

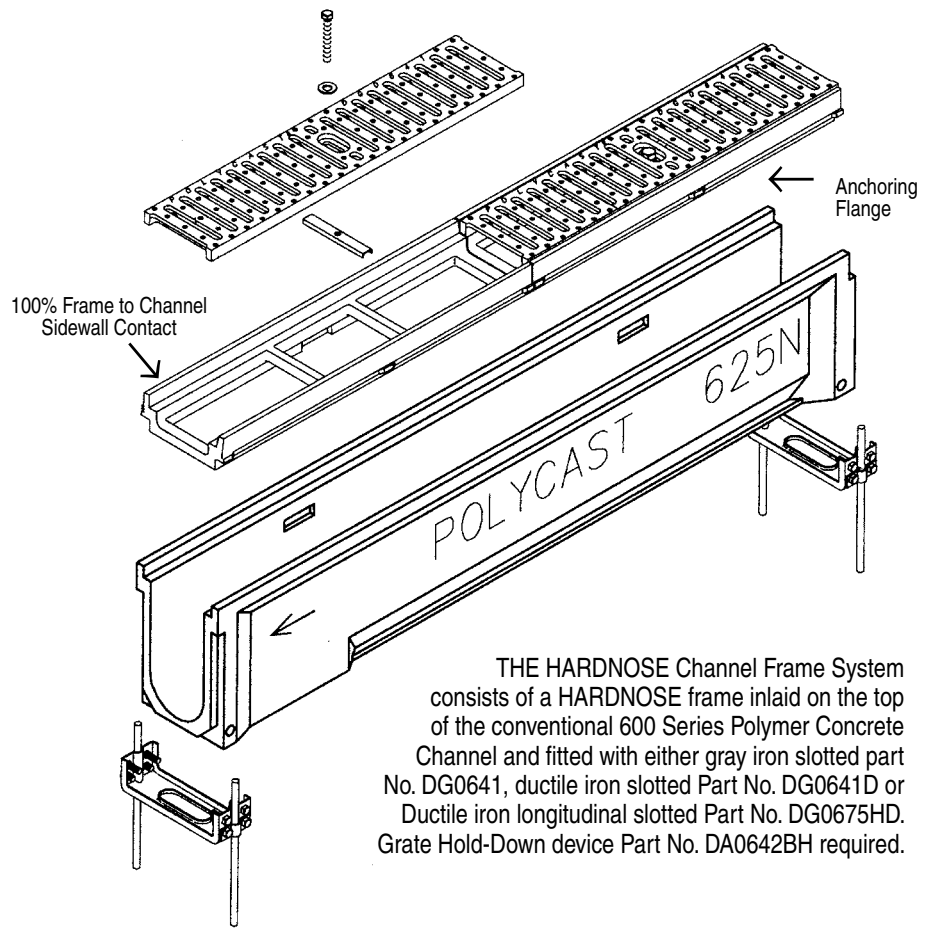
Traffic Conditions Requiring Channel Reinforcement (700 Series Frames, DURAGUARD®, POLYGUARD)

- **Solid Tires**
- **Moderate Speed (over 15mph)**
- **Frequent Traffic**

Grating hold-down devices are available and must be maintained secure to reduce grate movement during loading.

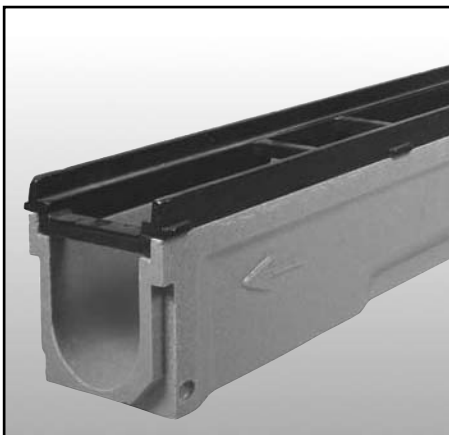
700 Series HARDNOSE Presloped Extra Heavy Duty

