, e.g., secondary containment, and cable runs. Removable cover allows full access. For use with Grate hold-down device Part No. DA0642BH.

ADA Compliant

Part No. DG0641S

Open Area: N/A

Dimensions: 5-1/4" x 24"

Weight: 18 lbs.

Slot Size: N/A.

POLYCAST® Decorative Grates

Montage

An *ADA compliant* grate design of various geometric shapes with the feel of a Navajo quilt.

Part No. DG0691

Open Area: 11.5 in² / linear foot
Weight: 15 lbs.
Dimensions: 5.25" X 24"
Slot Size: Varies

Abbott

This design is inspired by early gothic architecture and resembles crosses overlaid with rose patterns.

Part No. DG0693

Open Area: 15.5 in² / linear foot
Weight: 18 lbs.
Dimensions: 5.25" X 24"
Slot Size: Varies

Patriot

Stars and stripes offering the perfect feel for fire houses, government buildings, and any installation with a patriotic flare.

Part No. DG0692

Open Area: 13 in² / linear foot
Weight: 16 lbs.
Dimensions: 5.25" X 24"
Slot Size: Varies

POLYCAST® Decorative Grates

SPIRAL

Interlocked square spirals make this unique grate stand out as a border or edging.

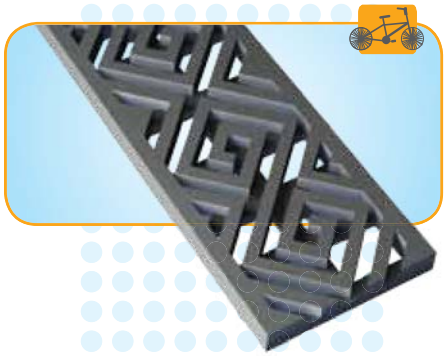
Part No. DG0694

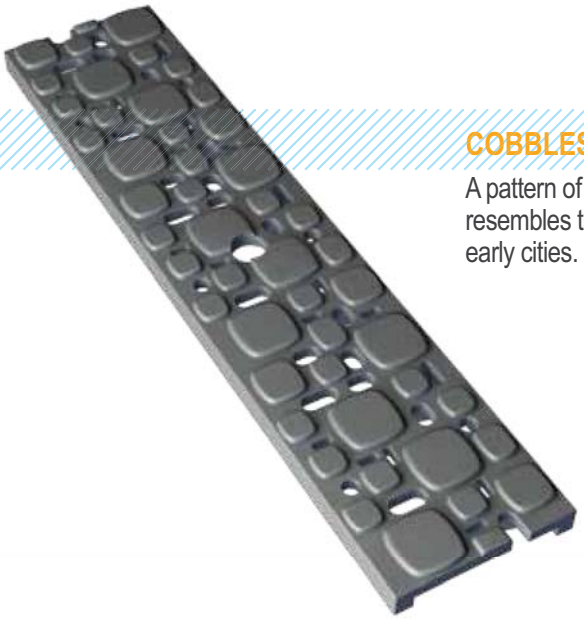
Open Area: 20.5 in^2 / linear foot

Weight: 15.5 lbs.

Dimensions: 5.25" X 24"

Slot Size: .38" wide





COBBLESTONE

A pattern of stones and slots that resembles the cobblestone streets of early cities.

Part No. DG0695

Open Area: 5 in^2 / linear foot

Weight: 16 lbs.

Dimensions: 5.25" X 24"

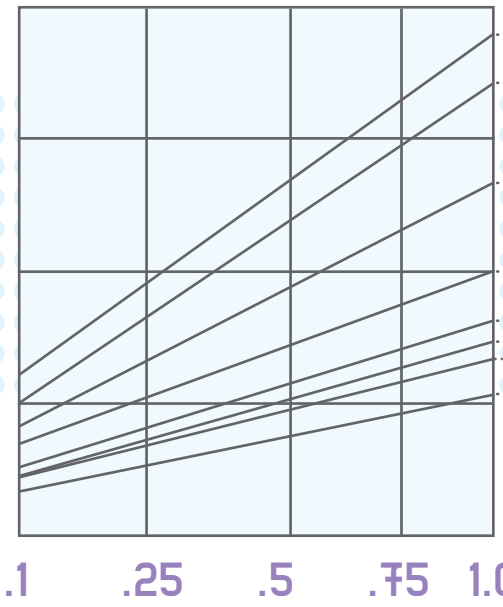
Slot Size: Varies

Grate In-Flow Chart

Quantity of Flow Through 600 Series Grates

Based on 1' 600 Series Channel

Computed using Orifice Equation $Q=CA\sqrt{2gh}$



head of water above grate in feet

600 Series

GR8 TIPS

We Take the Guesswork Out

Layouts: POLYCAST® provides a site plan layout service to all customers, which includes outlet recommendations, piping schematics, and a full bill of materials.

