

Change
Channels

go with the
FLOW



SECTION A-A

12" width

POLYCAST



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WHO WE ARE

Unpredictable Environments. Damaging Conditions.

Our Competitive Edge

Through its distinguished POLYCAST® brand, Hubbell has harnessed one of its competitive strengths and offers a full line of trench drain systems to meet customer needs.

Well versed in delivering the utility industry with reliable solutions for unpredictable, damaging environments, Hubbell brings that same level of expertise to the civil construction and transportation industries with a superior drain system – POLYCAST®.

Hubbell Power Systems employs over 3300 people worldwide and leads the way in the production of products and components for the utility industry,

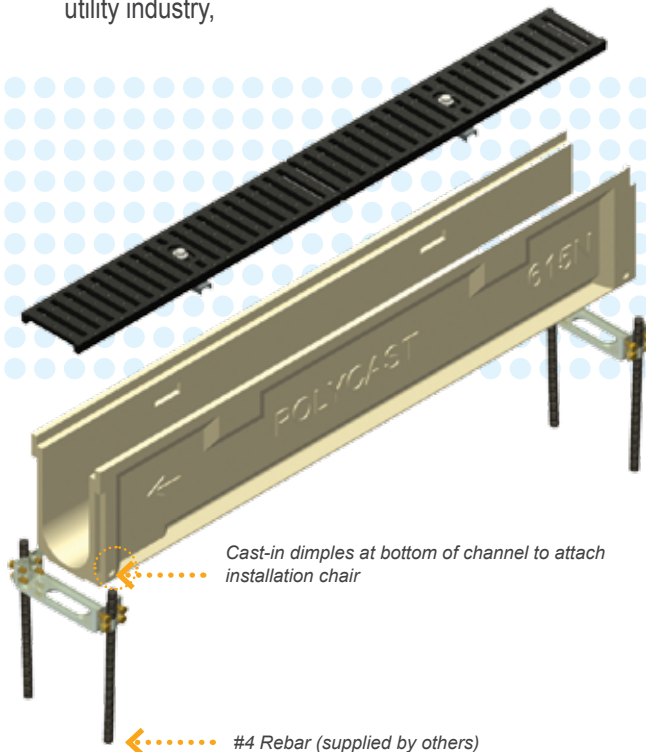
The 20% Advantage

48" vs. 1 Meter Channel Lengths

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

A Superior Drain System

Based in Lenoir City, TN, Polycast was formed in 1981 and specializes in polymer concrete and fiberglass drainage systems for a variety of both indoor and outdoor applications. As the system of choice, Polycast installations include professional sports stadiums, airports and numerous industrial facilities around the country.



The smooth interior finish of Polycast drains assures complete drainage

Polycast. Proven Superior.

Made of a high strength, chemical resistant, composite material, Polycast drains offer a high degree of chemical resistance and have a water absorption value of less than one percent (ASTM C140). In short, Polycast Polymer Concrete is more than four times stronger than ordinary Portland Cement Concrete, simplifies installation and lowers overall costs.

- Ideal for indoor and outdoor applications
- Rapid drainage and durability
- Resistant to freeze/thaw cycles (ASTM C666)
- Offers superior versatility with 24" and 48" components
- Polycast FP Series and 3000 Series fiberglass drains are made of lightweight channels and offer flow rates of 3000 GPM to 6800 GPM

Applications

COMMERCIAL

- Vehicle Maintenance
- Airports
- Highway, Roads, Curbs
- Schools

INDUSTRIAL

- Manufacturing
- Chemical Plants
- Bottling
- Food Processing (USDA Approved)

CHOOSING A SYSTEM

Choosing A Drain System

For Your Application...

There are a multitude of applications that warrant a trench drain system and it's often difficult to determine the best product for a given application. Although seemingly insignificant, choosing components for your drain system deserves careful consideration as they can determine the life and effectiveness of your linear drain. We can help with your product selection.

The following section will help determine which POLYCAST® Trench Drain System best meets your specific needs and includes such factors as rainwater run-off, grade, wheel loadings and pedestrian traffic. Many of the topics discussed in this section relate to all modular and pour-in-place systems.

Hydraulic Capacity

Determine the amount of liquid that will be flowing through the trench drain in a given time period.

- /// Calculate Flow
- /// Site Conditions
- /// Fluid Characteristics



Application

Choose a load rating for the area for which the grate will be installed. Environmental factors and types of traffic should be considered to ensure long life of the trench drain system.

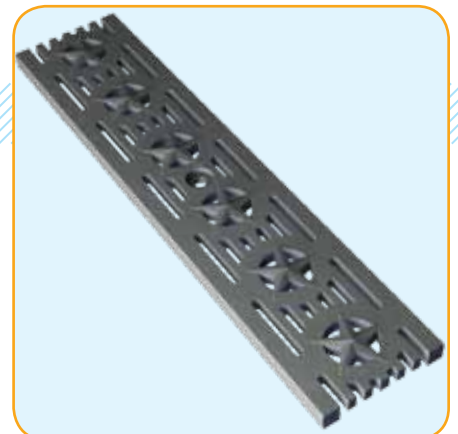
- /// Load Rating
- /// Wheel Types / Edge Protection
- /// Material Properties



Job Specific

Specific job requirements will often play a role in channel and grate selection. This could include everything from decorative grating options to grate lockdowns and legal requirements.

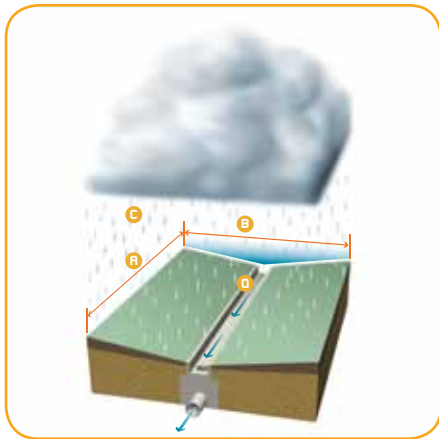
- /// Aesthetics
- /// ADA & Pedestrian Safety
- /// Country of Origin Requirements



CHOOSING A SYSTEM

Hydraulic Capacity

To ensure that the correct trench drain is selected for each site, several factors should be evaluated. The most important of these is hydraulic performance, or the ability of the drain to evacuate water without flooding.



Calculate Flow

The catch basin or drain outlet must be sized to meet the maximum amount of water to be evacuated from the site.

This model is designed for rainfall run-off, but can be easily converted to industrial or overflow drainage.

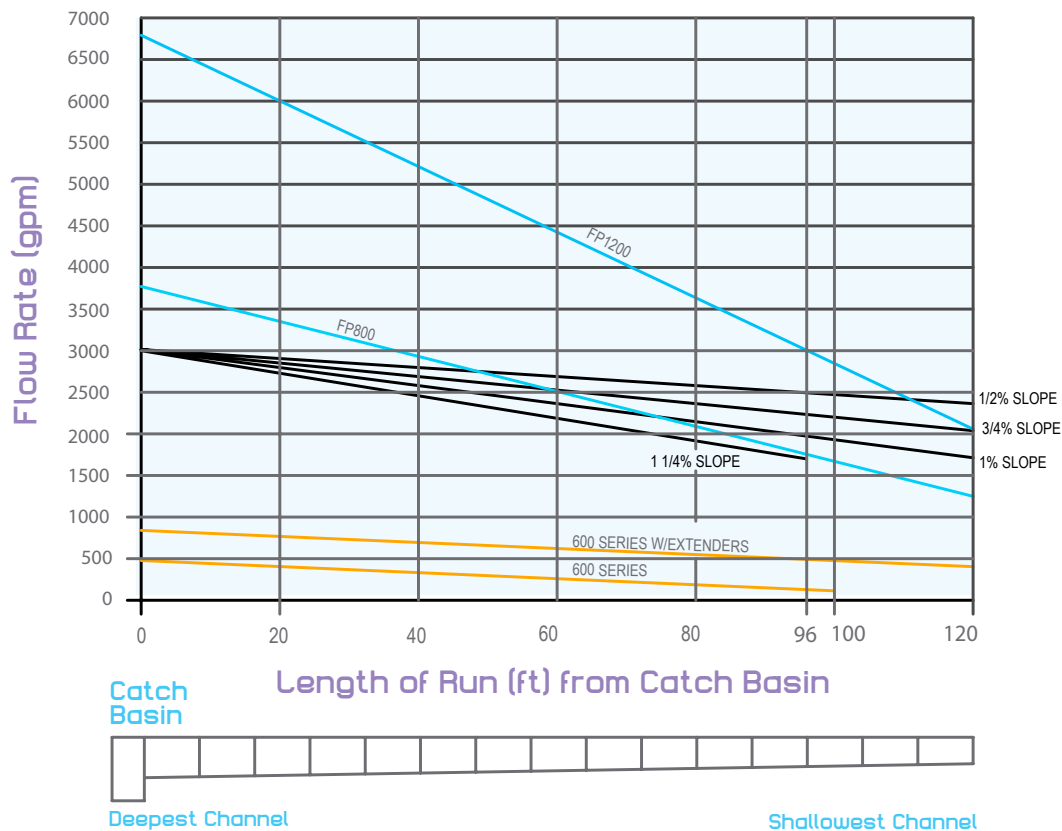
To calculate flow (Q) in gpm, the following parameters are needed:

Drainage area = length x width (A x B)

Rainfall intensity in inches per hour (C)

$$Q \text{ (GPM)} = \frac{\text{Area (AxB)} \times \text{Rainfall (C)}}{60 \text{ (minutes)} \times 1.6 \text{ (conversion to gallons)}}$$

Flow capacity for POLYCAST® drains



CHOOSING A SYSTEM

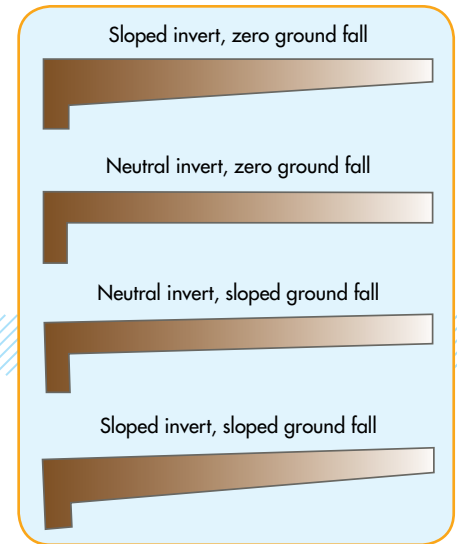
Site Conditions

The specific conditions of each site will affect the performance of a drain system. These factors should be taken into account on a case-by-case basis and may include complex slopes, interference with underground structures, piping types, and landscaping.

Grade & Slope

POLYCAST® Trench Drains are available in both sloped and non-sloped designs.

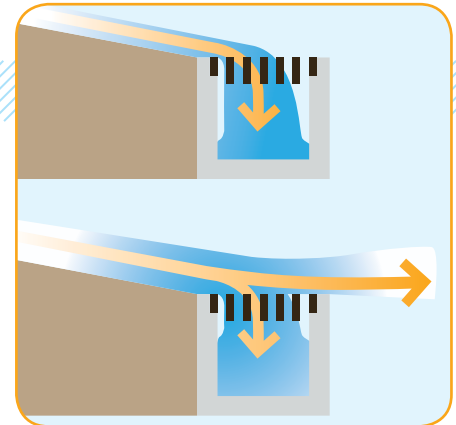
When the trench drain is installed in an area where slope already exists, a neutral or smaller drain design may be used to net similar performance. If too much slope is present, flooding may occur due to the wave effect or drain outlet limitations.



Sheeting

Sheeting over drain grates occurs when there is too much liquid or when the liquid is at too high of a velocity to fully enter the drain grate. Generally the trench drain will reach its maximum capacity before sheeting over the grates becomes an issue. This can be an important factor to consider when using perforated or intricate decorative grate designs.

Grate flow inlet charts are located in the technical section of this catalog starting on page 29.



HYDRAULIC CAPACITY

GR8 TIPS

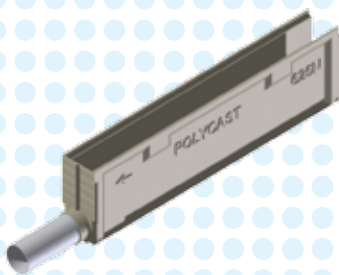
We Take the Guesswork Out

Rainfall: Rainfall frequency and intensity charts can be found at: www.noaa.gov.

CHOOSING A SYSTEM

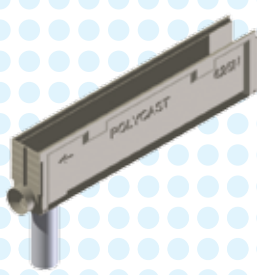
Outlet Type

The type of outlet for a drain will greatly affect the drain's performance. Whether using a pipe outlet or a catch basin, the outlet should be sized to handle greater or equal flow capacity of the trench drain. This will ensure that flooding does not occur.



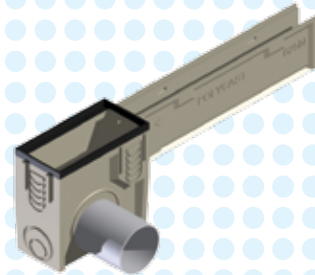
End Pipe Outlet

Standard end pipe outlet. Lowest capacity.



Bottom Pipe Outlet

Vertical pipe outlet. Offers more capacity due to gravity.



Catch Basin Outlet

Catch basins allow trash baskets to collect debris and offer the most capacity as larger pipes can be used.

Fluid Characteristics

Not all trench drains carry run-off water. When used in chemical plants or industrial facilities, special care should be taken to ensure that the trench drain is appropriate for the specific application.

Chemical Resistance

For highly corrosive drainage situations, POLYCAST® manufactures drainage components with DERA-KANE® 470 Vinyl Ester resin. Trench drains may also be ordered with Vinyl Ester fiberglass grating and corrosion resistant locking devices.

Vinyl Ester drain systems are ideally suited for handling most highly corrosive fluids. These are ideal for use in areas where EPA pollution control requirements dictate that manufacturers concentrate and collect these corrosive materials.

A full chemical application guide is available in the technical section of this catalog starting on page 66.

Temperature

Certain applications require a liquid at elevated temperatures be drained into containment areas. These applications may include industrial plants, breweries, and food processing facilities. All POLYCAST drain systems are rated for 120°F continuous service. When higher temperatures are required, vinyl ester channels may be substituted which are rated for 180°F continuous service.

GR8 TIPS

We Take the Guesswork Out

Choke Points: Outlet pipes must be capable of more flow capacity than the trench drain system or the whole system can back up.

CHOOSING A SYSTEM

Applications

The types of traffic a drain will be subjected to determines the style of grating and edge protection to be used. Trench drains are subjected to forces in various directions once installed, which can make grate selection challenging. POLYCAST® products adhere to third party application standards to provide peace of mind to every customer.

Load Ratings

POLYCAST grates are designed to meet load ratings as defined by DIN 19580. This well recognized, international standard classifies potential drainage applications into 6 classes. These classes take into account both proof loading and catastrophic loads to ensure the user's product is selected correctly and is reliable.

LOAD RATINGS

DIN Class A - 3,372 lbs - 15 kN

Residential, pedestrian, and cyclist traffic

DIN Class B - 28,100 lbs - 125 kN

Sidewalks, parking lots, and car parking decks

DIN Class C - 56,200 lbs - 250 kN

Curb sides, highway shoulders, and parking areas

DIN Class D - 89,920 lbs - 400 kN

Trafficked sections of roads and highways

DIN Class E - 134,800 lbs - 600 kN

Industrial areas, forklifts traffic, ports, and dock sides

DIN Class F - 202,320 lbs - 900 kN

Aircraft runways, docks, and high impact wheel loads



APPLICATIONS

Wheel Types / Edge Protection

Hard wheel traffic such as forklifts can cause unprotected drain edges to deteriorate. This exposed edge helps hold grates in position and transfers the loads into the surrounding concrete. If this edge fails, the grate can be allowed to move, causing channel cracking and eventually failure.

Material Properties

POLYCAST offers both metal and plastic edge options. These edge rails form a mechanical bond into the surrounding concrete and are designed to withstand the long term abuse of traffic, snow plows, and forklifts. Edge protection is recommended for any application of Load Class D or greater.

CHOOSING A SYSTEM

Job Specific

/// Aesthetics

The grate is the most visible portion of any trench drain system. POLYCAST decorative grates can be used to mimic or even enhance the surrounding landscape. Use stainless steel edge rails to gain an even more dramatic border.

/// ADA & Pedestrian Safety



ADA Grates

The Americans with Disabilities Act of 1990: Section 4.5.4

“Where grates are used within walking surfaces, the open slots should be no greater than 0.5 inches (12.7mm) wide in one direction. Where the length of the slot is greater than 0.5 inches, the opening should run perpendicular to the main direction of traffic.”



Heel Resistant Grates

ASME A112.6.3: Section 7.12 Heel Resistant Strainers and Grates

“A grate designed to resist entry of high-heeled shoes, in which the maximum grate hole size in least direction shall be 5/16 in. (8mm).”



Bicycle Safe Grates

Australian Standard AS 3996 – 2006 Clause 3.3.6

Defines maximum slot dimensions for “Bicycle Tire Penetration Resistant” grates.

/// Country of Origin Requirements

Certain construction projects require that some materials be manufactured within the United States. If country of origin certification is required, details must be noted and discussed at the time of order.

400 Series Residential

Residential Solutions

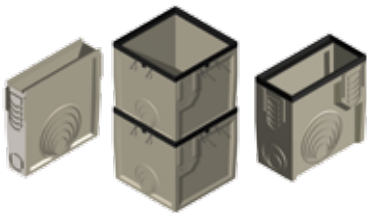
The POLYCAST® 400 Series is a complete surface drainage system with a precast polyester polymer concrete trench and a tight-fitting galvanized steel grate. The steel grate is bicycle and wheelchair resistant and will support limited automotive traffic. The precast trench and grate is available in 2' and 4' lengths. Every 4' section has a 4" bottom cut-out for a pipe connection. Solid and drain end caps are available for 3" PVC pipe. Inexpensive and long lasting, POLYCAST 400 Series is the perfect drainage system for tennis courts, swimming pools, walkways, patios, garage entrances, etc. Use with Installation Chair DA0634. Grate hold-down device DA0642 is recommended.



I.D. Depth: 4.5"
I.D. Width: 4.25"

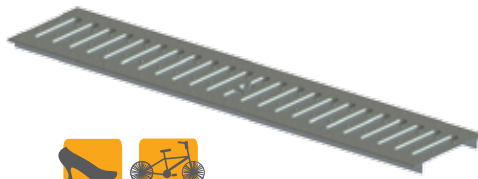
Accessories

Catch Basin



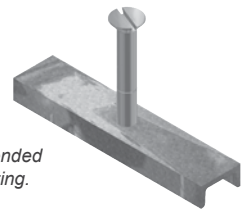
Information about Catch Basins can be found on Page 40.

Grates



(2' Slotted Grating - Part No. DG0441)
(4' Slotted Grating - Part No. DG0442)

Grate Hold-Down Device

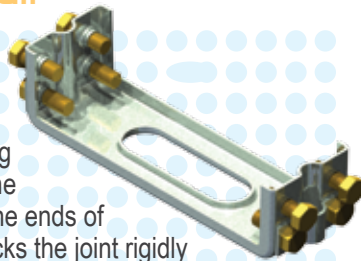


One hold-down device is recommended per every 2' of grating.

(Grate Hold-Down Device - Part No. DA0642)

Installation Chair

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.



(Installation Chair - Part No. DA0634)

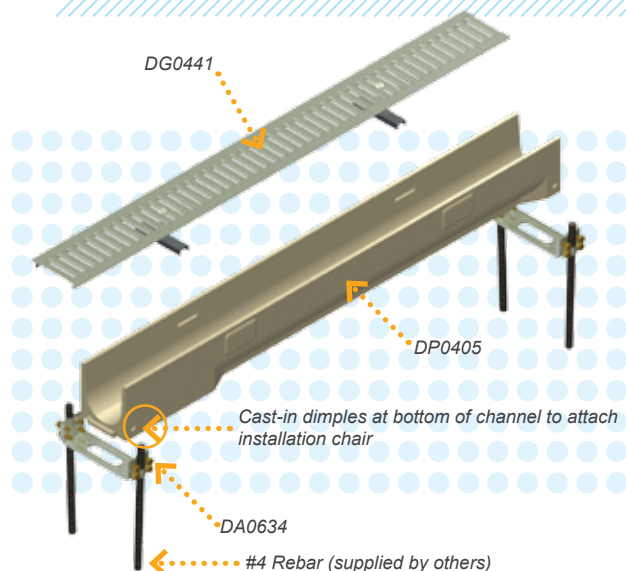
End Caps

Drain end caps are available for 3" PVC pipe. Solid end caps are also available to seal off the ends of the channels.