The POLYCAST® 700 Series Channels are designed for heavy commercial and military aircraft traffic, hard wheel forklifts, pallet jacks, solid wheel carts, construction equipment and off-road vehicles at moderate speeds (exceeds FAA Airport Pavement Design loads per AC 150/5320-6D). The flow rates are comparable to the conventional 600 Series. The 700 Series assembly consists of cast iron frames inlaid on the top of the conventional 500 Series and 600 Series Channels and fitted with either Cast Iron (DG0641), Ductile Iron (DG0641D), or Longitudinal Slotted Ductile Iron (DG9675HD) grates. Optional anchoring bolts are available



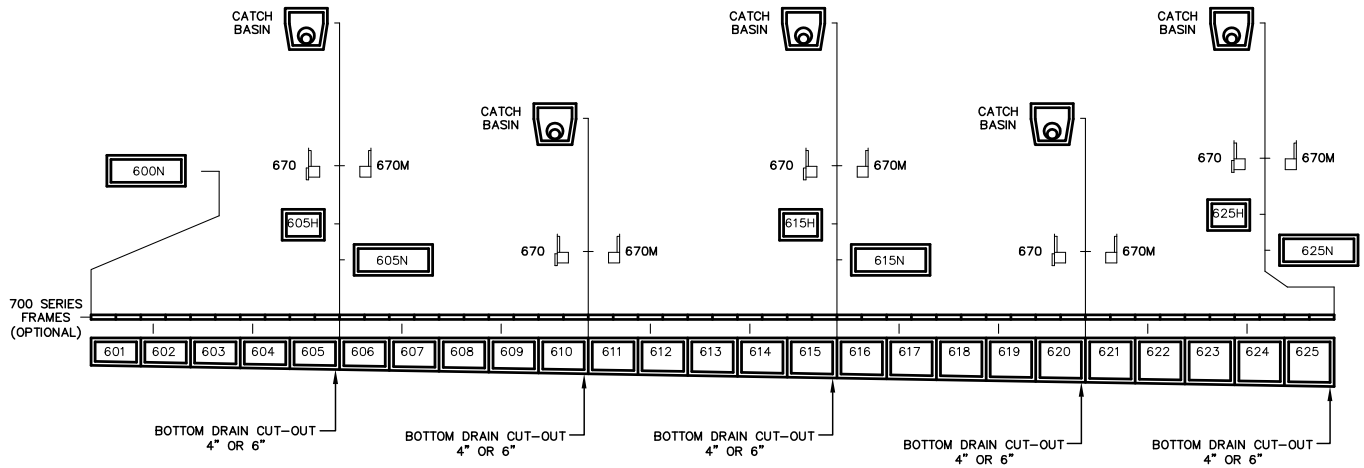
THE HARDNOSE Channel Frame System consists of a HARDNOSE frame inlaid on the top of the conventional 600 Series Polymer Concrete Channel and fitted with either gray iron slotted part No. DG0641, ductile iron slotted Part No. DG0641D or Ductile iron longitudinal slotted Part No. DG0675HD. Grate Hold-Down device Part No. DA0642BH required.

For use with 500/600 Series Channels



HARDNOSE Gray Iron Frame
Part No. DG0700AA
 Part No. DG0970 (not shown) includes anchoring bolts

700 SERIES HARDNOSE

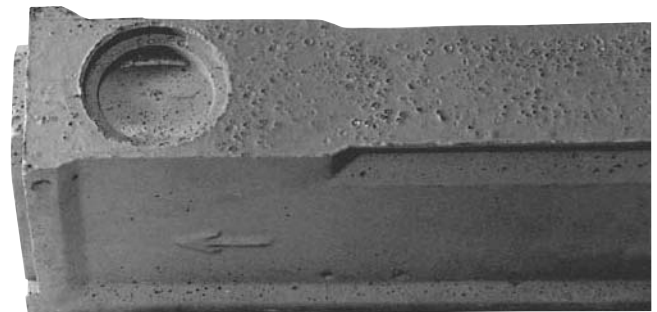
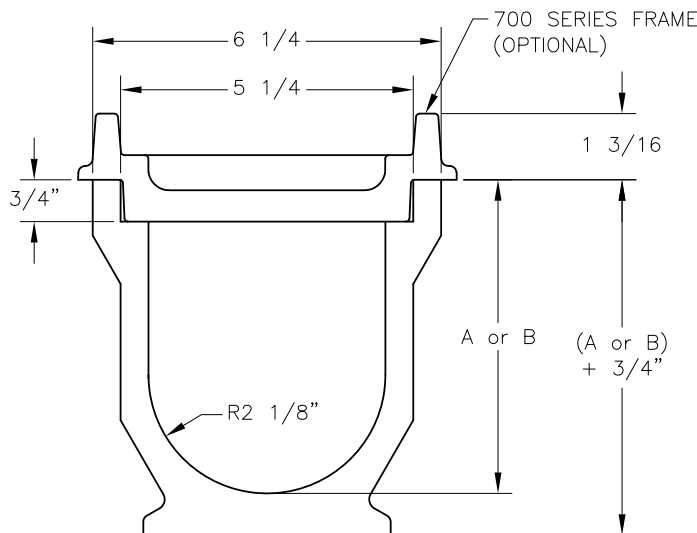