600 Series Frames

POLYGUARD®

POLYGUARD is a formed steel edge rail available in both galvanized and stainless steel. This provides an outstanding visual finish to any trench drain application. POLYGUARD is recommended for DIN class C - D applications.

- Moderate speed traffic
- Lightweight
- Provides unobstructed channel access for easy cleanout

DURAGUARD®

The DURAGUARD® series frame is an innovative design that improves heavy load impact performance. Utilizing a high density polyethylene composite, the DURAGUARD® channel frame reinforces the channel edge to dramatically improve the load performance and impact resistance of standard 500 Series and 600 Series channels. DURAGUARD® frames are recommended for DIN class C - E applications.

- Moderate speed traffic
- Exceptional chemical resistance
- Lightweight
- Impact resistant
- Cost effective

HARDNOSE – 700 SERIES

HARDNOSE - 700 Series Frames are designed for the most harsh vehicle applications including heavy aircraft traffic, hard wheel forklifts, industrial equipment, and construction equipment. These gray iron frames are inlaid on the top of conventional 500 Series and 600 Series channels. HARDNOSE® frames are recommended for DIN class D - F applications.

- High speed traffic
- Solid wheel traffic
- Aircraft
- Industrial facilities

Channel Installation Alignment Chair

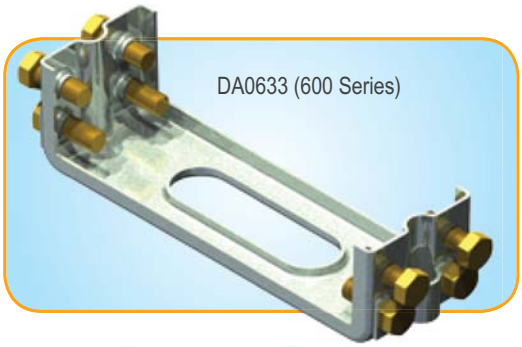
Installation Rates of 60'- 90' Per Hour Are Easily Attainable With a 2-Person Crew.

The POLYCAST® Installation Chair is the most efficient and economical means of setting a precast trench system. The installation chair supports the ends of the channels, aligns and locks the joint rigidly together and prevents the channels from floating. Adjusting channel elevation is easy with the POLYCAST Installation Chair.

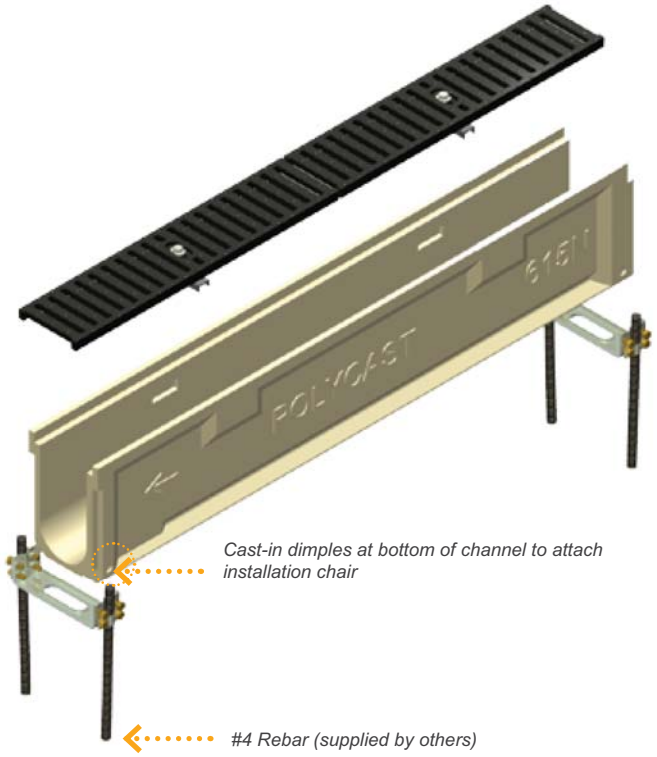
The installation chair is attached by tightening the alignment bolts into the channel "dimples". Two pieces of rebar are set every 4' to correspond with the channel joints, placed through the connecting clamp on the installation chair and driven into the sub-base. The channels are then aligned and adjusted to achieve the proper elevation.

One chair per joint required.

NOTE: *For use with 600 Series Channels.*

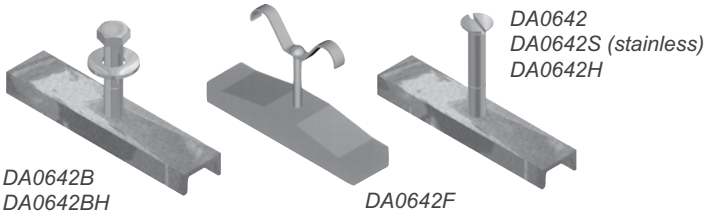


- Rapid, accurate installation
- Aligns channels
- Sets elevation
- Tightens joint
- Reduces leakage during concrete placement
- Prevents channels from floating during pour



Accessories

Grate Hold-Down Devices



DA0642B
DA0642BH

DA0642F

DA0642
DA0642S (stainless)
DA0642H

Grate hold-down devices are to be used with all grating systems where wheel traffic occurs. This is necessary to provide system integrity.