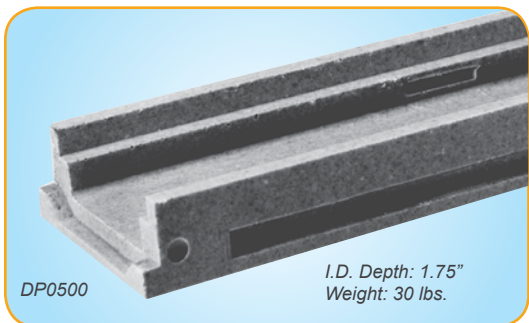
(3" Drain End Cap - Part No. DP0405D)
(Closed End Cap - Part No. DP0405C)

Installation Diagram



500 SERIES

500 Series Deck Drain

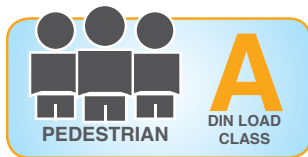


DP0500

I.D. Depth: 1.75"
Weight: 30 lbs.

The POLYCAST® 500 Series Deck Drain System is ideally suited for a variety of above grade applications requiring drainage of incidental water run-off. The 500 Series is POLYCAST's shallowest drain, measuring O.D. 48" x 6.25" x 2.5" and I.D. of 48" x 4.25" x 1.75". It is designed to be installed in suspended slab applications, such as parking structures, pool deck areas, and many other thin slab applications. The precast sections are made up of 4' lengths. Each section has a 4" bottom cut-out for pipe connections. The POLYCAST 500 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. The 500 Series drains are designed for pneumatic tire traffic only. For added depth and/or solid tire forklift and full traffic applications, the 700 Series HARDNOSE frame can be added. Grate hold-down device DA0542 is recommended.

500 Series



500 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. DA0542.

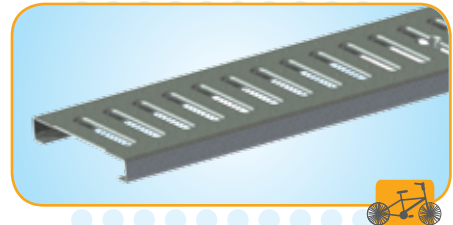
Part No. DG0640

Open Area: 10.2 in²/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. DA0542S.

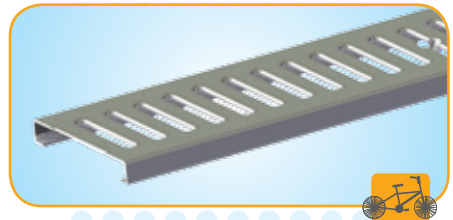
Part No. DG0647

Open Area: 10.2 in²/Linear Foot

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

Weight: 4 lbs. or 8 lbs.

Slot Size: 0.28" x 3.00"



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. DA0542.

ADA Compliant.

Part No. DG0646

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.



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. DA0542S.

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. DA0542S.

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. DA0542S.

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. The clear opening between the bars is 5/8". For use with Grate hold-down device Part No. DA0542F.

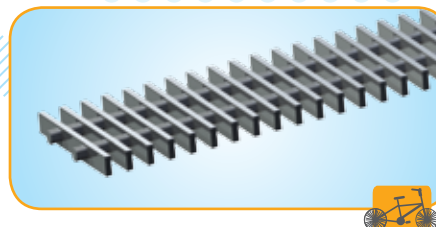
Part No. DG0644

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"



500 SERIES GRATES



Gray Iron Slotted

The gray iron grate is appropriate for many general use conditions. For use with Grate hold-down device Part No. DA0542B.

Part No. DG0641

Open Area: 19.8 in²/Linear Foot

Dimensions: 5-1/4" x 24"

Weight: 15 lbs.

Slot Size: 0.50" x 4.19"



Fiberglass

Designed for use with POLYCAST® Vinyl Ester trench in areas requiring extreme chemical resistance. For use with Grate hold-down device Part No. DA0542F.

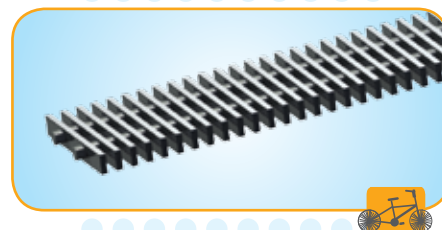
Part No. DG0644SP

Open Area: 25.5 in²/Linear Foot

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

Weight: 3 lbs. or 6 lbs.

Slot Size: 0.38



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. DA0542BH.

NOTE: 500 Series Class E grates require a frame. When used without a frame, DIN E-F grates are suitable for DIN D applications.

Part No. DG0675HD

Open Area: 32 in²/Linear Foot

Dimensions: 5-1/4" x 24"

Weight: 16 lbs.

Slot Size: 0.32" wide



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. DA0542BH.

Part No. DG0641D

Open Area: 19.8 in²/Linear Foot

Dimension: 5-1/4" x 24"

Weight: 15 lbs.

Slot Size: 0.50" x 4.19"



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. DA0542BH.

NOTE: 500 Series Class F grates require a frame. When used without a frame, DIN E-F grates are suitable for DIN D applications.

Part No. DG0641S

Open Area: N/A

Dimensions: 5-1/4" x 24"

Weight: 18 lbs.

Slot Size: N/A



500 SERIES GRATES

POLYCAST® Decorative Grates



Montage

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

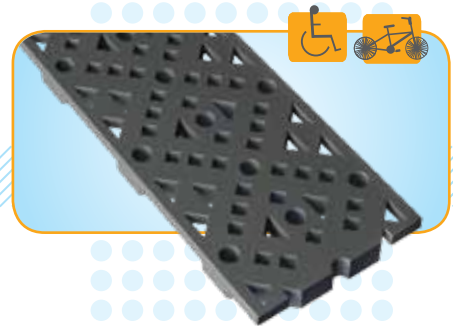
Part No. DG0691

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.

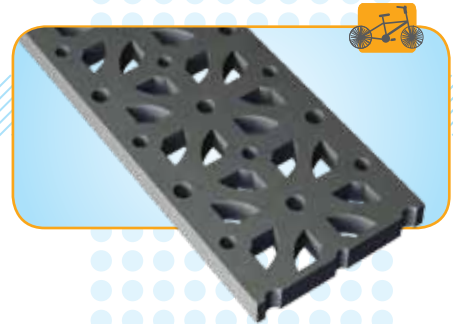
Part No. DG0693

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.

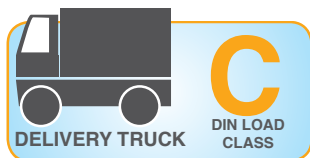
Dimensions: 5.25" X 24"

Slot Size: Varies



500 SERIES GRATES

POLYCAST® Decorative Grates



SPIRAL

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

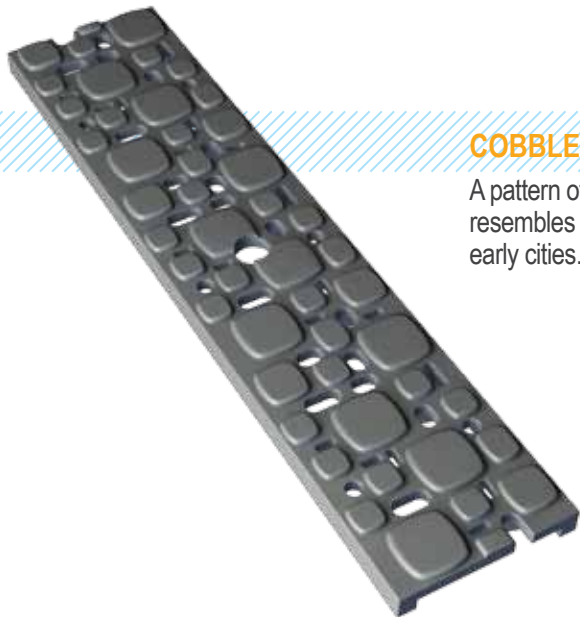
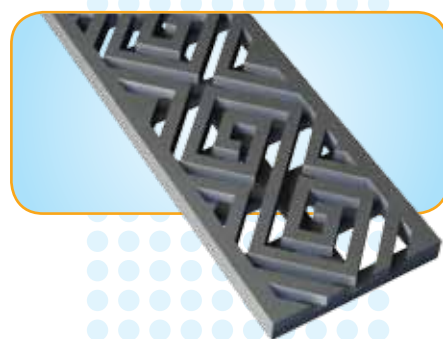
Part No. DG0694

Open Area: 20.5 in² / 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 in² / linear foot

Weight: 16 lbs.

Dimensions: 5.25" X 24"

Slot Size: Varies



500 Series

500 SERIES FRAMES

500 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.

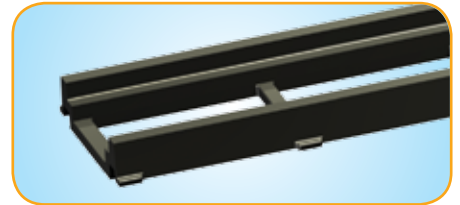
- Moderate speed traffic
- Lightweight
- Provides unobstructed channel access for easy cleanout



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



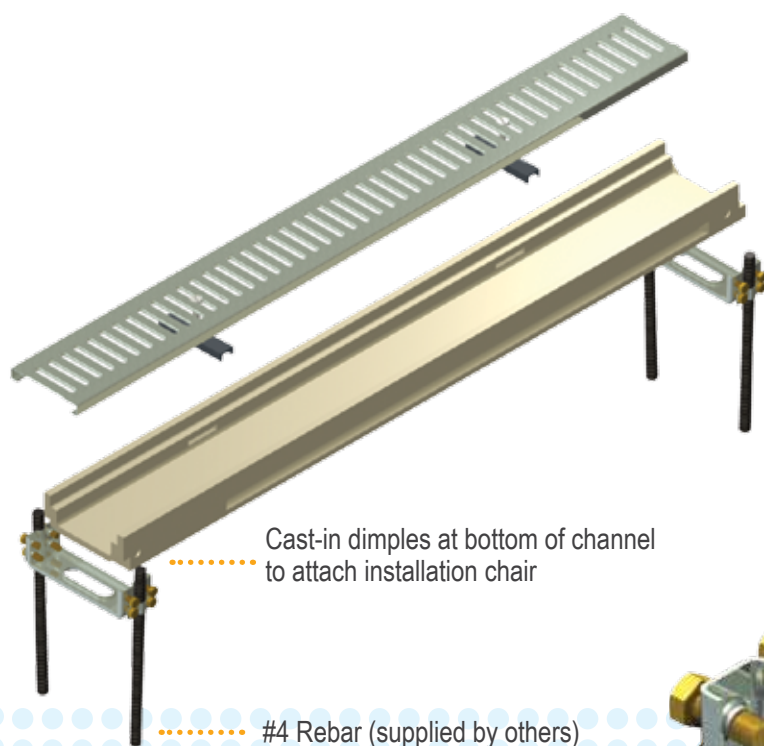
Channel Installation Alignment Chair

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

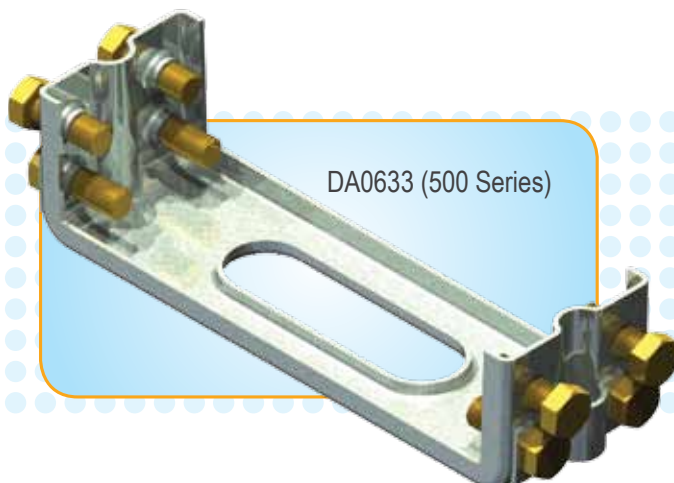
The POLYCAST® Installation Chair is the most efficient and economical means of setting a precast trench system. The installation chair supports the ends of the channels, aligns and locks the joint rigidly together, and prevents the channels from floating. Adjusting channel elevation is easy with the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



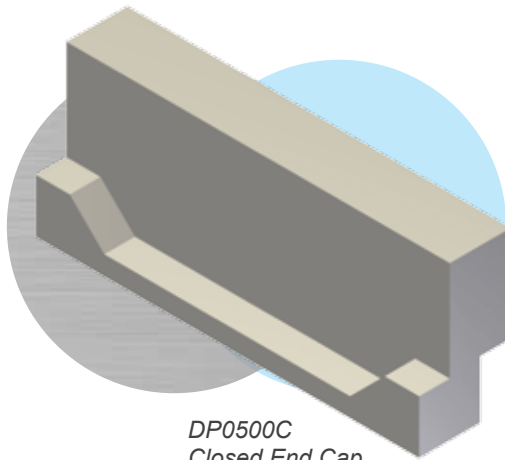
- Rapid, accurate installation
- Aligns channels
- Sets elevation
- Tightens joint
- Reduces leakage during concrete placement
- Prevents channels from floating during concreting



500 SERIES ACCESSORIES

Accessories

End Caps



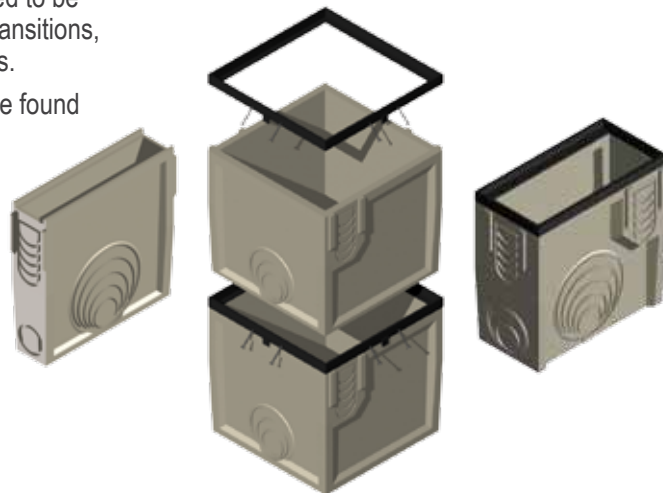
DP0500C
Closed End Cap

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.

Catch Basin

POLYCAST catch basins are designed to be used as collection points, drain run transitions, and interceptors to collect solid debris.

Information about catch basins can be found on Page 40.



GR8
TIPS

We Take the Guesswork Out

HDPE: Although plastic is a low cost channel material, its poor thermal properties can lead to buckling and cracking. A 100ft long plastic drain's length can change up to 4.3in.

600 SERIES

Drain System

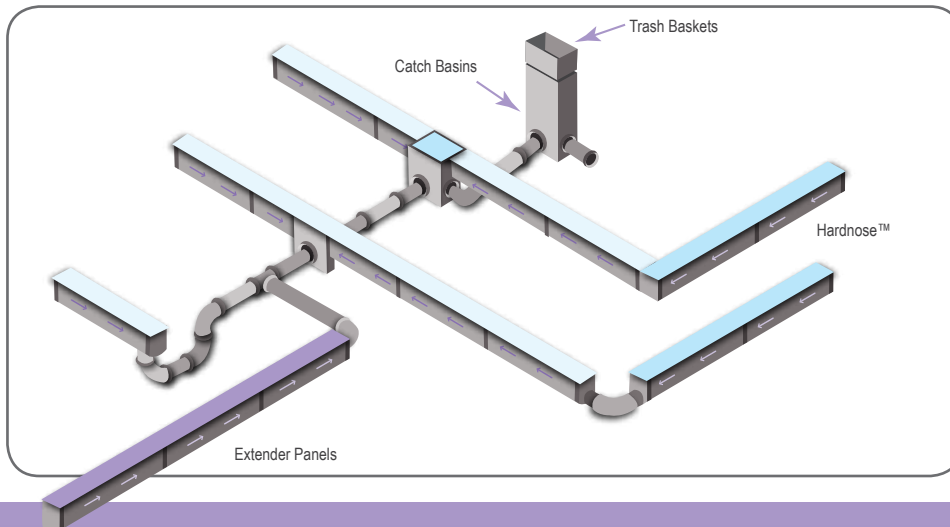
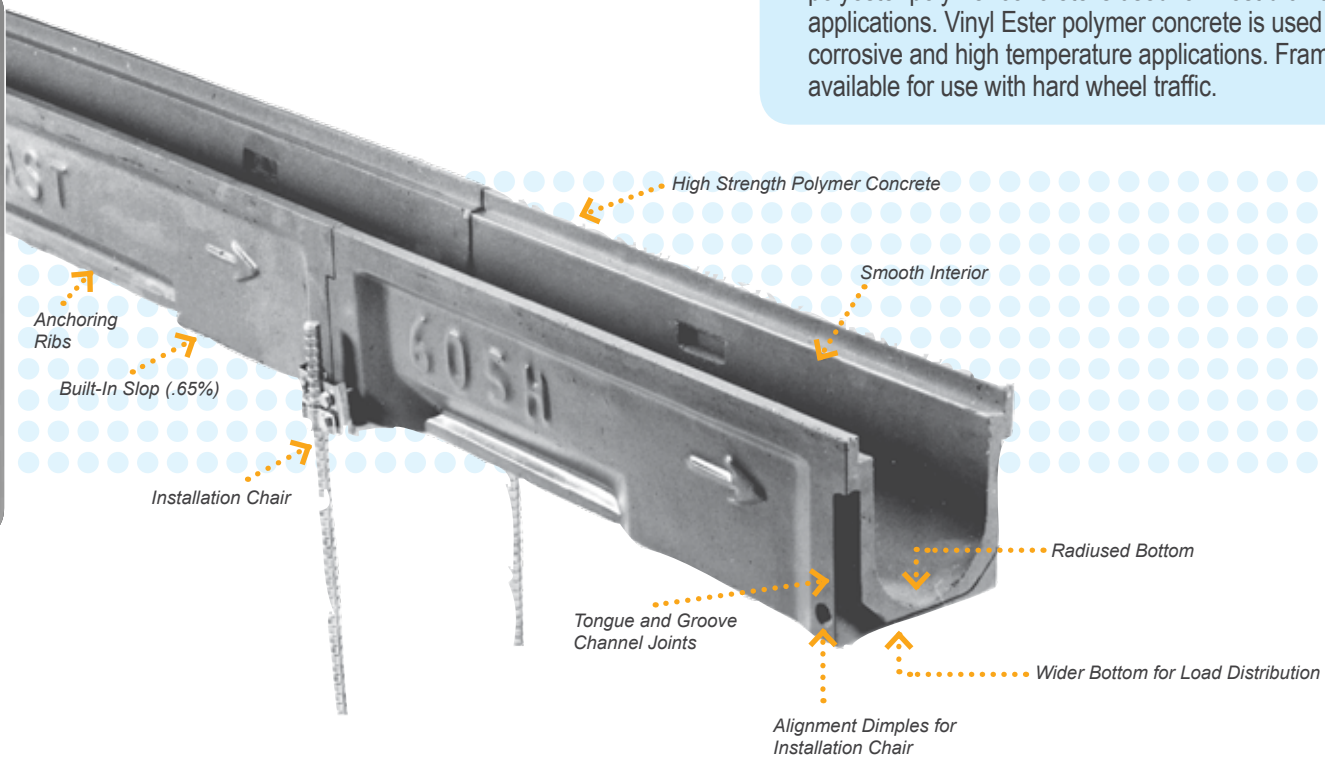
The 20% Advantage

48" vs. 1 Meter channel lengths

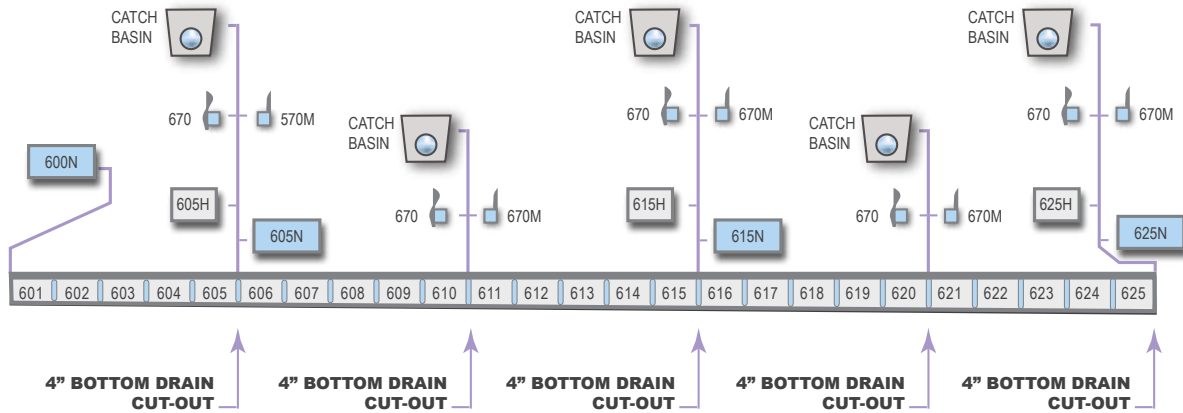
- Fewer Channels
- Fewer Joints
- Fewer Problems
- Faster Installation

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



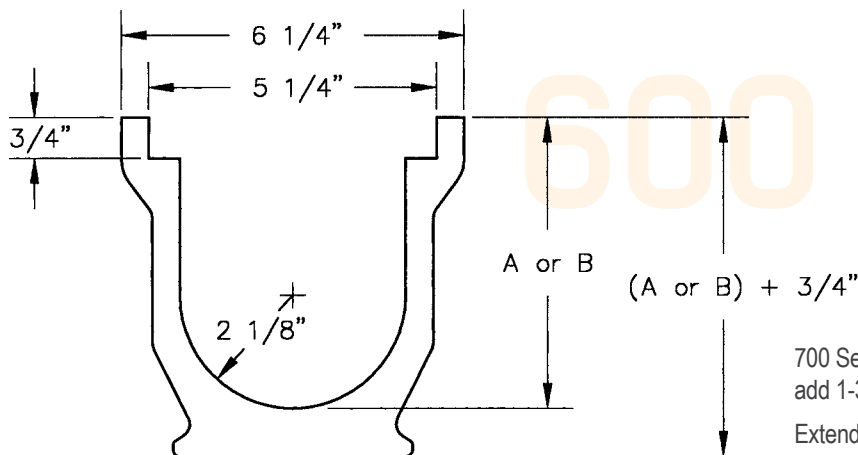
NOTE 1: All half and non-sloped channels have bottom cut outs.