NOTE 1: All half and neutral channels have bottom cut outs. NOTE 2: All half and neutral channels accept the corresponding end caps.

DG0700AA Hardnose™ Frame

Channel Number	Weight Lbs.	Inlet DIM 'A'	Inlet DIM 'B'
600N (non-sloped)	67#	5-1/4"	5-1/4"
601	68#	5-1/4"	5-9/16"
602	73#	5-9/16"	5-7/8"
603	73#	5-7/8"	6-3/16"
604	74#	6-3/16"	6-1/2"
605	75#	6-1/2"	6-13/16"
605N (non-sloped)	76#	6-13/16"	6-13/16"
605H (non-sloped 24")	37#	6-13/16"	6-13/16"
606	77#	6-13/16"	7-1/8"
607	80#	7-1/8"	7-7/16"
608	81#	7-7/16"	7-3/4"
609	82#	7-3/4"	8-1/16"
610	84#	8-1/16"	8-3/8"
611	85#	8-3/8"	8-11/16"
612	86#	8-11/16"	9
613	87#	9	9-5/16"

Channel Number	Weight Lbs.	Inlet DIM 'A'	Inlet DIM 'B'
614	89#	9-5/16"	9-5/8"
615	90#	9-5/8"	9-15/16"
615N (non-sloped)	91#	9-15/16"	9-15/16"
615H (non-sloped 24")	45#	9-15/16"	9-15/16"
616	91#	9-15/16"	10-1/4"
617	92#	10-1/4"	10-9/16"
618	93#	10-9/16"	10-7/8"
619	94#	10-7/8"	11-3/16"
620	97#	11-3/16"	11-1/2"
621	98#	11-1/2"	11-13/16"
622	101#	11-13/16"	12-1/8"
623	103#	12-1/8"	12-7/16"
624	105#	12-7/16"	12-3/4"
625	106#	12-3/4"	13-1/16"
625N (non-sloped)	107#	13-1/16"	13-1/16"
625H (non-sloped 24")	53#	13-1/16"	13-1/16"