End Caps

POLYCAST® end caps are used to enclose or provide piping transitions to the female and male ends of the channels where catch basins are not being used.

ABS Plastic End Caps

DA0670*
FEMALE
Universal Closed/ Outlet (cutout)

DA0670M*
MALE
Universal Closed/ Inlet (cutout)

Male End Caps

POLYCAST® Universal Male End Caps are used to enclose or provide 4” pipe inlets to the female channel ends. Inlets accommodate 4” pipes.

Female End Caps

POLYCAST® Universal Female End Caps are used to enclose or provide 4” pipe inlets to the male channel ends. Outlets accommodate 4” pipes.

***Fits ALL POLYCAST® 600 Series Channels**

Polymer Concrete End Caps

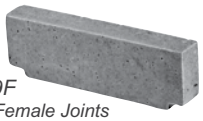
DP0620D6
DP0625D6

DP0625DM6

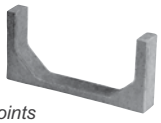
These inlets and outlets accommodate 6” pipes.

Fits CORRESPONDING 600 Series Channels

Channel Adapters



DP0699F
Female/Female Joints



DP0699M
Male/Male Joints

Male and Female Transition Devices (699F & 699M) are available where channel runs are in opposite directions and two channels are set either female to female or male to male. A female transition piece (699F) is used to fill the top space of the female to female joint (this applies to 600 Series only). An epoxy grout or urethane sealer can be used to smooth over the gap on the inside bottom of the channel. A male transition piece (699M) is used to lap under the male to male joint.

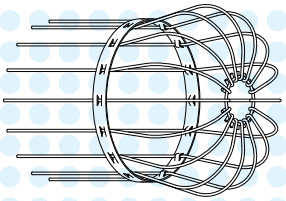
Use a DP0699F channel adapter to create high points in the middle of a drain run

Use a DP0699M channel adapter to join two drain run ends together at a low point

Debris Strainer

Debris Outlet strainers are ideal for outdoor environments where debris can clog outlets.

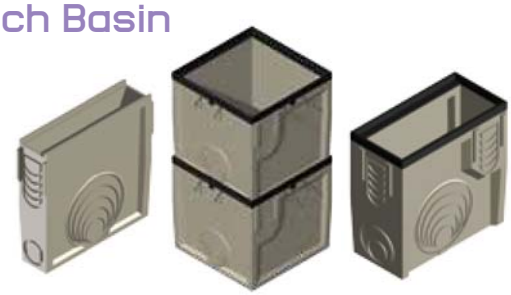
Debris Outlet Strainer



For use with 4" Pipe, Channel and End Cap Outlets.

Part No. DA0662

Catch Basin



Information about Catch Basins can be found on Page 40.

POLYCAST© Sample Specifications

600 SERIES

General: The work specified in this section shall consist of furnishing and installing preformed trench drains including drain channels, frames, grates, and accessories as shown on the contract plans. The surface drainage system shall consist of 600 Series Precast Polymer Concrete Trench Drain. One manufacturer shall provide all drain components unless noted otherwise at piping connections. The number of component joints shall be minimized for products in this section.

Materials: The precast trench drain shall be cast of polyester polymer concrete as shown on the contract plans. The dimensions shall be 4.25" inside width with a full radius bottom. The grate bearing ledge shall be a minimum of 0.5". Sloped and non-sloped channels shall be used as shown in contract plans. The sloped channels shall be 48" long with an invert slope of 0.65%. Channels shall have interlocking joints and side height extension panels. The maximum system capacity without extensions shall be 460 GPM at flat and level grade.

The polymer concrete shall have minimum material properties as follows:

DESCRIPTION	TEST METHOD	VALUES
Compressive strength	ASTM C-109	12,000 psi
Tensile strength	ASTM C-307	1,700 psi
Water absorption	ASTM 5-570	<1%
Chemical resistance	ASTM D-543	75% strength, <2% change in weight/dimension
Accelerated service	ASTM D-7566-E	75% strength, <2% change in weight/dimension
CTE (coefficient of thermal expansion)		15x10-6 in/in/°F

Grates and Frames: The grating and frames shall be made of steel (ASTM A-36), ductile iron (ASTM A-536 minimum grade 65-45-12), gray iron (ASTM A-48), Fiberglass, or HDPE. The frames shall be non-removable from the concrete. The removable grates shall have threaded bolt lockdowns that do not unduly impede fluid flow in the channel. The lockdowns shall withstand cyclical loads of 700 pounds after salt exposure per ASTM B-517.

Installation: The manufacturer's installation recommendations shall be followed. The reinforcement in the concrete surrounding the drain shall be adequate for the anticipated loads. The trench drain shall not be used in place of a defacto expansion joint.