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

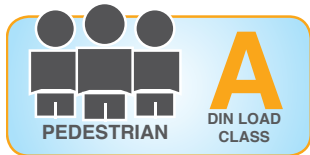


700 Series HARDNOSE and DURAGUARD® frames add 1-3/16" to dimensions A or B.

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

600 SERIES GRATES

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.

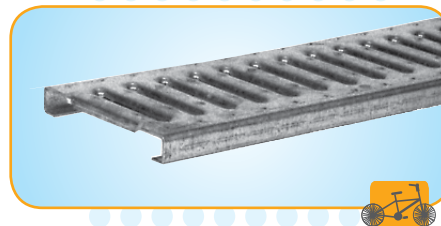
Part No. DG0640

Open Area: 10.2 in²/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 in²/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

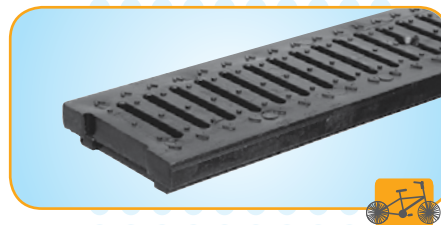
Open Area: 11 in²/Linear Foot

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

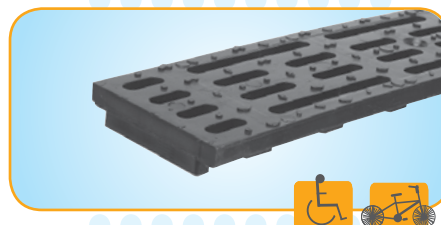
Open Area: 12.6 in²/Linear Foot

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 in²/Linear Foot

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

Weight: 4 lbs. or 8 lbs.

Slot Size: 1/4" dia.



600 SERIES GRATES

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. DA0642S.

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

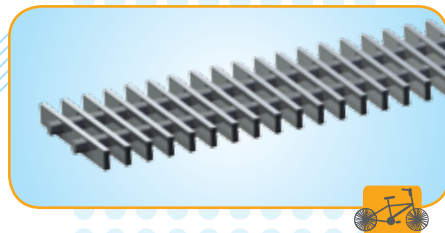


Fiberglass

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 in²/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

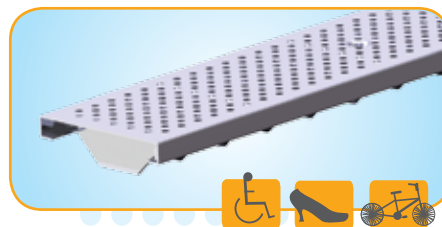
Part No. DG0657R

Open Area: 8.5 in²/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.

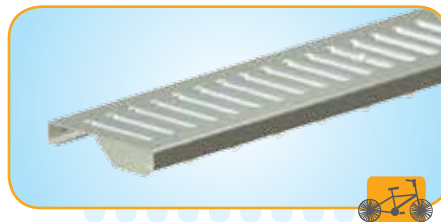
Part No. DG0640R

Open Area: 10.2 in²/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.

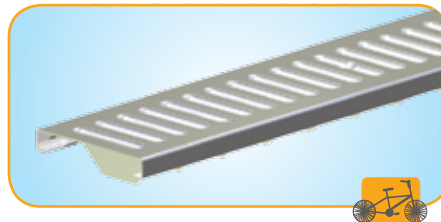
Part No. DG0647R

Open Area: 10.2 in²/Linear Foot

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

Weight: 6 lbs. or 12 lbs.

Slot Size: 0.28" x 3.00"



600 SERIES GRATES

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

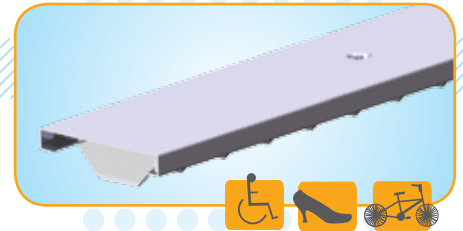
Part No. DG0667R

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.

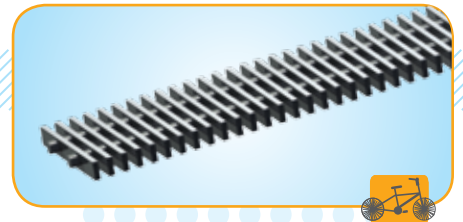
Part No. DG0644SP

Open Area: 25.5 in²/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 in²/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 in²/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.

Part No. DG0675HD

Open Area: 32 in²/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.

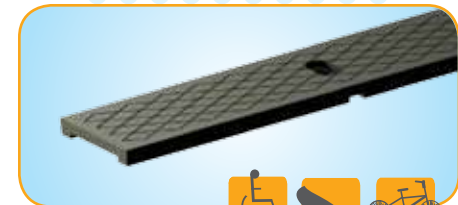
Part No. DG0641S

Open Area: N/A

Dimensions: 5-1/4" x 24"

Weight: 18 lbs.

Slot Size: N/A.



ADA Compliant

POLYCAST® Decorative Grates



Montage

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

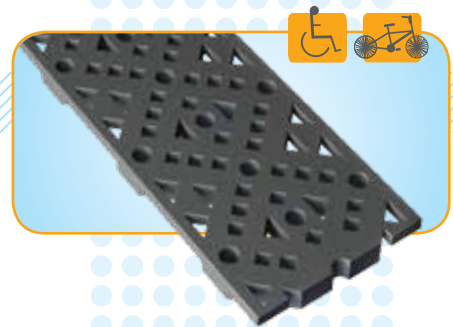
Part No. DG0691

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.

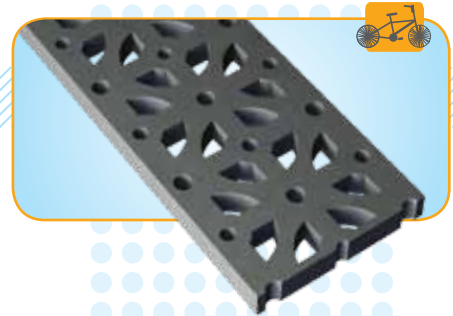
Part No. DG0693

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



600 SERIES

POLYCAST® Decorative Grates



SPIRAL

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

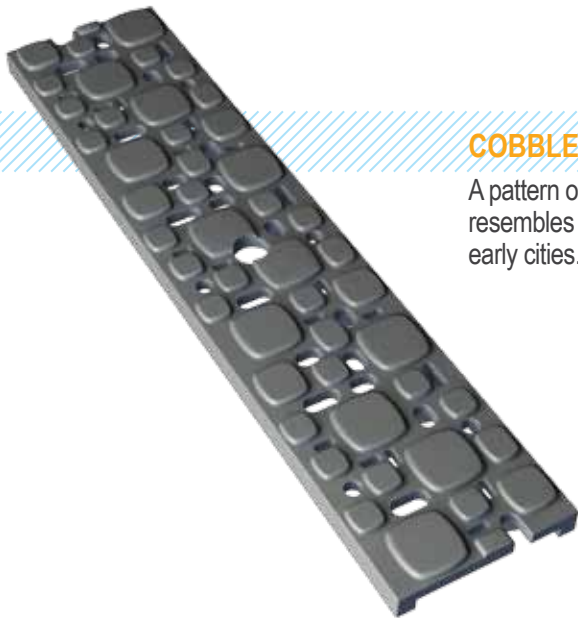
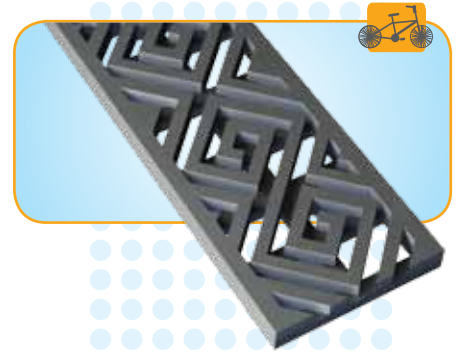
Part No. DG0694

Open Area: 20.5 in² / 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 in² / linear foot

Weight: 16 lbs.

Dimensions: 5.25" X 24"

Slot Size: Varies

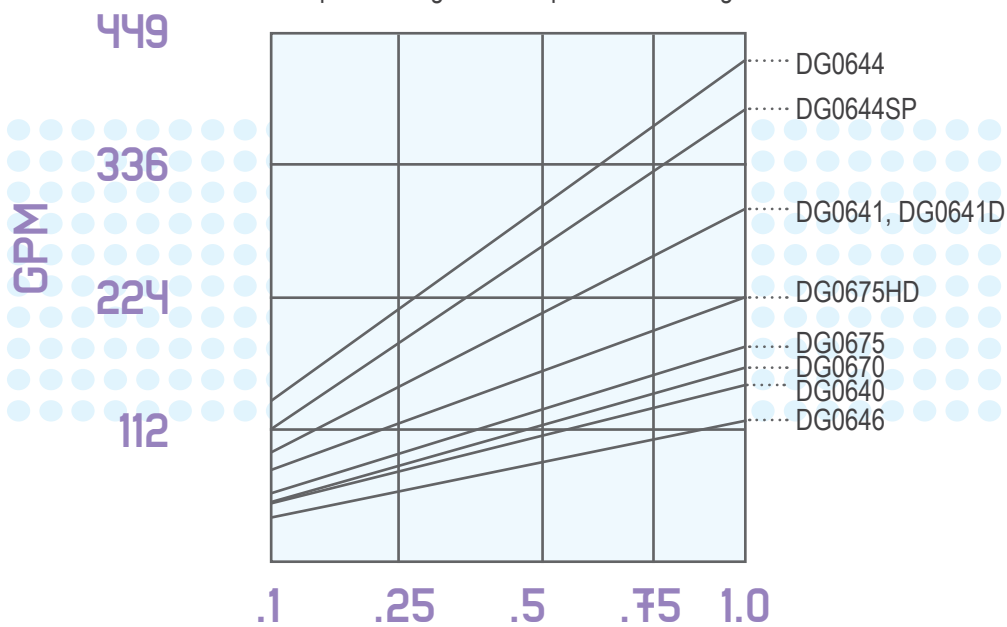


600 Series

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



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

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



600 SERIES INSTALLATION

Channel Installation Alignment Chair

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

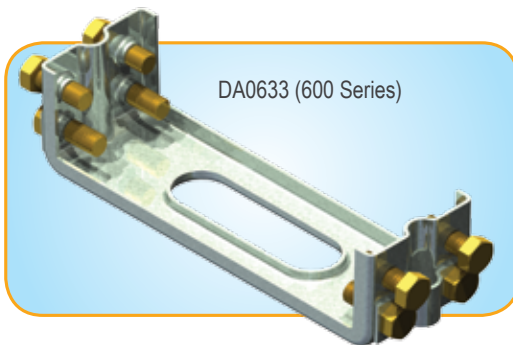


NOTE: For use with 600 Series Channels.

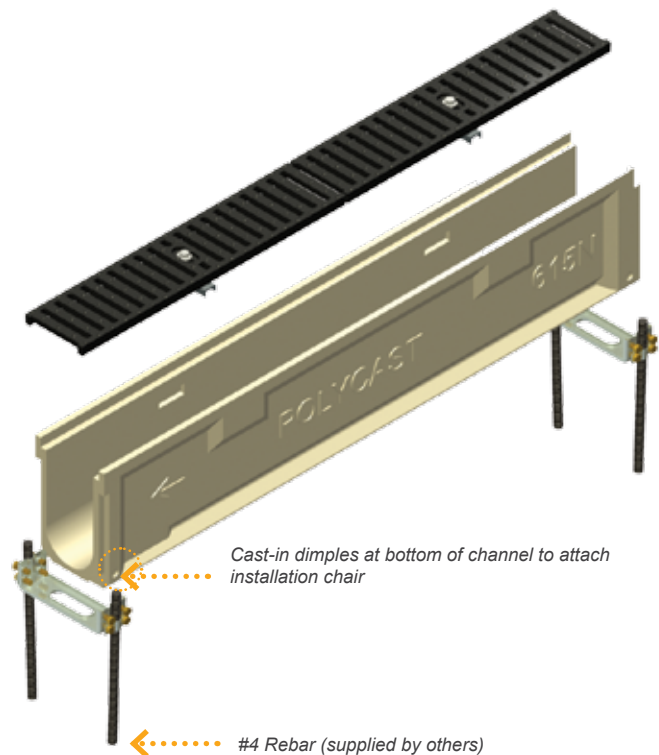
The POLYCAST® Installation Chair is the most efficient and economical means of setting a precast trench system. The installation chair supports the ends of the channels, aligns and locks the joint rigidly together and prevents the channels from floating. Adjusting channel elevation is easy with the POLYCAST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



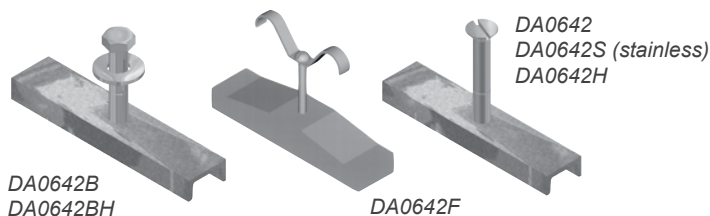
- Rapid, accurate installation
- Aligns channels
- Sets elevation
- Tightens joint
- Reduces leakage during concrete placement
- Prevents channels from floating during pour



600 SERIES ACCESSORIES

Accessories

Grate Hold-Down Devices



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



Male End Caps

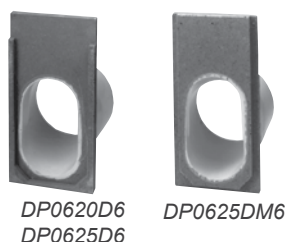
POLYCAST® Universal Male End Caps are used to enclose or provide 4" pipe inlets to the female channel ends. Inlets accommodate 4" pipes.

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



These inlets and outlets accommodate 6" pipes.

Fits CORRESPONDING 600 Series Channels

Channel Adapters



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

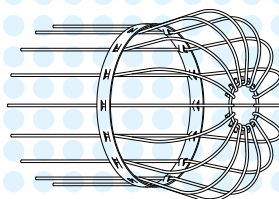


Use a DP0699M channel adapter to join two drain run ends together at a low point

Debris Strainer

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

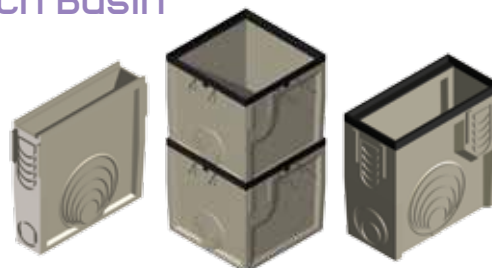
Debris Outlet Strainer



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.

SPORT-TRAC

SPORT-TRAC - 400 & 600 Series

For artificial turf and running track installations.

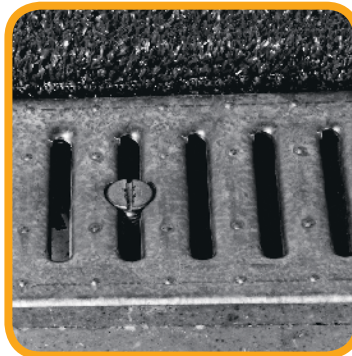
- Easy to Install
- Maintenance-Free
- Durable
- Economical



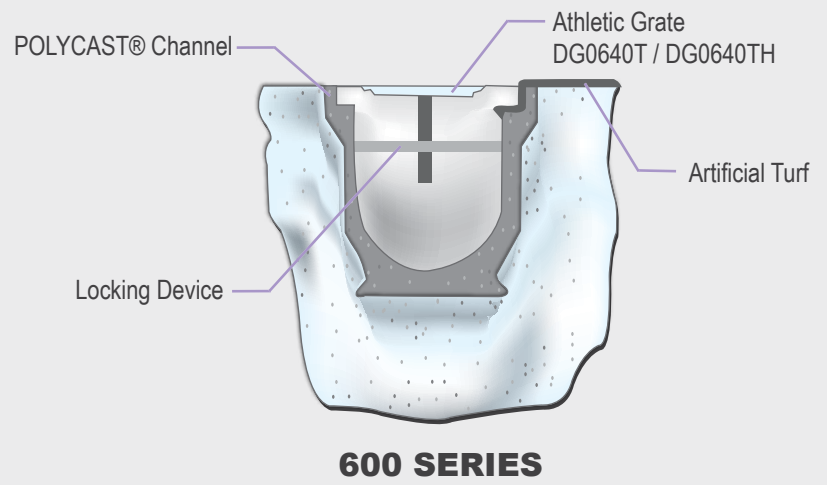
POLYCAST® 400 & 600 Series SPORT-TRAC Drains

POLYCAST® SPORT-TRAC drains are designed for running track and artificial turf playing field applications. SPORT-TRAC drains offer all of the physical and chemical resistance features of the standard POLYCAST 400 and 600 Series drain systems. The SPORT-TRAC 600 Series grating clamps the artificial turf in place.

Both the 400 Series and the 600 Series SPORT-TRAC systems provide efficient drainage while maximizing life cycle costs because of their exceptional durability. Their strong polymer concrete construction and smooth interior surface walls make the systems virtually maintenance-free. The ease of installation and the modular design of the SPORT-TRAC drain systems also reduce construction costs, making them an economical solution for track and field applications.



ABOVE: Specially designed to anchor artificial turf, drain and maintain level surface. (600 Series only)



900 SERIES

900 Series Grated Line Drain

The POLYCAST® 900 Series Grated Line Drain for highway and airport drainage systems collects run-off before it travels onto road or airplane taxi surfaces where water and ice can cause hazardous conditions. POLYCAST Grated Line Drain exceeds AASHTO highway standards for vehicles operating at highway speeds. It is a safe, economical, and low maintenance solution for roadway (DOT) surface drainage systems.

POLYCAST® Grated Line Drain features:

- Flow rates of up to 470 GPM per outlet
- Corrosion, chemical, and UV-resistant polymer concrete channels
- Integral embedment anchor flanges secure the nonremovable grate to prevent pullout from high-speed highway traffic
- Removable grates with locking devices also available
- Coefficient of thermal expansion similar to concrete

POLYCAST precast polymer concrete drain channels are available in 2' and 4' lengths and have a built-in slope of .65%. Tongue-and-groove channel joints interlock fully and evenly with adjoining channels. Each channel has a horizontal anchoring rib located along both sides of the bottom of the channel to mechanically engage the channel into the adjacent concrete.

Polymer concrete is resistant to salt, oil, most acids, and alkalis. This makes it excellent for containing and transporting run-off in any roadway application. It also maintains structural properties under freeze/thaw conditions.

POLYCAST® 900 Series Grates

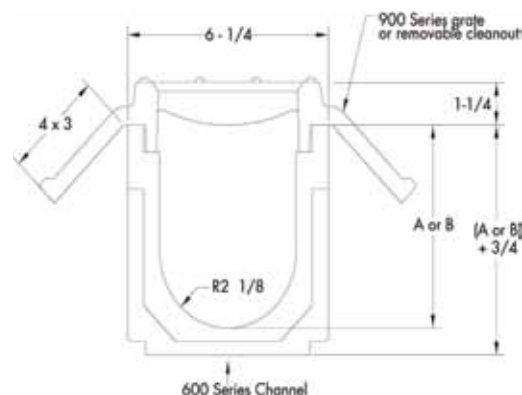
The ductile iron grates developed for the POLYCAST® 900 Series Grated Line Drain was designed to provide maximum inlet capacity. Both one-piece and removable designs incorporate positive anchoring flanges or bolts on each corner to help the grate withstand pull-out from high-speed highway traffic and snowplow blades.

One-piece (non-removable) assemblies are used in most instances. A removable grate assembly can be added where needed on any given run to provide open access for "clean-outs".

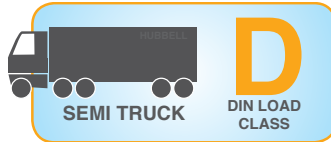
The POLYCAST 900 Series grates comply with the provisions cited in CALTRANS Section 10-1.35, "Grated Line Drain" and are made in compliance with CALTRANS Section 75-1.02, "Miscellaneous Iron and Steel" utilizing ASTM A-536, Grade 65-45-12 ductile iron. All grates and frames resist pullout forces in excess of 10 kN per meter (685 lbs. per foot) of length of grated line drains.



Drain Configuration



900 SERIES



900 SERIES GRATES

Ductile Iron Slotted

Heavy duty slotted iron grate designed for full highway traffic. This grate features 4 integral cast lugs every 16" to permanently and securely anchor it to the surrounding slab. One-piece (Non-removable) Frame and Grate with 9/16" diameter integral lugs. ASTM A536 Class 65-45-12.

Part No. DG0900

Open Area: 41 in²/Linear Foot (60% open area)

Dimensions: 5.25" X 16"

Weight: 14 lbs.

Slot Slot: 1.63" x 4.72"



Ductile Iron - Cleanout Grate

Heavy duty slotted iron removable cleanout grate. This features a cast iron frame with steel lugs to anchor it into the surrounding concrete. Locking devices engage frame above the flow area and do not impede flow. Grate Locking Device Part No. DAO942 (1 per grate required)

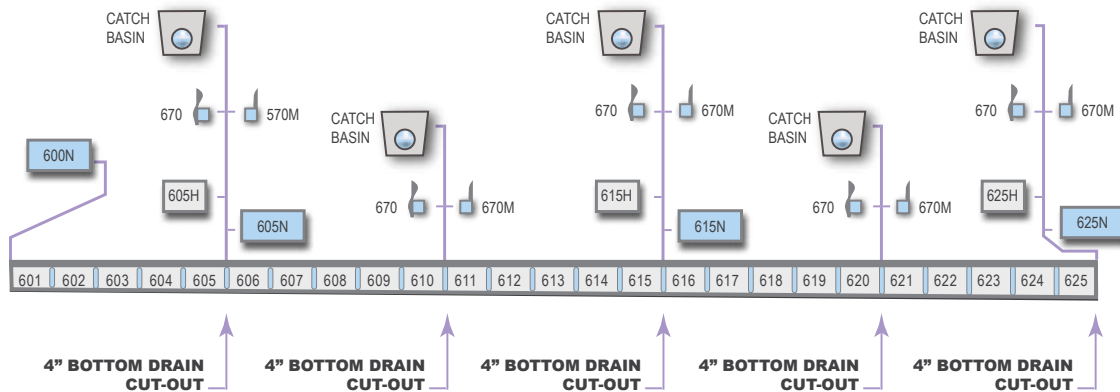
Part No. DG0941D

Open Area: 37 in²/Linear Foot (60% open area)

Dimensions: 5.19" x 23.88" (6.25" x 24" overall)

Weight (grate plus frame): 22 lbs.

Slot Size: 1.63" x 4.31"



NOTE: All half and non-sloped channels have bottom cut outs.

Channel Number	Weight Lbs.	Inlet DIM 'A'	Outlet DIM 'B'
600N (non-sloped)	97	5-1/4	5-1/4
601	98	5-1/4	5-9/16
602	103	5-9/16	5-7/8
603	103	5-7/8	5-7/8
604	104	6-3/16	6-1/2
605	105	6-1/2	6-13/16
605N (non-sloped)	106	6-13/16	6-13/16
605H (non-sloped 24")	52	6-13/16	6-13/16
606	107	6-13/16	7-1/8
607	110	7-1/8	7-1/16
608	111	7-7/16	7-3/4
609	112	7-3/4	8-1/16
610	114	8-1/16	8-3/8
611	115	8-3/8	8-11/16
612	116	8-11/16	9
613	117	9	9-5/16

Channel Number	Weight Lbs.	Inlet DIM 'A'	Outlet DIM 'B'
614	119	9-5/16	9-5/8
615	120	9-5/8	9-15/16
615N (non-sloped)	121	9-15/16	9-15/16
615H (non-sloped 24")	60	9-15/16	9-15/16
616	121	9-15/16	10-1/4
617	122	10-1/4	10-9/16
618	123	10-9/16	10-7/8
619	124	10-7/8	11-3/16
620	127	11-3/16	11-1/2
621	128	11-1/2	11-13/16
622	131	11-13/16	12-1/8
623	133	12-1/8	12-7/16
624	135	12-7/16	12-3/4
625	136	12-3/4	13-1/16
625N (non-sloped)	137	13-1/16	13-1/16
625H (non-sloped 24")	68	13-1/16	13-1/16

900 SERIES

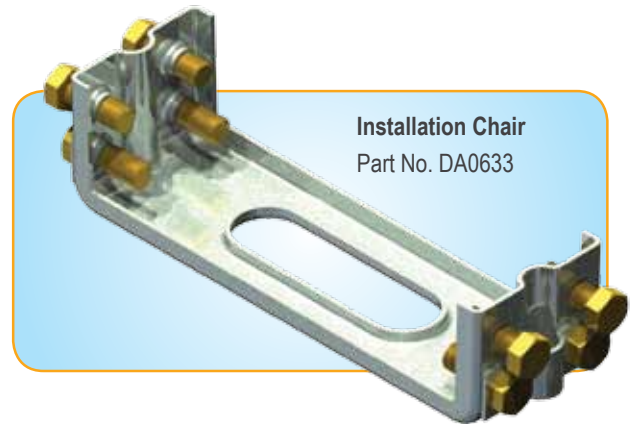
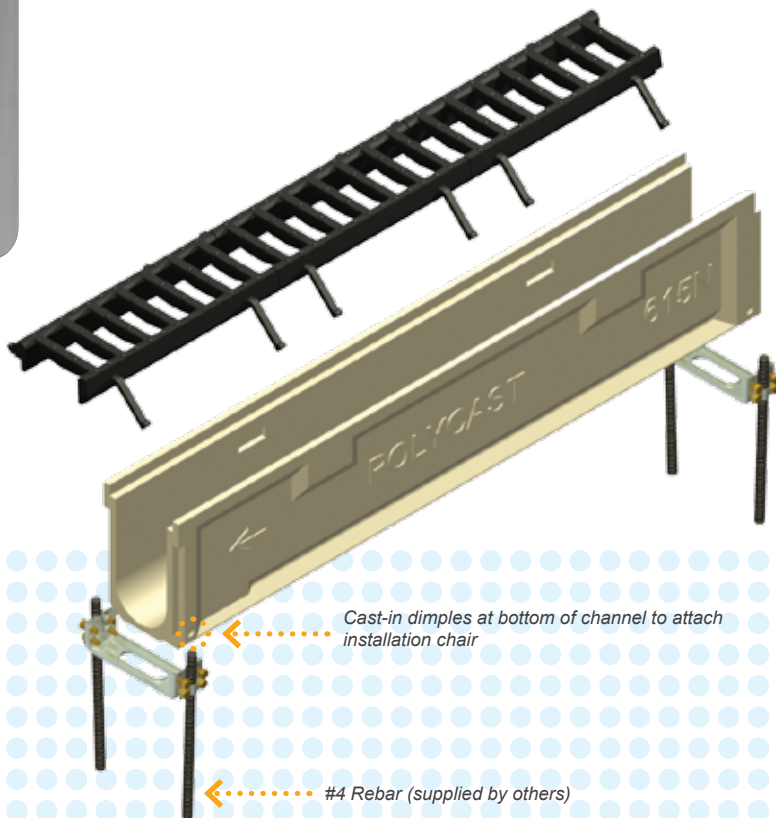
900 Series Installation & Details

Installation

The POLYCAST® Installation Chair (part DA0633) 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 joints rigidly together, and prevents the channels from floating without any additional formwork. 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 #4 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.



Installation Chair
Part No. DA0633

GR8 TIPS

**We Take the
Guesswork Out**

Feet and Inches:
Using English system
of measurement for
product dimensions
make site layout simpler
and faster.

POLYCAST® Specifications

900 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 900 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), or gray iron (ASTM A-48) and meet AASHTO HS-20 and FAA load requirements. The frames shall be non-removable from the concrete. The grates shall be removable or non-removable as shown on the contract plans. 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. Non-removable grates shall have integrally cast anchoring lugs with terminus interlock.

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 or as a defacto expansion joint.

CATCH BASINS

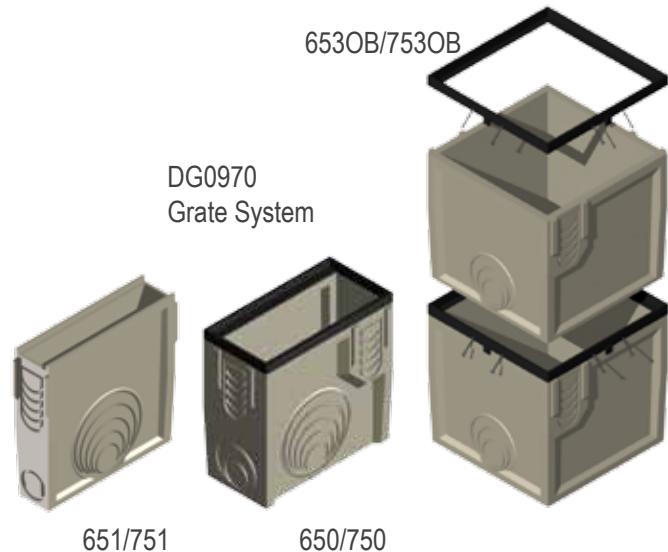
The POLYCAST® Catch Basins are an important part of the versatile POLYCAST Presloped Drain System. The catch basins are manufactured with the same high strength, corrosion-resistant polyester and Vinyl Ester polymer concrete used for the POLYCAST Drain Channels. They are designed to be used as collection points, drain run transitions, and interceptors to collect solid debris. POLYCAST Catch Basins are designed to accommodate all drain channel sizes and have cut-outs designed specifically for channels with catalog numbers ending in 5, 0, N and H. POLYCAST Catch Basins have a selection of grates available for specific needs.

The POLYCAST Catch Basins can be used with the POLYCAST Drain System or can be used as an individual catch basin. In either case, costly, labor-intensive on-site forming is eliminated.

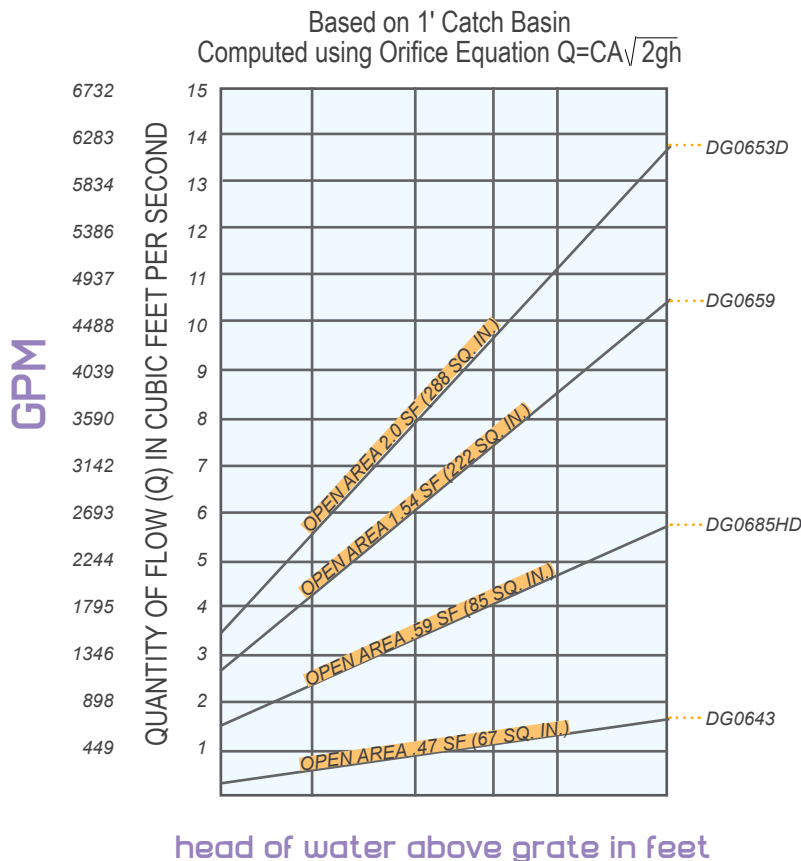
POLYCAST 700 Series HARDNOSE® Catch Basins are also available. They have the same features as the corresponding 600 Series Catch Basin. The 700 Series Catch Basins have a one-piece metal assembly for additional grating load distribution. HARDNOSE Catch Basins should be used in areas where solid tire and heavy commercial vehicles are anticipated.

The 650 Catch Basin is available with any of the gratings/covers available for the 600 Series Channels. The 651 Catch Basin is available with cast iron or fiberglass grates. The 653OB and 653SB Catch Basins are available with cast iron or fiberglass grates.

Catch Basins



Quantity Of Flow Through Grates



GR8 TIPS

Vinyl Ester: When harsh chemicals are being drained, Vinyl Ester drain systems protect the integrity of the surrounding floor.

CATCH BASINS

Fig. 1

650/750 Catch Basin
Wt. 90 lbs./105 lbs. - 11 Gallon Capacity

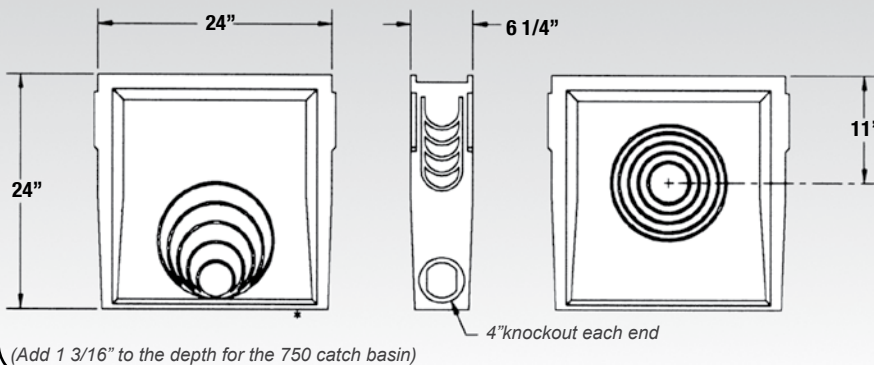


Fig. 2

651/751 Catch Basin
Wt. 160 lbs./180 lbs. - 17 Gallon Capacity

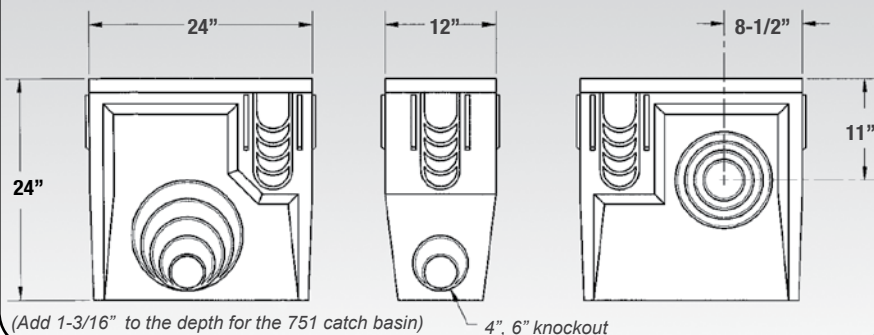


Fig. 3

6530B/7530B Catch Basin (Open Bottom Stacking)
Wt. 142 lbs./154 lbs. - 46 Gallon Capacity

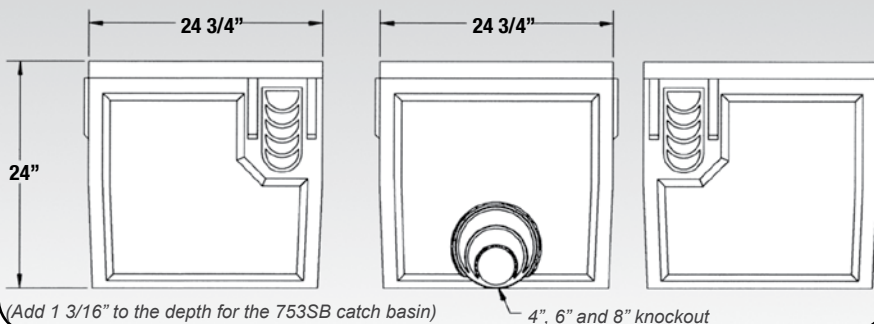
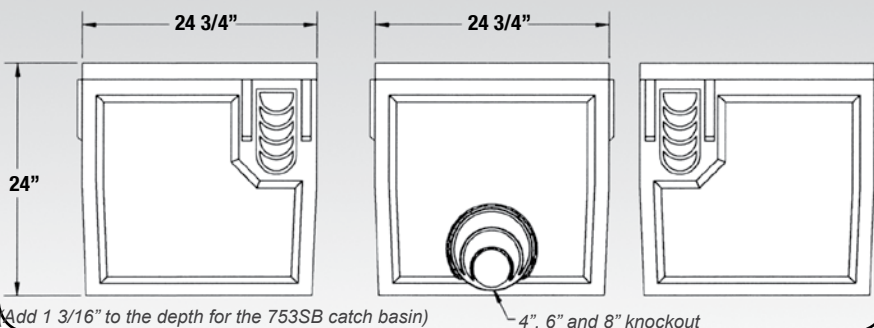


Fig. 4

653SB/753SB Catch Basin (Solid Bottom)
Wt. 165 lbs./177 lbs. - 46 Gallon Capacity (92 gallons with (1) 6530B)



4" and 6" Bottom Cut-Outs

Catch Basin cut-outs accept the following channels: 605, 610, 615, 620, 625 and their corresponding halves and neutrals.

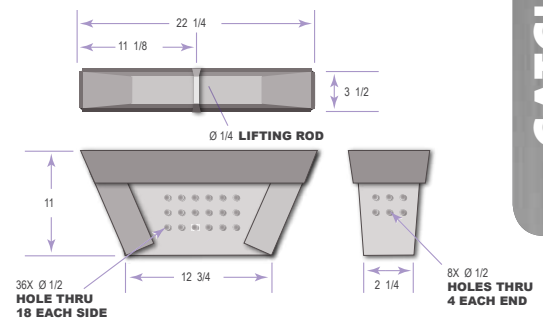
Drain channel cut-out connections are located on both ends of the catch basin. Pipe discharge cut-outs for 4", 6", 8", 10" and 12" pipe are located on both sides. The pipe cut-outs are located near the bottom of the catch basin on one side and on the other side the pipe cut-outs are located toward the middle. The 650/750 and 651/751 catch basins also have one 4" pipe cut-out on each end and one 4" and 6" pipe cut-out on the bottom.

Debris Baskets

Corrugated plastic debris baskets are available for the 650/750 and 651/751 catch basins.

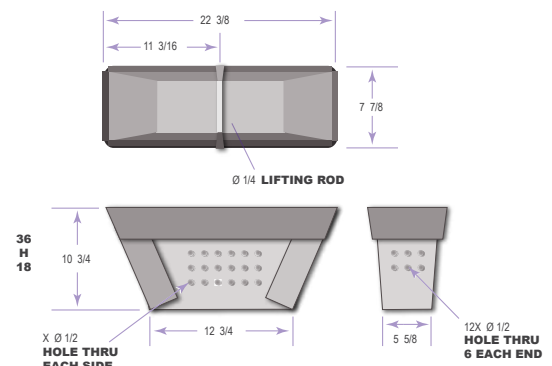
HDPE Corrugated Plastic Debris Basket for 650/750 Catch Basin

Part No. DA0650TA



HDPE Corrugated Plastic Debris Basket for 651/751 Catch Basin

Part No. DA0651TA

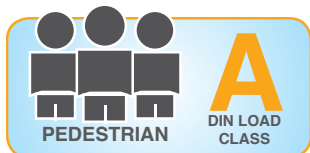


NOTE: A debris basket is not available for the 653 catch basins.

CATCH BASINS

CATCH BASIN GRATES

651/751/653OB/653SB/753OB/753SB



Fiberglass

Designed for use with the POLYCAST® Vinyl Ester Catch Basins in areas requiring extreme chemical resistance.

ADA Compliant.

Part No. DG0659

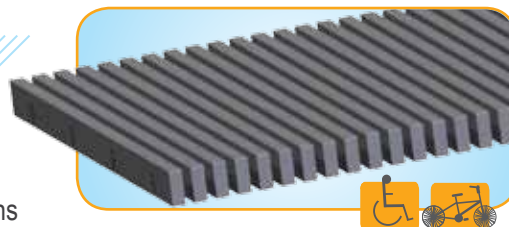
Open Area: 222 in²/Linear Foot

Dimensions: 23-3/4" x 23-3/4"

Weight: 20 lbs.

For use with 653OB/653SB Basins
Vinyl Ester

Slot Size: 0.41" wide



Ductile Iron Slotted

Designed for frequent heavy traffic.

ADA Compliant.

Part No. DG0685HD

Open Area: 85 in²/Linear Foot

Dimensions: 10-3/4" x 22-3/4"

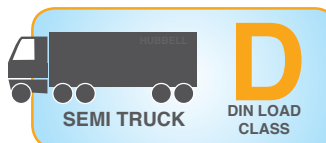
Weight: 49 lbs.

ASTM A536 Class 65-45-12

For use with 651/751 Basins

Black Finish

Size Slot: 0.32" wide



Gray Iron Slotted

Designed for frequent heavy traffic.
Grate hold-down devices are included and should be maintained secure.

Part No. DG0643

Open Area: 32 in²/Linear Foot

Dimensions: 10-3/4" x 22-3/4"

Weight: 63 lbs.

For use with 651/652 Basins

Black Finish

Slot Size: 0.63" x 3.75"



Ductile Iron Slotted

Designed for frequent heavy traffic.

Part No. DG0653D

Open Area: 288 in²/Linear Foot

Dimensions: 23-3/4" x 23-3/4"

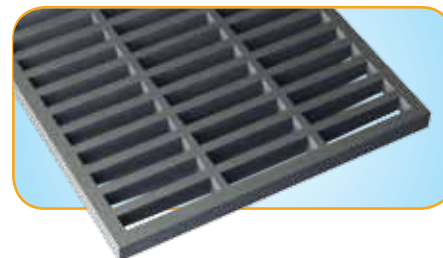
Weight: 130 lbs.

ASTM A536 Class 65-45-12

For use with 653OB/653SB Basins

Black Finish

Slot Size: 1.25" x 6.75"



700 Series HARDNOSE End Frame

For use with the DP0650 Catch Basin.
Prevents concrete back fill from
spilling into the catch basin during
concrete placement.

Part No. DG0700AC

Dimensions: 6-1/4" x 24"

Weight: 15 lbs.

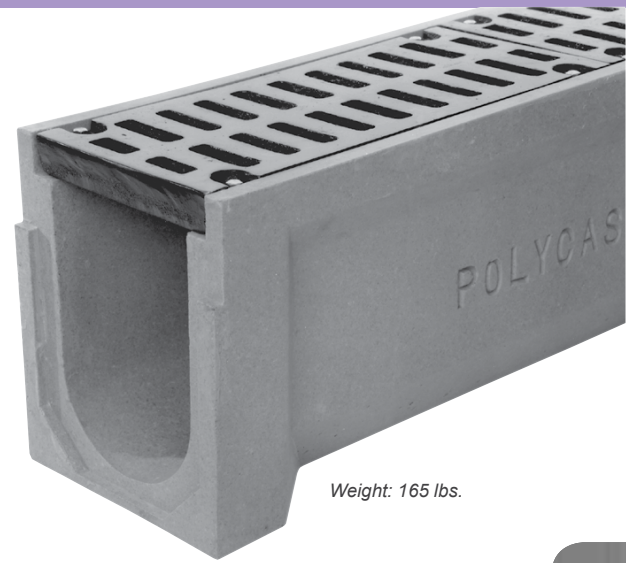
Black Finish



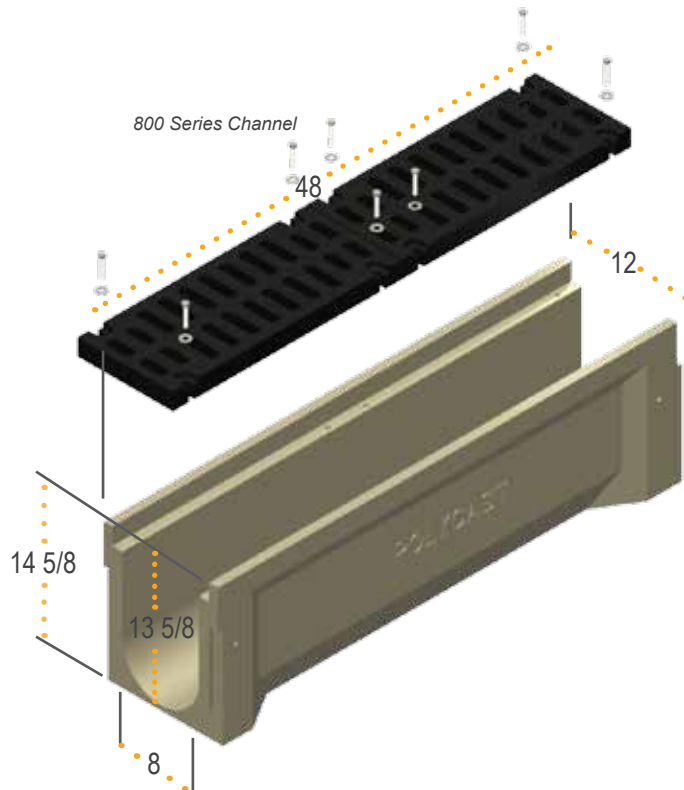
800 SERIES MAXI

800 Series MAXI Heavy Duty

The POLYCAST® 800 Series Channel is designed for those high volume situations that exceed the capacity of the POLYCAST® 600 Series. The 800 Series Channel is approximately double the width of the standard 600 Series channels. The 825 Section is a neutral channel with interlocking tongue-and-groove joints. The 825 channel is designed for areas of high volume cross-flow interception, or areas where the larger cross-section is necessary. Channels can also be used as a corrosion-resistant, secondary containment system. The 825 channel is available in either polyester or Vinyl Ester polymer concrete. The polyester polymer concrete is used for most drainage applications; the Vinyl Ester polymer concrete should be used for highly corrosive situations or higher temperature applications. All POLYCAST® 800 Series gratings, except the fiberglass grating, are 2' long with two grates required for the 4' channel. The fiberglass grate is 4' in length. The iron grates and covers for the 825 channel come with locking bolts. The bolts fit threaded inserts in the channel bearing ledges. The bolts are recessed to fit below the grating surface. Three different end caps are available for the 825 channel. The closed end cap is designed to fit either end of the channel. Drain end caps fit the downstream end and can be ordered with a 6" or 8" pipe stub. The flow rate of the 825 channel varies with the slope of the installation. The 825 channel is not presloped and any slope required should be designed into the slab.



Weight: 165 lbs.



GR8 TIPS

Up Against a Wall:
Trench drains should be placed at least 4" away from walls to ensure proper encasement.

800 SERIES MAXI

800 Series Grates



MAXI/Fiberglass

Designed for use with the POLYCAST® Vinyl Ester trench in areas requiring extreme chemical resistance. Securing bolts are included and should be used and maintained secure.

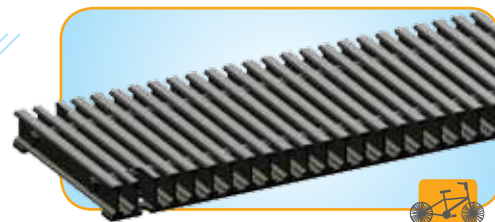
Part No. DG0844

Open Area: 31 in²/Linear Foot

Dimensions: 10" x 48"

Weight: 15 lbs.

Slot Size: 0.38" wide



MAXI/Gray Iron Slotted

Designed for general use. Grate hold-down devices are included and should be maintained secure.

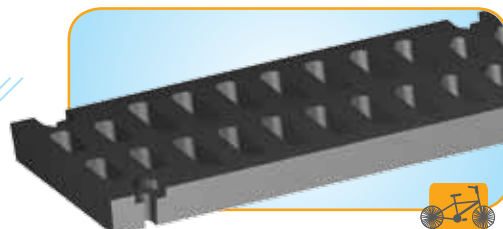
Part No. DG0841

Open Area: 32 in²/Linear Foot

Dimensions: 10" x 24"

Weight: 62 lbs.

Slot Size: 1.00" x 3.50"



MAXI/Gray Iron Solid

Designed for pipe raceway, e.g., secondary containment, and cable runs. Removable cover allows full access. Grate hold-down devices are included and should be maintained secure.

Part No. DG0842

Open Area: N/A

Dimensions: 10" x 24"

Weight: 75 lbs.

Slot Size: N/A



800 series

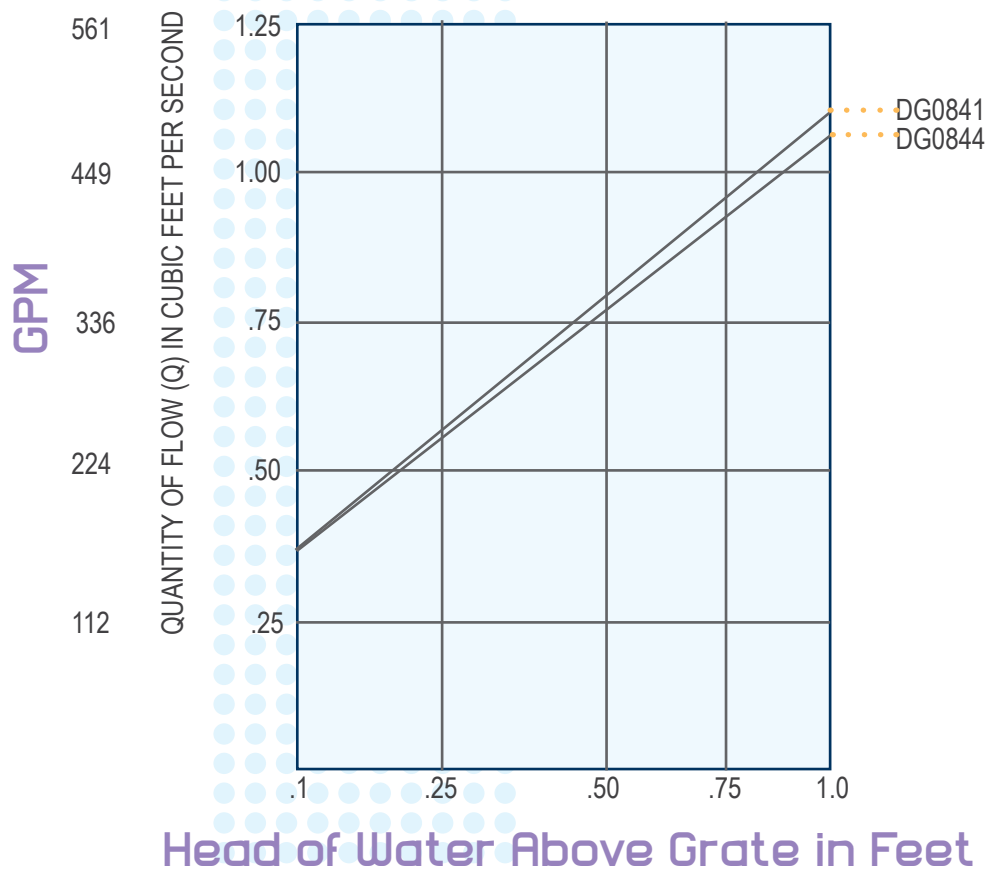
800 SERIES MAXI

Grate In-Flow Chart

Quantity of Flow Through 800 Series Grates

Based on 1' 825 Channel

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



800 SERIES MAXI

GR8
TIPS

Expansion Joints: Trench drain channels should never be used as expansion joints as this can cause weak points in both the drain and, surrounding slab.

800 SERIES MAXI

Accessories

End Caps

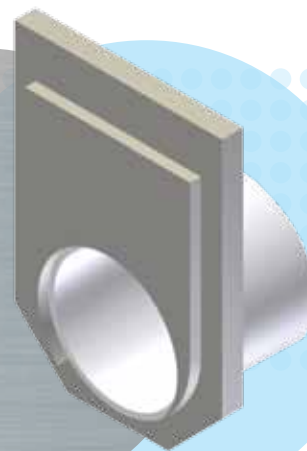
POLYCAST® End Caps are used to enclose or provide piping transitions to the female and male ends of the channels where catch basins are not being used.

Closed End Cap



DP0825C

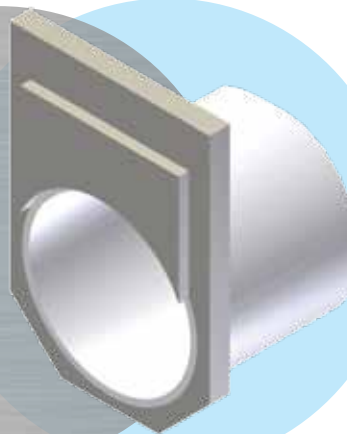
Inlet/Outlet



DP0825DM6

For use with 6" PVC pipe.

Inlet/Outlet



DP0825DM8

For use with 8" PVC pipe.

maxi

POLYCAST® Sample Specifications

800 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 800 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 8" inside width with a full radius bottom. The grate bearing ledge shall be a minimum of 1 1/16". Channels shall have interlocking joints and side height extension panels. The system will be of a neutral slope design, with maximum capacity dependent on the slope of the surrounding 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 gray iron (ASTM A-48) or fiberglass. 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 lbs. 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 an expansion joint.

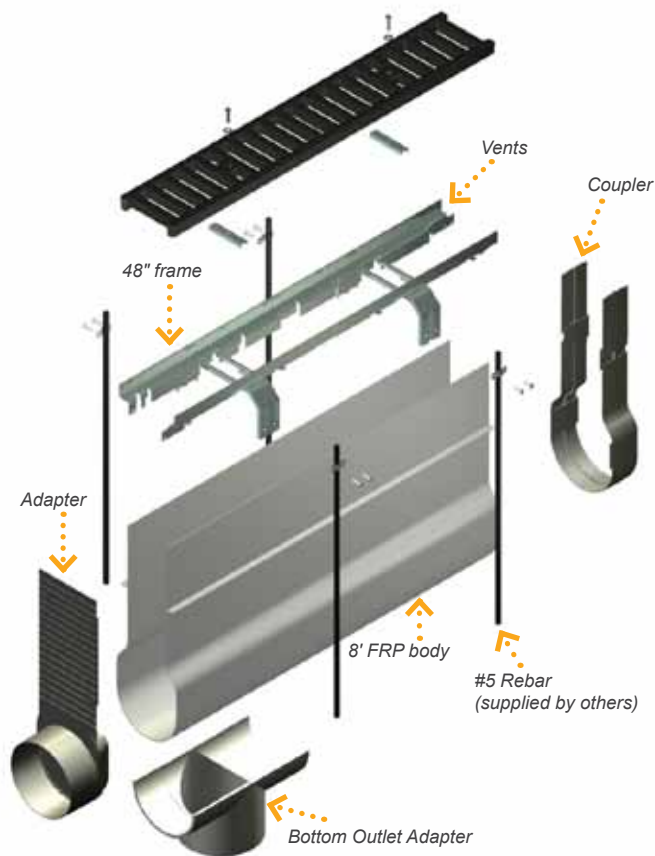
3000 SERIES

3000 Series Assembly

High Capacity Drain System

The POLYCAST® 3000 Series is a high capacity drain system designed for airports, roadways and other applications needing especially high flow volume. POLYCAST 3000 can achieve flow rates of more 3000 GPM (gallons per minute) or 6.73 cfs (cubic feet per second).

Channels are pultruded fiberglass and are available in polyester resin or in Vinyl Ester resin for exceptionally high chemical resistance. The strong vertical sidewalls reduce sidewall deflection during the concrete pour and therefore maintain maximum flow capacity. The sidewalls of many other drain systems tend to collapse during this critical process, resulting in substantially reduced flows.



- More Than 3000 GPM Flow Rate
- Up to 240' of continuous slope
- 8-foot Channel Sections
- 4 slopes available from 0.5% to 1.25%
- Lightweight
- Corrosion Resistant
- Rapid Installation
- Utilizes Standard Grating
- Single Lift Concrete Placement

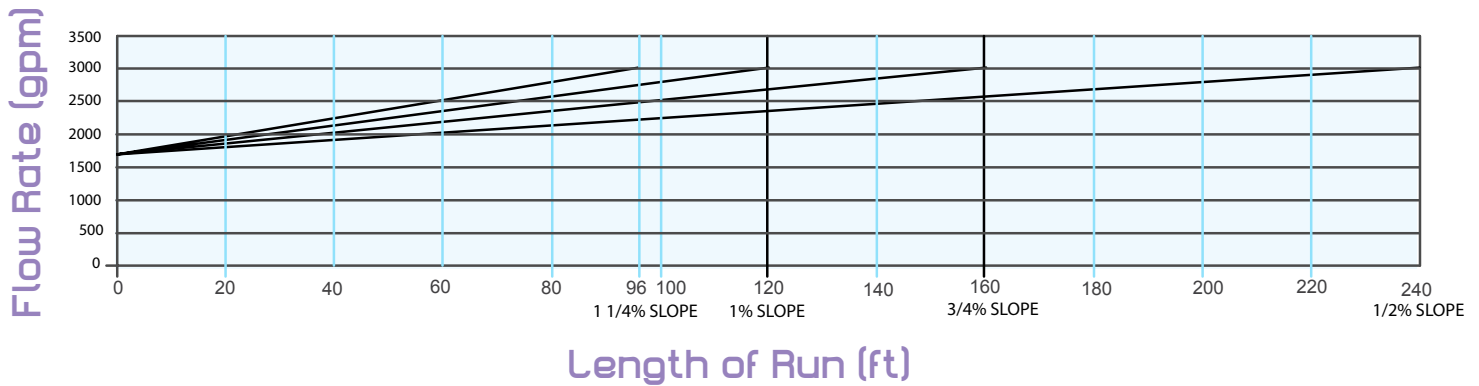
3000 Series

3000 Series

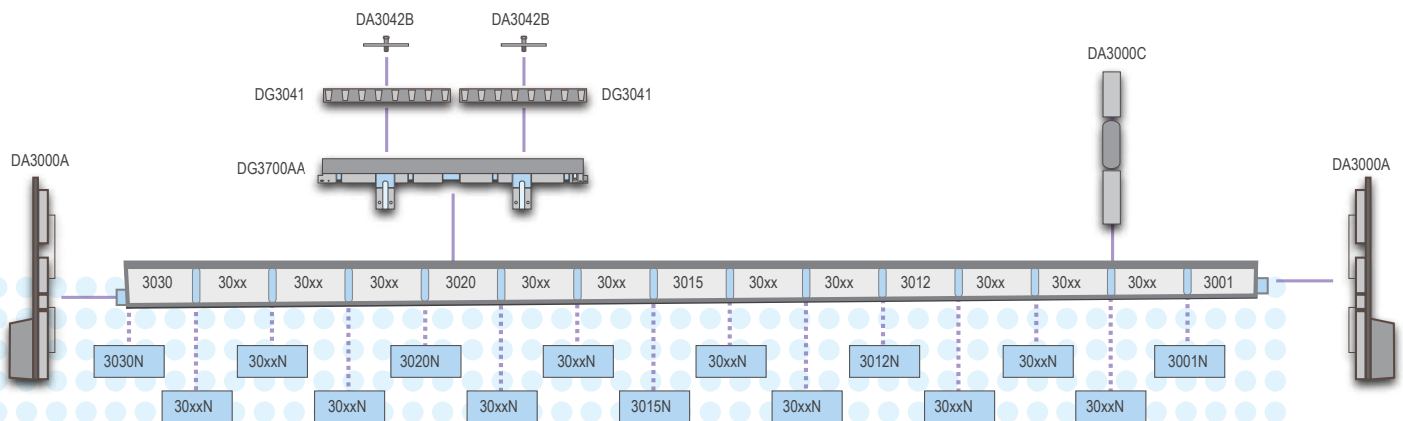
Custom Slope

POLYCAST® 3000 channels are available with 0.5%, 0.75%, 1%, and 1.25% built in slopes. Differing slopes can be integrated into the channel design for varying site conditions. The number of channels varies with the selected slope, from as few as 12 to 30.

Flow Capacity for 3000 Series Variable Built-in Slopes



Drain Configuration



3000 SERIES

Multi-Slope Drain Configuration Chart

0.5% Slope

Channels: 3001 - 3030

Part Number	Inlet Depth (in.)	Outlet Depth (in.)	Flow (gpm)	Flow Velocity (fps)	Wt. (lbs.)
3001	13.15	13.63	1607	5.8	23.7
3002	13.63	14.11	1656	5.8	24.5
3003	14.11	14.59	1704	5.8	25.3
3004	14.59	15.07	1753	5.8	26.0
3005	15.07	15.55	1802	5.8	26.8
3006	15.55	16.03	1850	5.8	27.5
3007	16.03	16.51	1899	5.8	28.3
3008	16.51	16.99	1947	5.8	29.1
3009	16.99	17.47	1996	5.8	29.8
3010	17.47	17.95	2045	5.8	30.6
3011	17.95	18.43	2093	5.8	31.3
3012	18.43	18.91	2142	5.8	32.1
3013	18.91	19.39	2191	5.8	32.9
3014	19.39	19.87	2239	5.8	33.6
3015	19.87	20.35	2288	5.8	34.4

Part Number	Inlet Depth (in.)	Outlet Depth (in.)	Flow (gpm)	Flow Velocity (fps)	Wt. (lbs.)
3016	20.35	20.83	2336	5.8	35.1
3017	20.83	21.31	2385	5.8	35.9
3018	21.31	21.79	2434	5.8	36.7
3019	21.79	22.27	2482	5.8	40.0
3020	22.27	22.75	2531	5.8	40.8
3021	22.75	23.23	2580	5.8	41.5
3022	23.23	23.71	2628	5.8	42.3
3023	23.71	24.19	2677	5.8	43.0
3024	24.19	24.67	2725	5.8	43.8
3025	24.67	25.15	2774	5.8	44.6
3026	25.15	25.63	2823	5.8	45.3
3027	25.63	26.11	2871	5.8	46.1
3028	26.11	26.59	2920	5.8	46.8
3029	26.59	27.07	2969	5.8	47.6
3030	27.07	27.55	3017	5.8	48.4

0.75% Slope

Channels: 3001 - 3020

Part Number	Inlet Depth (in.)	Outlet Depth (in.)	Flow (gpm)	Flow Velocity (fps)	Wt. (lbs.)
3001	13.15	13.87	1631	5.8	24.5
3002	13.87	14.59	1704	5.8	25.8
3003	14.59	15.31	1777	5.8	27.0
3004	15.31	16.03	1850	5.8	28.3
3005	16.03	16.75	1923	5.8	29.5
3006	16.75	17.47	1996	5.8	30.8
3007	17.47	18.19	2069	5.8	32.0
3008	18.19	18.91	2142	5.8	33.3
3009	18.91	19.63	2215	5.8	34.6
3010	19.63	20.35	2288	5.8	35.8

Part Number	Inlet Depth (in.)	Outlet Depth (in.)	Flow (gpm)	Flow Velocity (fps)	Wt. (lbs.)
3011	20.35	21.07	2361	5.8	37.1
3012	21.07	21.79	2435	5.8	38.3
3013	21.79	22.51	2507	5.8	39.6
3014	22.51	23.23	2580	5.8	40.9
3015	23.23	23.95	2653	5.8	42.1
3016	23.95	24.67	2725	5.8	43.4
3017	24.67	25.39	2798	5.8	44.6
3018	25.39	26.11	2871	5.8	45.9
3019	26.11	26.83	2944	5.8	47.1
3020	26.83	27.55	3017	5.8	48.4

1% Slope

Channels: 3001 - 3015

Part Number	Inlet Depth (in.)	Outlet Depth (in.)	Flow (gpm)	Flow Velocity (fps)	Wt. (lbs.)
3001	13.15	14.11	1713	5.8	24.5
3002	14.11	15.07	1806	5.8	26.0
3003	15.07	16.03	1899	5.8	27.5
3004	16.03	16.99	1992	5.8	29.1
3005	16.99	17.95	2085	5.8	30.6
3006	17.95	18.91	2178	5.8	32.1
3007	18.91	19.87	2271	5.8	33.6
3008	19.87	20.83	2363	5.8	35.1

Part Number	Inlet Depth (in.)	Outlet Depth (in.)	Flow (gpm)	Flow Velocity (fps)	Wt. (lbs.)
3009	20.83	21.79	2456	5.8	36.7
3010	21.69	22.75	2549	5.8	40.8
3011	22.69	23.71	2642	5.8	42.3
3012	23.63	24.67	2735	5.8	43.8
3013	24.56	25.63	2828	5.8	45.3
3014	25.56	26.59	2921	5.8	46.8
3015	26.50	27.55	3017	5.8	48.4

3000 SERIES

1.25% Slope

Channels: 3001 - 3012

Part Number	Inlet Depth (in.)	Outlet Depth (in.)	Flow (gpm)	Flow Velocity (fps)	Wt. (lbs.)
3001	13.15	14.35	1680	5.8	24.5
3002	14.35	15.55	1802	5.8	26.7
3003	15.55	16.75	1923	5.8	28.8
3004	16.75	17.95	2045	5.8	31.0
3005	17.95	19.15	2166	5.8	33.2
3006	19.15	20.35	2288	5.8	35.4

Part Number	Inlet Depth (in.)	Outlet Depth (in.)	Flow (gpm)	Flow Velocity (fps)	Wt. (lbs.)
3007	20.35	21.55	2409	5.8	37.5
3008	21.55	22.75	2534	5.8	39.7
3009	22.75	23.95	2653	5.8	41.9
3010	23.95	25.15	2774	5.8	44.1
3011	25.15	26.35	2896	5.8	46.2
3012	26.35	27.55	3017	5.8	48.4

3000 Series Grates



Fiberglass

Designed for use with POLYCAST® 3000 Vinyl Ester channels in areas requiring extreme chemical resistance.

Part No. DG3044

Open Area: 38 in²/Linear Foot

Dimensions: 8" x 48" x 1.5"

Weight: 12 lbs.

Slot Size: 0.38" wide



Ductile Iron Slotted

A heavy duty grate suitable for frequent traffic applications. Exceeds AASHTO H-20 and FAA requirements.

Part No. DG3041D

Open Area: 42 in²/Linear Foot

Dimensions: 8" x 24" x 1.5"

Weight: 36 lbs.

ASTM A536 Class 65-45-12

Slot Size: 1.38" x 6.50" wide



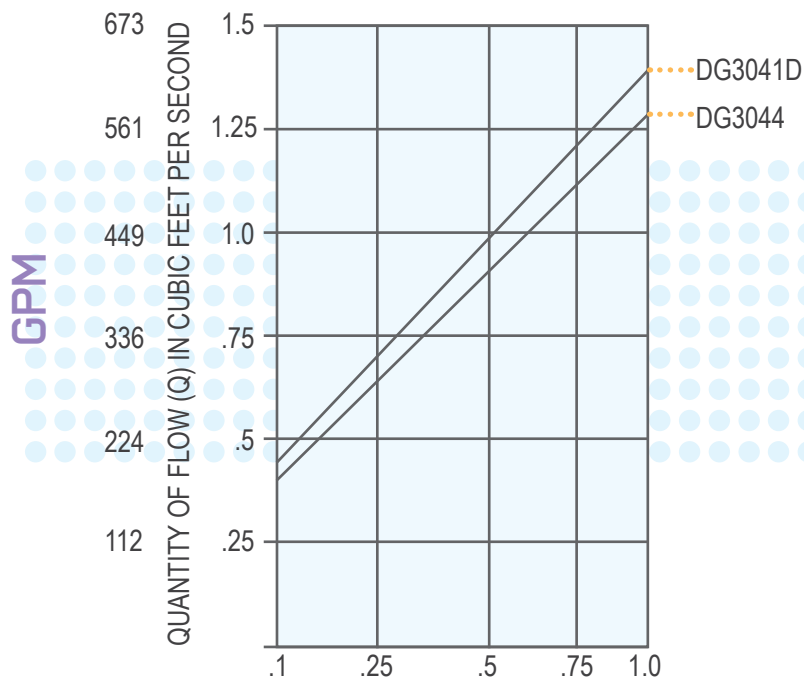
3000 SERIES

Grate In-Flow Chart

Quantity of Flow Through 3000 Series Grates

Based on 1' 3000 Series Channel

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

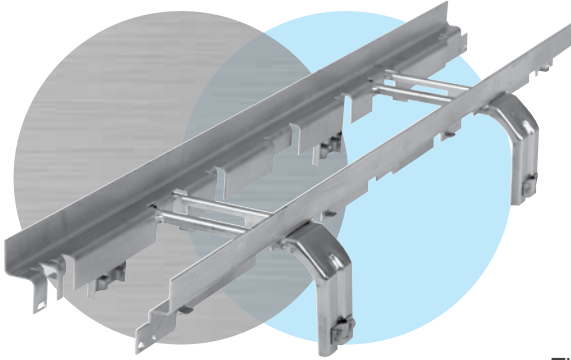


Head of Water Above Grate in Feet

GR8
TIPS

"U" Bottom: The U-shaped bottom found on all series of POLYCAST provides the best overall flow characteristics.

Accessories



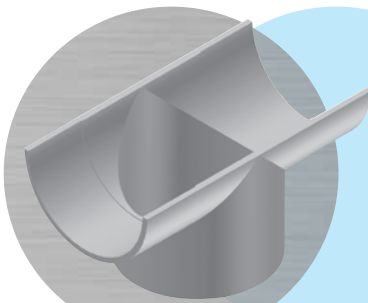
Frames

48" Dual Plated Corrosion Resistant Channel Frame (Required)

Part No.: DG3700 ANSI 1018, ASTM A-36, Zinc-Plated 11 Gauge Steel; DG3700S 18-8 Stainless Steel

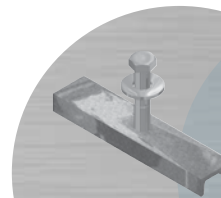
The channel frame, an integral required part of the drain system, is available in either plated steel or stainless steel.

Outlet Adapter



Bottom Outlet Adapter*
Part No. DA3000S
Material - PVC

Grate Hold-Down Device



Grate Hold-Downs
Part No. DA3042B
Zinc-plated Steel

Channel Coupler



Channel Coupler
Part No. DA3000C
Material - ABS

End Caps



End Cap Adapters with cut-out diaphragms (glueable to PVC pipe)
Part No. DA3000A
Material - ABS

Channel couplers and end cap adapters are ABS plastic. The specially designed end cap adapter can be used to close off the system, or the diaphragm can be cut out to allow connections to standard 8" PVC pipe.

* Installation Instructions (if applicable) - Place bottom outlet adapter in desired location and mark channel for pipe cutout. For best results, cut channel with jig saw. Attach bottom outlet adapter with two sheet rock screws.

3000 SERIES

POLYCAST® Sample Specifications

3000 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 3000 Series Extra High Capacity 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 preformed trench drain shall be a polyester matrix as shown on the contract plans. The bottom dimensions shall be 8.63" inside to match 8" diameter pipe with lateral sidewall transitions and shall have a full radius. The frame shall fully support the grate and transfer vertical loads linearly into adjacent concrete. Sloped and non-sloped channels shall be used as shown in contract plans. Channels shall be 8' long. Sloped channels shall have an inverted slope of 0.5%, 0.75%, 1%, or 1.25% as determined by the contract plans. Maximum capacity without extensions shall be 3000 GPM at flat and level grade. The channels shall permit a continuously sloped run of up to 240' without extensions.

The polymer concrete shall have minimum material properties as follows:

DESCRIPTION	TEST METHOD	VALUES
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)	ASTM D-696	4.4x10-6 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), or gray iron (ASTM A-48) and meet AASHTO HS-20 and FAA load requirements. The frames shall be non-removable from the concrete. The grates shall be removable or non-removable as shown on the contract plans. 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. Non-removable grates shall have integrally cast anchoring lugs with terminus interlock.

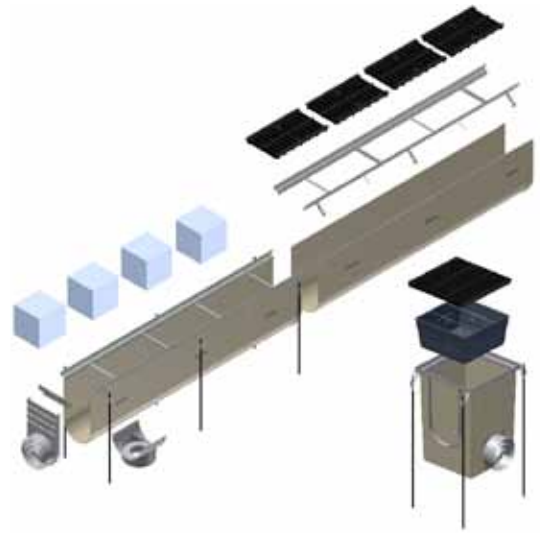
Installation: The manufacturer's installation recommendations shall be followed. The reinforcement in the concrete surrounding the drain shall be adequate for the anticipated loads. The trench drain shall not be used in place of a defacto expansion joint.

FP800 & FP1200

POLYCAST® FP800 & FP1200

The POLYCAST® FP800 and FP1200 are the ideal solution for high volume flow situations such as airports, roadways, and seaports. Designed with the installer in mind, this revolutionary design incorporates full 360° interlocks and prefabricated turns and tees to minimize installation time.

The drain is available in 8" and 12" widths and comes in both 4' and 8' lengths for maximum flexibility. Flow rates of up to 6700 GPM can be achieved over 120' of continuous 1% slope. Grates are available to meet DIN load classes C through F. Three separate grate options are available for each size that exceed FAA AC150/5320 loading criteria for airports, and all grates meet or exceed AASHTO M-306 loading criteria for roadways.



Advantages

- 360° interlock for up to 20% faster assembly
- 120' of 1% continuous slope

- Fiberglass walls are up to 80% thicker than the competition

- Grates have inlet flow of up to 80% more than the competition

- Unique grate design means that you don't sacrifice flow capabilities for additional strength

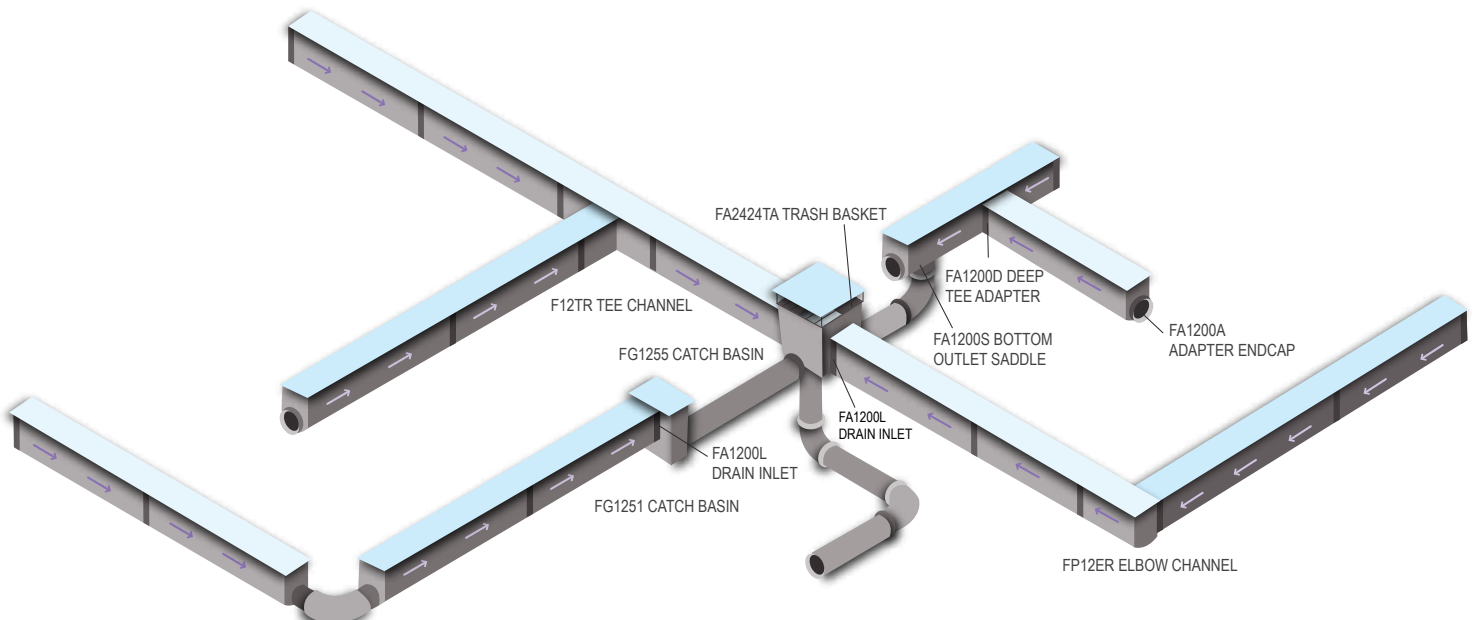
- Flow rates of up to 6700 gallons per minute are possible

- Positive lock rivets attach channels to frame and will NOT pull out

- Direction arrows and channel numbers ensure correct installation

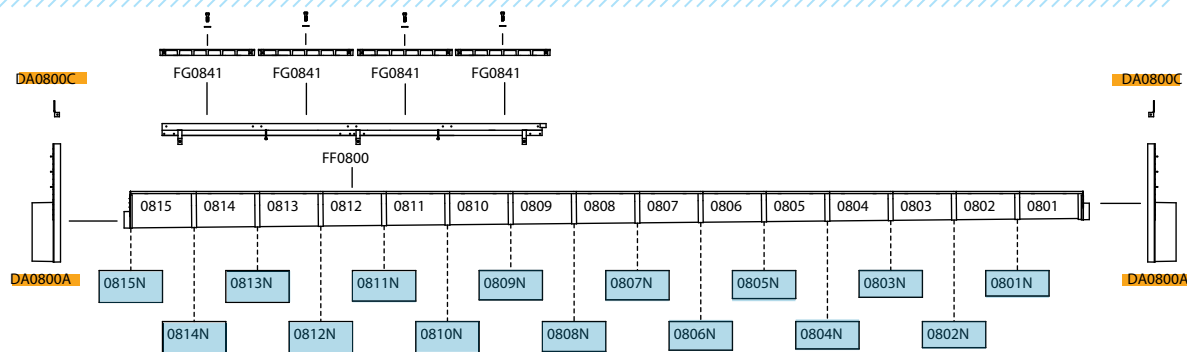
- Marine grade gel coat provides UV stability and excellent wetted surface features

- Vented frame rails prevent air entrapment which can cause weakening of the slab and premature failure



FP800 & FP1200 SERIES

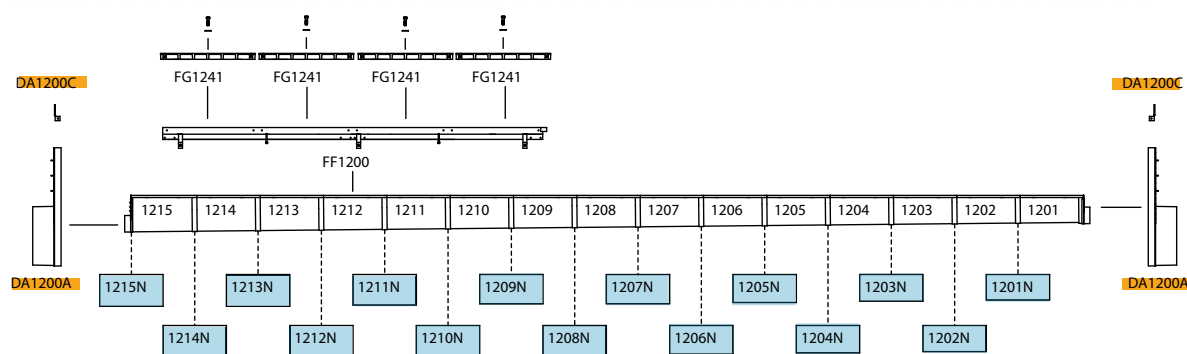
FP800 Drain Configuration



Part Number	Inlet Depth (in.)	Outlet Depth (in.)	Flow (gpm)	Flow Velocity (fps)	Wt. (lbs.)
0801	6.11	7.07	1249	5.97	18.64
0802	7.07	8.03	1425	5.97	21.39
0803	8.038	.99	1602	5.97	24.14
0804	8.999	.95	1781	5.97	26.89
0805	9.95	10.91	1960	5.97	29.64
0806	10.91	11.87	2139	5.97	32.39
0807	11.87	12.93	2319	5.97	35.14
0808	12.83	13.79	2500	5.97	37.89

Part Number	Inlet Depth (in.)	Outlet Depth (in.)	Flow (gpm)	Flow Velocity (fps)	Wt. (lbs.)
0809	13.79	14.75	26815	.97	40.64
0810	14.75	15.71	2862	5.97	43.39
0811	15.71	16.67	3044	5.97	46.14
0812	16.67	17.63	3226	5.97	48.89
0813	17.63	18.59	3408	5.97	51.64
0814	18.59	19.55	3590	5.97	54.39
0815	19.55	20.51	3772	5.97	57.14

FP1200 Drain Configuration



Part Number	Inlet Depth (in.)	Outlet Depth (in.)	Flow (gpm)	Flow Velocity (fps)	Wt. (lbs.)
1201	8.07	9.03	2057	7.02	24.49
1202	9.03	9.99	2381	7.02	27.24
1203	9.99	10.95	2709	7.02	29.99
1204	10.95	11.91	3040	7.02	32.74
1205	11.91	12.87	3374	7.02	35.49
1206	12.87	13.83	3710	7.02	38.24
1207	13.83	14.79	4047	7.02	40.99
1208	14.79	15.75	4387	7.02	43.74

Part Number	Inlet Depth (in.)	Outlet Depth (in.)	Flow (gpm)	Flow Velocity (fps)	Wt. (lbs.)
1209	15.75	16.71	47287	.02	46.49
1210	16.71	17.67	5069	7.02	49.24
1211	17.67	18.63	5412	7.02	51.99
1212	18.63	19.59	5756	7.02	54.74
1213	19.59	20.55	6101	7.02	57.49
1214	20.55	21.51	6446	7.02	60.24
1215	21.51	22.47	6792	7.02	62.99

FP800 SERIES GRATES

FP800 Series Grates



Ductile Iron Slotted

A ductile iron grate designed for general use as well as roadside and light traffic applications.

Part No. FG0841

Open Area: 69.8 in² / Linear Foot

Dimensions: 10.63" x 24"

Weight: 32 lbs.

Slot Size: 1.55" x 3.91"



Ductile Iron Slotted

A ductile iron grate designed for use in frequent traffic areas as well as for hard wheel forklifts and light airport areas.

Part No. FG0842

Open Area: 69.8 in² / Linear Foot

Dimensions: 10.63" x 24"

Weight: 39.5 lbs.

Slot Size: 1.55" x 3.91"



Transverse Slotted

A transverse slotted *ADA compliant* grate. This ductile iron grate is for use in frequent traffic areas, for hard wheel forklifts, and light port areas.

ADA Compliant.

Part No. FG0875

Open Area: 43 in² / Linear Foot

Dimensions: 10.63" x 24"

Weight: 44 lbs.

Slot Size: 0.32" wide



Ductile Iron Slotted

A ductile iron slotted grate designed for use in the most harsh environments including all airports, docks, and heavy traffic areas.

Part No. FG0846

Open Area: 69.8 in² / Linear Foot

Dimensions: 10.63" x 24"

Weight: 41 lbs.

Slot Size: 1.55" x 3.91"



FP1200 SERIES GRATES

FP1200 Series Grates



Ductile Iron Slotted

A ductile iron grate designed for general use as well as roadside and light traffic applications.

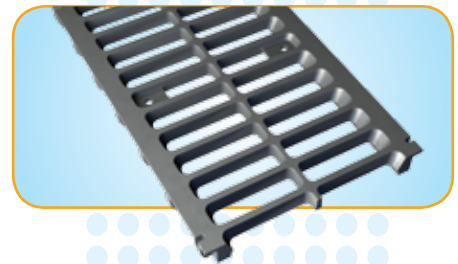
Part No. FG1241

Open Area: 107.5 in² / Linear Foot

Dimensions: 14.63" x 24"

Weight: 47 lbs.

Slot Size: 1.55" x 5.88"



Ductile Iron Slotted

A ductile iron grate designed for use in frequent traffic areas as well as for hard wheel forklifts and light airport areas.

Part No. FG1242

Open Area: 107.5 in² / Linear Foot

Dimensions: 14.63" x 24"

Weight: 58 lbs.

Slot Size: 1.55" x 5.88"



Transverse Slotted

A transverse slotted ADA compliant grate. This ductile iron grate is for use in frequent traffic areas, for hard wheel forklifts, and light port areas.

ADA Compliant.

Part No. FG1275

Open Area: 62 in² / Linear Foot

Dimensions: 14.63" x 24"

Weight: 66 lbs.

Slot Size: 0.32" wide



Ductile Iron Slotted

A ductile iron slotted grate designed for use in the most harsh environments including all airports, docks, and heavy traffic areas.

Part No. FG1246

Open Area: 107.5 in² / Linear Foot

Dimensions: 14.63" x 24"

Weight: 66 lbs.

Slot Size: 1.55" x 5.88"

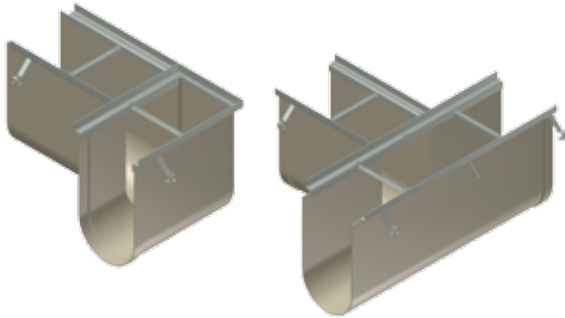


FP800 & FP1200 SERIES

Accessories

POLYCAST FP800 & FP1200 are designed for the fastest and easiest possible installation. POLYCAST supplies pre-built elbows and tee adapters in three depths: 5, 10, and 15 for both sizes of channels. Elbows and Tees are available in right side and left side outlets.

Elbow & Tee Adapters



Part No. FP 12 10 R E

Series (08, 12) _____
Depth (05, 10, 15) _____
Right Hand/ Left Hand (R, L) _____
Elbow or Tee (E, T) _____

Bottom Outlet Adapters

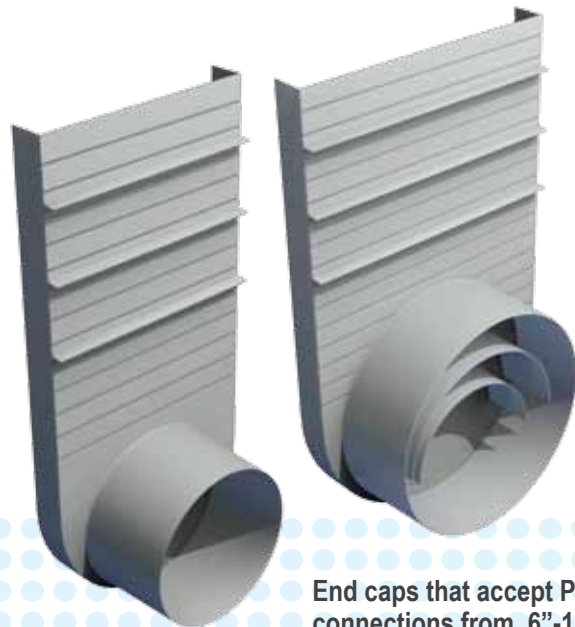
Designed to create bottom outlets by accepting PVC pipe sizes 6"-10".

Part No. FA0800S

FA1200S

Material - ABS

End Cap / Pipe Adapters



End caps that accept PVC pipe connections from 6"-10".

Part No. FA0800A

Part No. FA1200A

Material - ABS

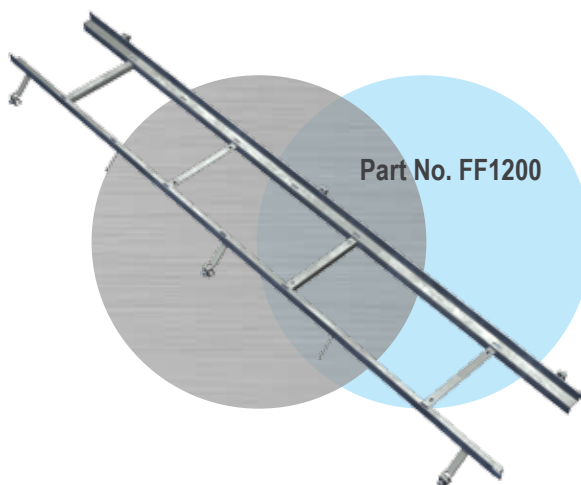
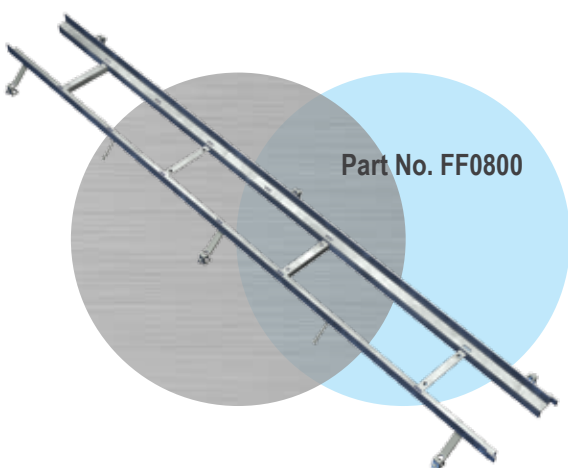
GR8
TIPS

Labor Saver: All POLYCAST systems are designed for fast and easy installation by utilizing longer channel lengths, full interlocks, and rebar hangers.

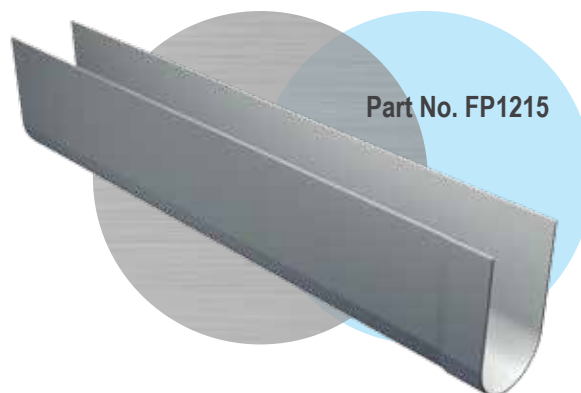
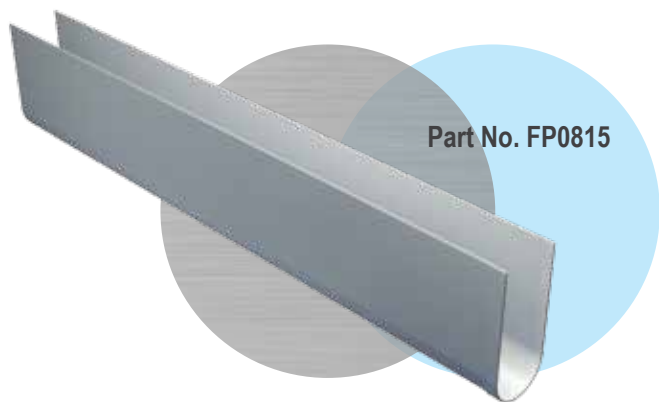
FP800 & FP1200 SERIES

Accessories

Drain Channel Frame



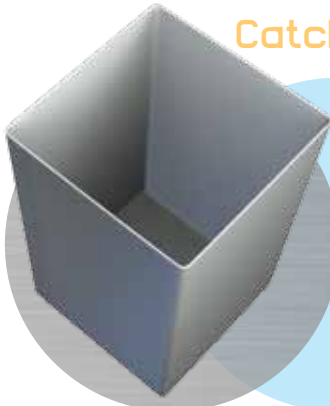
Drain Channel



CATCH BASINS

Catch Basins & Accessories

Catch Basin



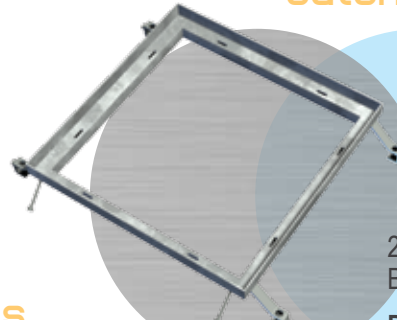
12"x24" Catch Basin
Fits standard
FP1200 series grates.
See page 58.

Part No. FP1251

24"x24" Catch Basin

Part No. FP1255

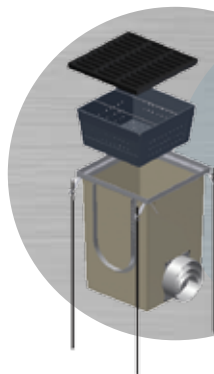
Catch Basin Frame



24"x24" Catch
Basin Frame

Part No. FF1255

Trash Baskets



24"x24" Catch Basin
Accessories

Trash basket available
to catch debris and
keep outlet pipes clear
and free flowing.

Part No. FA2424TA

Catch Basin Grates



Fiberglass

Designed for use with the POLYCAST®
Vinyl Ester Catch Basins in areas
requiring extreme chemical resistance.

Part No. DG0659

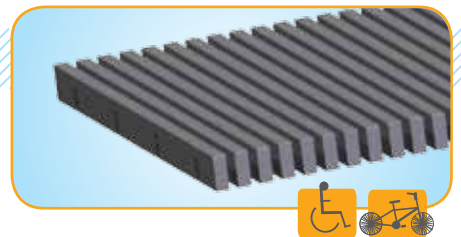
Open Area: 222 in²/Linear Foot

Dimensions: 23-3/4" x 23-3/4"

Weight: 20 lbs.

For use with 653OB/653SB Basins
Vinyl Ester

Slot Size: 0.41" wide



Ductile Iron Slotted

Designed for frequent heavy traffic.

Part No. DG0653D

Open Area: 288 in²/Linear Foot

Dimensions: 23-3/4" x 23-3/4"

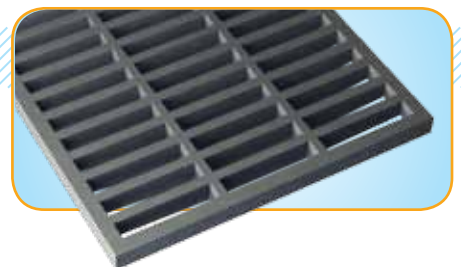
Weight: 130 lbs.

ASTM A536 Class 65-45-12

For use with 653OB/653SB Basins

Black Finish

Slot Size: 1.25" x 6.75"



FP0800 & FP1200 SERIES

POLYCAST® Sample Specifications

FP800 & FP1200

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 be FP800 & FP1200 High Capacity 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 preformed trench drain shall be a polyester matrix as shown on the contract plans. The frame clear opening dimension shall be 7.92" for 800 Series and 11.86" for 1200 Series. The channel widths shall be 8.25" and 12.19" respectively with full bottom radii. The frame shall fully support the grate and transfer vertical loads linearly into adjacent concrete. Sloped and non-sloped channels shall be used as shown in contract plans. Channels shall be 8' long. Sloped channels shall have a minimum 1% inverted slope. Maximum capacity without extensions shall be 3700 GPM for 800 Series and 6800 GPM for 1200 Series at flat and level grade. The channels shall permit a continuously sloped run of 120' without extensions.

The fiberglass channels shall have minimum material properties as follows:

DESCRIPTION	TEST METHOD	VALUES
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)	ASTM D-696	4.4x10 ⁻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), or gray iron (ASTM A-48) and meet AASHTO HS-20 and FAA load requirements. The frames shall be non-removable from the concrete. The grates shall be removable or non-removable as shown on the contract plans. 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.

Applicable Standards

900 Series

AASHTO H-20 or HS-20

AASHTO M306-07 modified 9"x 9" load plate replaced with 18" long x 4" diameter steel rod

ASTM A536 Class 65-45-12

CALTRANS Section 10-1.35, "Grated Line Drain"

CALTRANS Section 75-1.02, "Miscellaneous Iron and Steel"

FAA publication AC 150/5320-6D, "Airport Pavement Design and Evaluation"

DIN 19580

3000 Series & FP Series

AASHTO-H029

AASHTO M306-89, Section 7, "Standard Specification for Drainage Structure Castings"

ASTM A-48 Class 30

FAA publication AC 150/5320-6D, "Airport Pavement Design and Evaluation"

Federal Specification AA-60005E, "Frames, covers, gratings, steps, manhole sumps, and catch basins"

DIN 19580

TECHNICAL INFORMATION



DIN Application Load Class A - 3,372 lbs. - 15 kN

Residential, pedestrian, and cyclist traffic



DIN Application Load Class B - 28,100 lbs. - 125 kN

Sidewalks, parking lots, and car parking decks



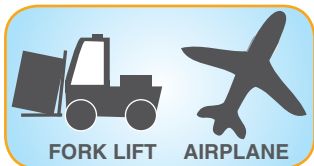
DIN Application Load Class C - 56,200 lbs. - 250 kN

Curb sides, highway shoulders, and parking areas



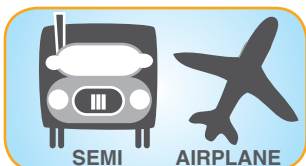
DIN Application Load Class D - 89,920 lbs. - 400 kN

Trafficked sections of roads and highways



DIN Application Load Class E - 134,800 lbs. - 600 kN

Industrial areas, forklifts, traffic, ports, and dock sides

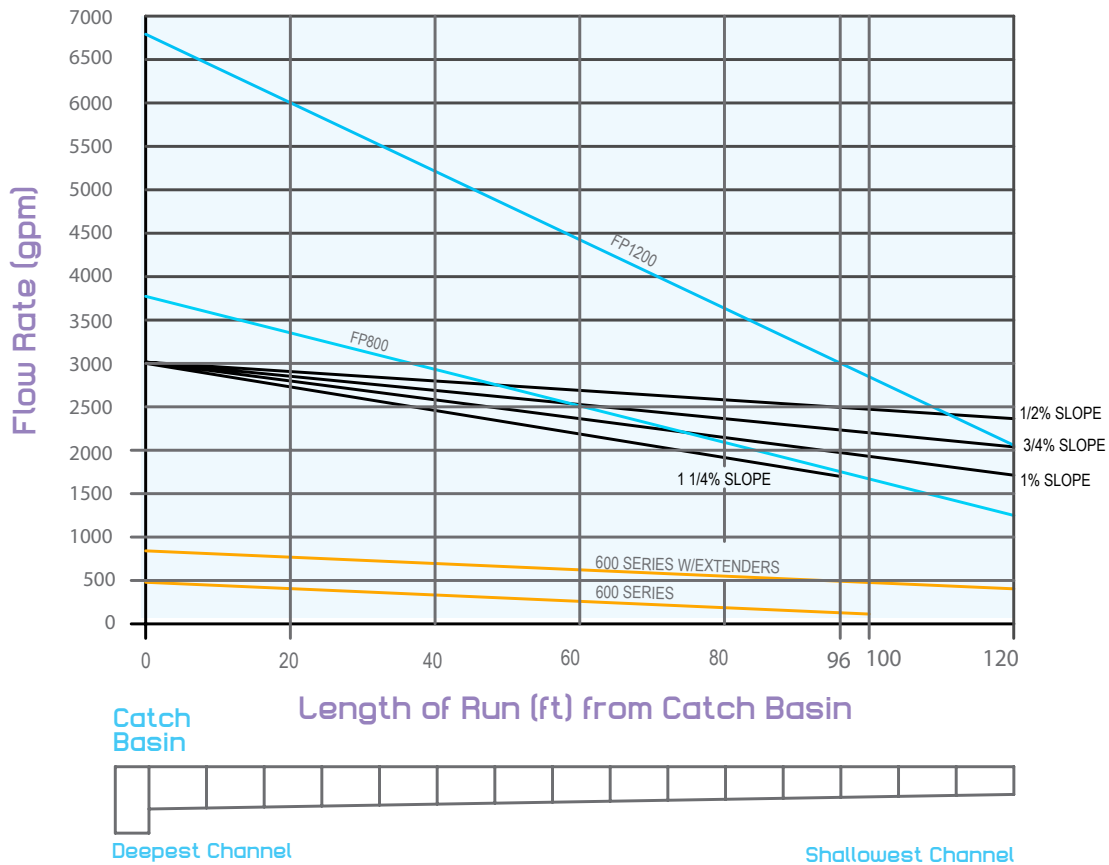


DIN Application Load Class F - 202,320 lbs. - 900 kN

Aircraft runways, docks, and high impact wheel loads

TECHNICAL INFORMATION

Flow capacity for POLYCAST® drains



600 series

@ CATCH BASIN 478.7 GPM
@ 100 FT. 113.8 GPM

600 series w/extendors

@ CATCH BASIN 840 GPM
@ 120 FT. 404 GPM

3000 series 1/2% slope

@ CATCH BASIN 3017.2 GPM
@ 120 FT. 2363 GPM

3000 series 3/4% slope

@ CATCH BASIN 3017.2 GPM
@ 120 FT. 2038 GPM

3000 series 1% slope

@ CATCH BASIN 3017.2 GPM
@ 120 FT. 1655.7 GPM

3000 series 1 1/4% slope

@ CATCH BASIN 3017.2 GPM
@ 96 FT. 1655.7 GPM

FP800 series

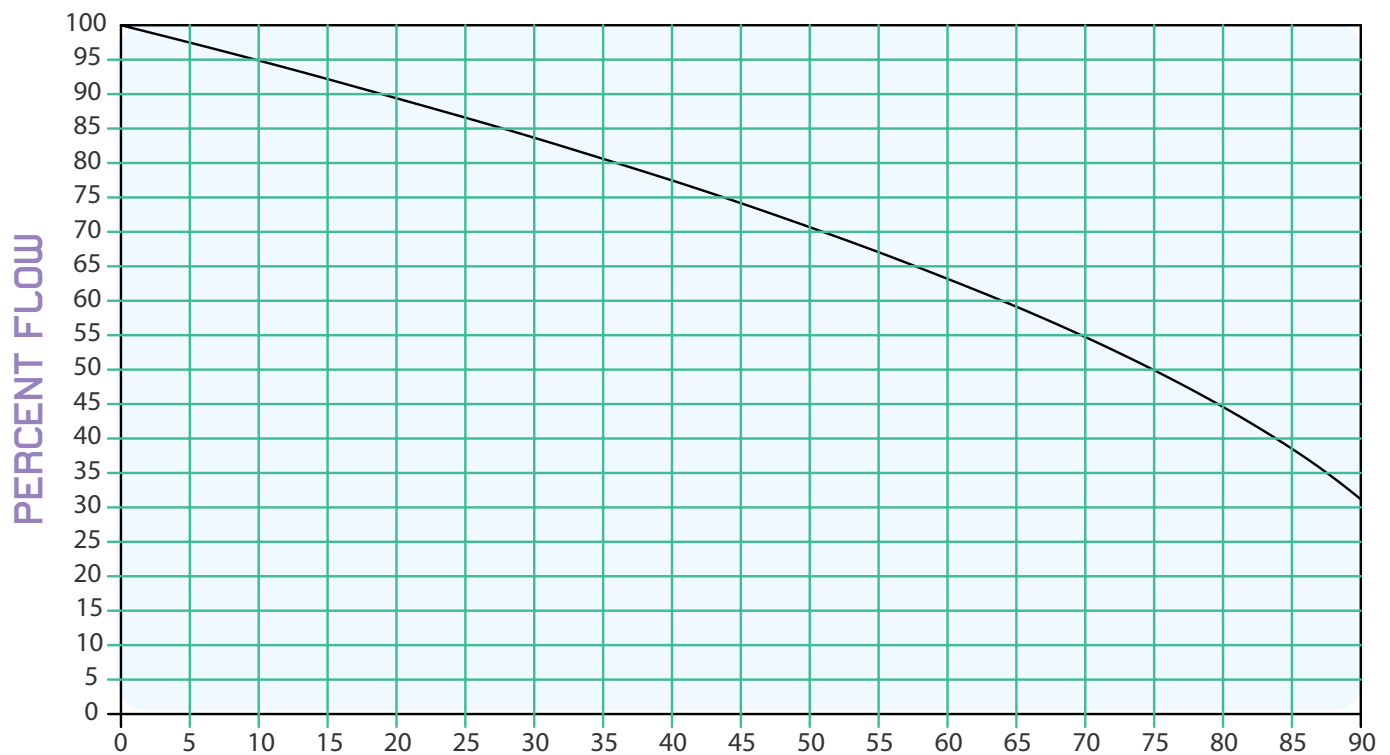
@ CATCH BASIN 3772 GPM
@ 120 FT. 1249.2 GPM

FP1200 series

@ CATCH BASIN 6791.6 GPM
@ 120 FT. 2057.4 GPM

TECHNICAL INFORMATION

Effect of Non-Sloped Channels on Flow Capacity



Percent Non-Sloped Channels

* This graph is based on the Manning Equation

Corrosion Resistance Guide

For those highly corrosive drainage situations, Hubbell-Lenoir City Division manufactures polymer concrete drainage components with DERA KANE®* 470 Vinyl Ester resin. This includes all series of precast drainage systems and components.

The Vinyl Ester trench drains can be ordered with a highly corrosion-resistant Vinyl Ester fiberglass grating.

A corrosion-resistant fiberglass grate hold-down device is also available. The Vinyl Ester trench drains can also be ordered with any of the gratings offered.

POLYCAST® polymer concrete products fabricated with DERA KANE®* 470 Vinyl Ester resin are ideally suited for drainage and handling of most highly corrosive fluids.

The POLYCAST Vinyl Ester based drains are especially suitable for drainage in areas where manufacturers must concentrate and contain corrosive materials to meet EPA pollution control requirements.

POLYCAST drain components are manufactured with only quality polyester and Vinyl Ester resins.

DERA KANE® 470 Vinyl Ester Resin:

- Performs very well at high temperatures
- Can be used in many applications involving combinations of acids, halogenated organics, caustics, and solvents
- Displays high resistance to chlorinated solvents
- Has proven track record for many industrial applications

* DERA KANE® is a registered trademark of Ashland Chemical Company.

POLYCAST recommends job site emersion testing to verify suitability of chemical resistance before ordering material. Test coupons of Vinyl Ester and polyester are available by contacting POLYCAST Customer Service.

TECHNICAL INFORMATION

Corrosion Resistance Guide

CHEMICAL	% CONCENTRATION	MAX TEMP °F
A		
Acetaldehyde	100	N.R.
Acetic Acid	10	180
Acetic Acid, Glacial	100	N.R.
Acetic Anhydride	100	N.R.
Acetone	10	150
Acetone	100	N.R.
Acrylamide	50	65
Adipic Acid	23	150
Alum	All	180
Aluminum Chloride	All	180
Aluminum Chlorohydrate	All	180
Aluminum Nitrate	100	150
Aluminum Potassium Sulfate	All	180
Aluminum Sulfate	All	180
Ammonium Acetate	65	65
Ammonium Bicarbonate	50	135
Ammonium Bifluoride	100	125
Ammonium Bromide	43	135
Ammonium Carbonate	All	125
Ammonium Chloride	All	180
Ammonium Fluoride	All	125
Ammonium Hydroxide	20	125
Ammonium Nitrate	All	180
Ammonium Persulfate	All	150
Ammonium Phosphate, dibasic	All	180
Ammonium Sulfate	All	180
Ammonium Thiocyanate	20	180
Aniline	100	N.R.
B		
Barium Carbonate	All	180
Barium Chloride	All	180
Barium Cyanide	All	135
Barium Hydroxide	All	125
Beer		100
Benzene	100	N.R.
Benzoic Acid	Sat'd.	180
Benzyl Alcohol	All	N.R.
Benzyl Chloride	100	N.R.
Black Liquor (Pulp Mill)	All	150
Bleaches:		
Calcium Hypochlorite	All	150
Chlorine Dioxide, Wet	Sat'd.	170
Sodium Hypochlorite	18	153
Borax	100	180
Boric Acid	All	180

CHEMICAL	% CONCENTRATION	MAX TEMP °F
Brine	All	180
Bromine, Liquid	100	N.R.
Bunker C Fuel Oil	100	180
Butyl Acetate	100	100
Butyl Alcohol	All	100
Butyric Acid	100	65
C		
Calcium Bisulfite	All	150
Calcium Bromide	All	180
Calcium Carbonate	All	150
Calcium Chlorate	All	180
Calcium Chloride	All	180
Calcium Hydroxide	100	180
Calcium Hypochlorite	All	150
Calcium Nitrate	All	180
Calcium Sulfate	All	180
Calcium Sulfite	All	180
Capric Acid	All	65
Carbon Disulfide	100	N.R.
Carbon Tetrachloride	100	125
CARBOWAX Polyethylene Glycol	100	150
Carboxylethyl Cellulose	10	150
Castor Oil	100	125
Chlorine Water	Sat'd	200
Chlorine, Wet Gas	100	180
Chloroacetic Acid	25	100
Chlorobenzene	100	N.R.
Chloroform	100	N.R.
Chloropyridine (tetra)	100	100
CHLOROTHENE SM 1,1,1-		
Trichloroethane inhibited	100	85
Chromic Acid	120	130
Citric Acid	All	180
Coconut Oil	All	150
Copper Chloride	All	180
Copper Nitrate	All	180
Copper Sulfate	All	180
Corn Oil		150
Corn Starch	Slurry	180
Crude Oil	100	180
Cyclohexane	100	100
D		
Di-ammonium Phosphate	65	180
Dibutyl Sebacate	All	100
Dichloropropane	100	N.R.
Diesel Fuel	100	150
Diethanolamine	100	100

TECHNICAL INFORMATION

Corrosion Resistance Guide

CHEMICAL	% CONCENTRATION	MAX TEMP °F
Dimethyl Formamide	100	N.R.
Dimethyl Phthalate	100	125
Diocetyl Phthalate	100	125
Diphenyl Oxide	100	65
E		
ESTERON Herbicide	100	100
Esters, Fatty Acid	100	150
Ethanol	95	65
Ethanolamine	100	N.R.
Ethyl Acetate	100	N.R.
Ethylene Glycol	All	180
Ethylenediaminetetraacetic Acid		85
F		
Ferric Chloride	All	180
Ferric Sulfate	All	180
Ferrous Chloride	All	180
Ferrous Sulfate	All	180
Fluosilicic Acid	10	150
Formaldehyde	All	125
Formic Acid	10	150
Fuel Oil	100	150
G		
Gasohol (5% MEOH)	100	100
Gasoline, Aviation	100	150
Gasoline, No Lead, No Methanol	100	100
Glyconic Acid	50	150
Glucose	100	180
Glycerine	100	180
Glycolic Acid (Hydroxyacetic)	70	85
H		
Herbicides		100
Hydraulic Fluid	100	150
Hydrazine	100	N.R.
Hydrobromic Acid	48	125
Hydrochloric Acid	20	150
Hydrofluoric Acid	10	125
Hydrogen Peroxide	30	125
Hypophosphorous Acid	50	100
I		
Insecticides		100
Isodecanol		100
Isopropyl Alcohol	All	100
Isopropyl Myristate	100	100
J		
Jet Fuel (JP-4)	100	150
K		
Kerosene	100	150

CHEMICAL	% CONCENTRATION	MAX TEMP °F
L		
Lactic Acid	All	180
Lauryl Alcohol	100	125
Lead Acetate	All	180
Linseed Oil	100	180
Lithium Chloride	Sat'd	180
Lithium Hypochlorite	All	150
M		
Magnesium Carbonate	All	150
Magnesium Chloride	All	180
Magnesium Fluosilicate	All	150
Magnesium Hydroxide	100	180
Magnesium Sulfate	All	180
Maleic Acid	100	180
Manganese Chloride	All	180
Mercurous Chloride	All	180
Methanol	5	100
Methyl Ethyl Ketone	100	N.R.
Milk	100	180
Mineral Oils	100	180
Molasses	100	100
Molybdenum Disulfide (Manufacturing)		170
Morpholine	100	N.R.
Motor Oil		180
Myristic Acid	100	180
N		
Nickel Chloride	All	180
Nickel Sulfate	All	180
Nitric Acid	20	100
Nitrobenzene	100	N.R.
O		
Octanoic Acid (Caprylic Acid)	100	150
Oleic Acid	All	180
Olive Oils	100	180
Oxalic Acid	Sat'd.	100
P		
Palmitic Acid	100	180
Paper Mill Effluent		150
Peanut Oil	100	150
Perchlorethylene	100	65
Perchloric Acid	10	125
Perchloric Acid	30	85
Phosphoric Acid	100	180
Phosphorous Trichloride		N.R.
Pine Oil	100	N.R.
Polyethyleneimine	12	125
Polyvinyl Alcohol	All	85

TECHNICAL INFORMATION

Corrosion Resistance Guide

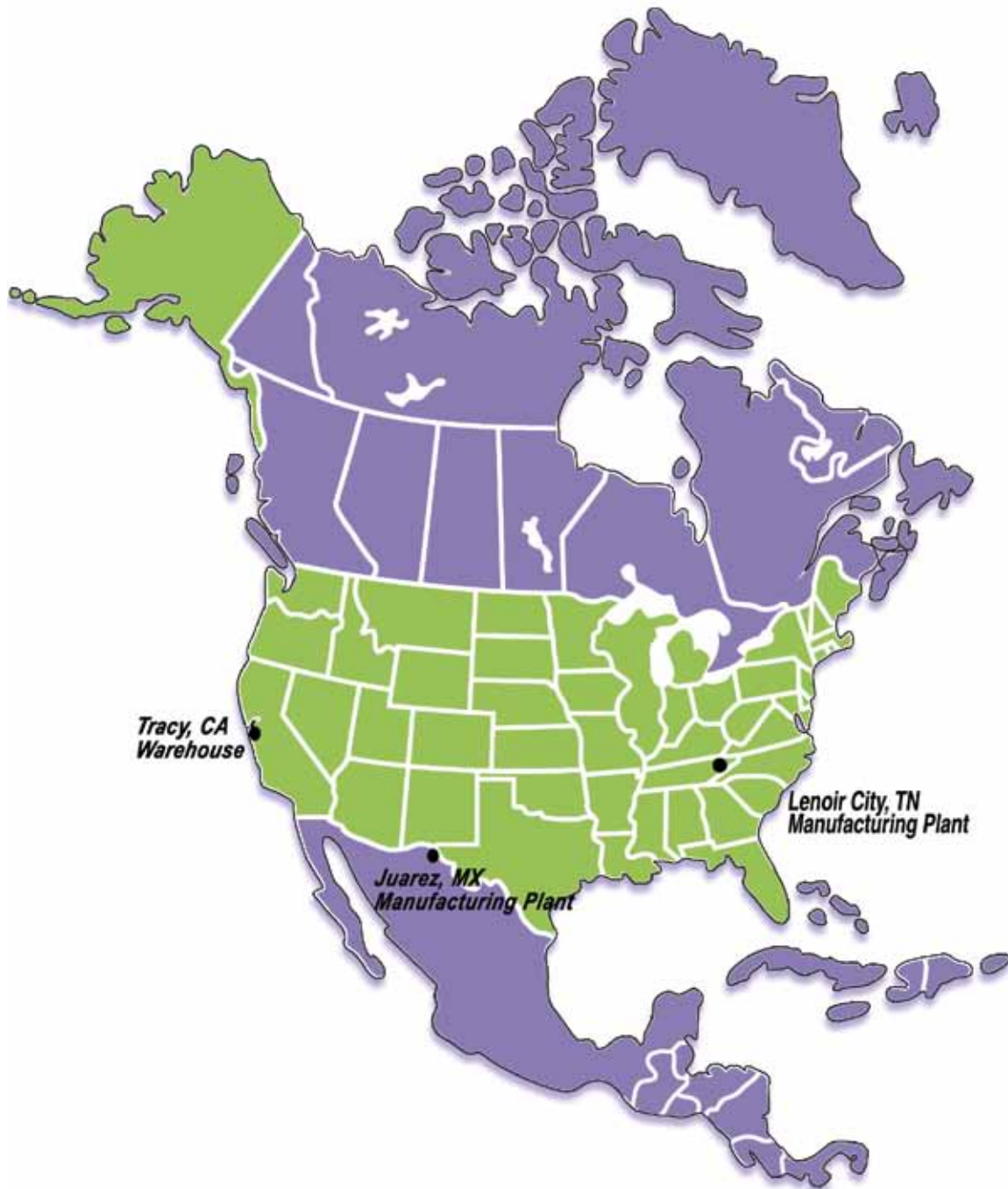
CHEMICAL	% CONCENTRATION	MAX TEMP °F	CHEMICAL	% CONCENTRATION	MAX TEMP °F
Potassium Bicarbonate	50	150	Sodium Phosphate	10	180
Potassium Carbonate	50	150	Sodium Sulfate	All	180
Potassium Chloride	All	180	Sodium Sulfide	All	180
Potassium Dichromate	All	180	Sodium Sulfite	All	180
Potassium Hydroxide	10	125	Sodium Thiosulfate	All	155
Potassium Iodide	All	100	Sorbital Solutions	All	135
Potassium Nitrate	All	180	Stearic Acid	All	180
Potassium Permanganate	All	180	Styrene	100	N.R.
Potassium Persulfate	All	180	Styrene-Butadiene Latex		110
Potassium Sulfate	All	180	Surfuric Acid	70	155
Propionic Acid	50	155	Surfuric Acid	75	85
Pyridine	100	N.R.	T		
Q			Tartaric Acid	All	180
R			Tetrachloroethylene (Perchloroethylene)	100	65
S			Thioglycolic Acid		
Salicylic Acid	100	115	(Mercaptoacetic Acid)	All	N.R.
Skydrol	100	100	Thionyl Chloride		N.R.
Sodium Acetate	All	180	Toluene	100	65
Sodium Aluminate	All	100	Trichloroacetic Acid	50	180
Sodium Benzoate	100	155	Trisodium Phosphate	All	180
Sodium Bicarbonate	Sat'd	155	Turpentine	100	125
Sodium Bisulfate	All	180	U		
Sodium Borate	Sat'd	180	Urea	50	125
Sodium Bromide	All	180	V		
Sodium Carbonate	35	155	Vinegar	100	180
Sodium Chlorate	50	180	W		
Sodium Chloride, pH 5-10, Cl ₂	Sat'd	155	X		
Sodium Ferricyanide	All	180	Xylene	100	65
Sodium Fluoride	All	155	Y		
Sodium Hydroxide	10	155	Z		
Sodium Hydroxide	50	180	Zinc Chloride	70	180
Sodium Hypochlorite	18	180	Zinc Sulfate	All	180
Sodium Lauryl Sulfate	All	135			

POLYCAST polymer concrete products are manufactured using polyester resin for normal environments and **Vinyl Ester** resins when higher temperature capabilities or increased corrosion resistance is required. Additional benefits include high strength-to-weight ratio, excellent impact resistance, low water absorption, and nonconductivity.

This bulletin lists various chemical reagents and provides recommended corrosion resistance data for each. The recommendations are based upon tests performed by POLYCAST's Vinyl Ester resin suppliers using coupons of the binding polymer under laboratory conditions. These laboratory tests may not be representative of the conditions in your application. This bulletin is intended to be used as a guide only and specifically for **Vinyl Ester** resin products manufactured by POLYCAST. At the time of publication, the information and recommendations contained herein were considered accurate and reliable.

POLYCAST recommends that a coupon of polymer concrete be exposed to the environment for a minimum period of 60 days to verify suitability. POLYCAST will provide these coupons upon request and can analyze the effects of the exposure if the coupons are returned to our laboratory.

STOCKING DISTRIBUTORS THROUGHOUT NORTH AMERICA



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