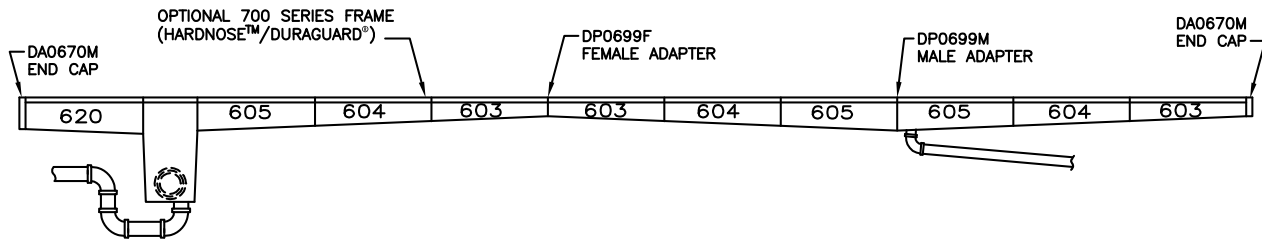


Bottom of Channel Drill-Out

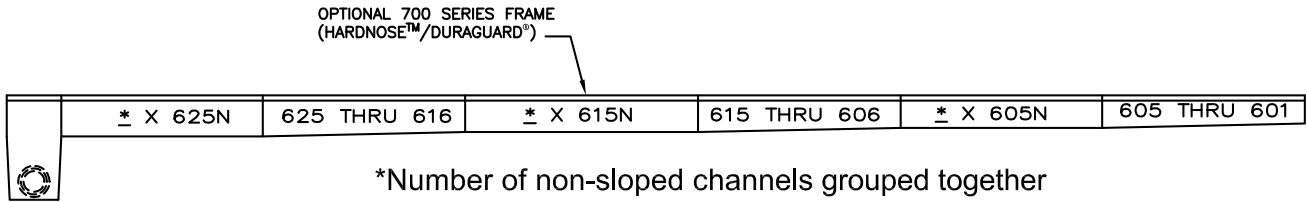
700 Series HARDNOSE and DURAGUARD® frames add 1-3/16" to dimensions A or B.

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

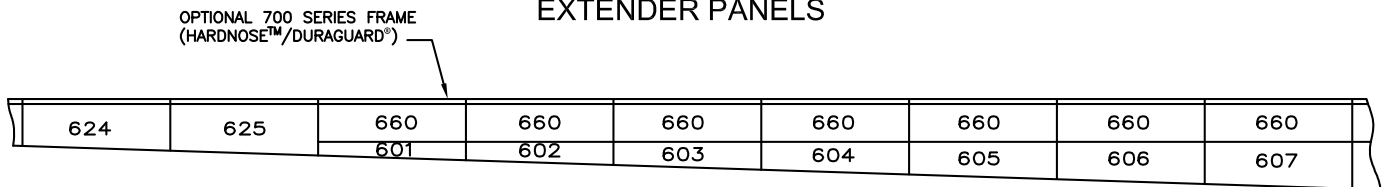
OUTLET VARIATIONS



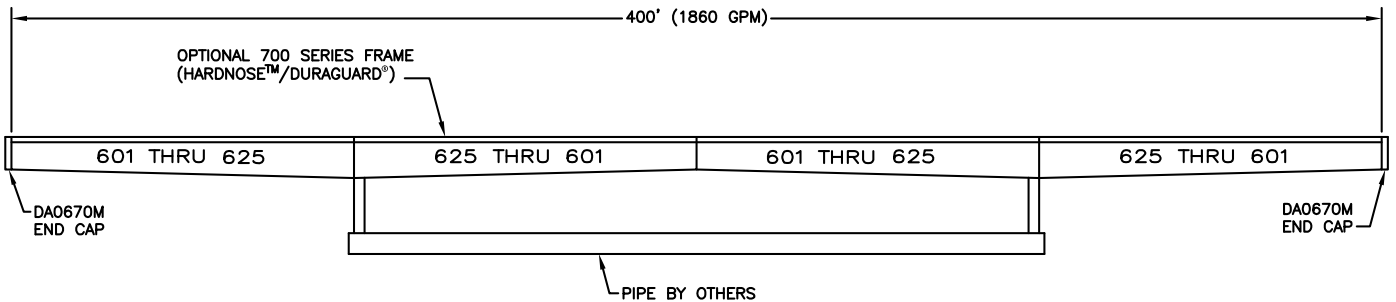
USE OF NEUTRAL CHANNELS FOR LONG RUNS



EXTENDER PANELS

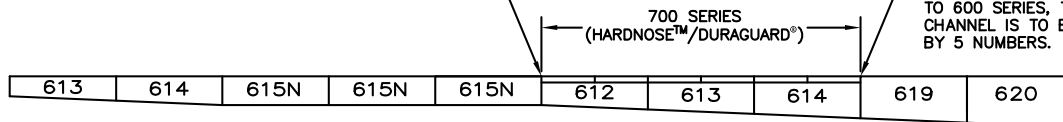


HIGH VOLUME FLOW



WHEN MAKING THE TRANSITION FROM 600 SERIES TO 700 SERIES (HARDNOSE™/DURAGUARD®) THE ADJOINING CHANNEL IS TO BE DECREASED BY 3 NUMBERS

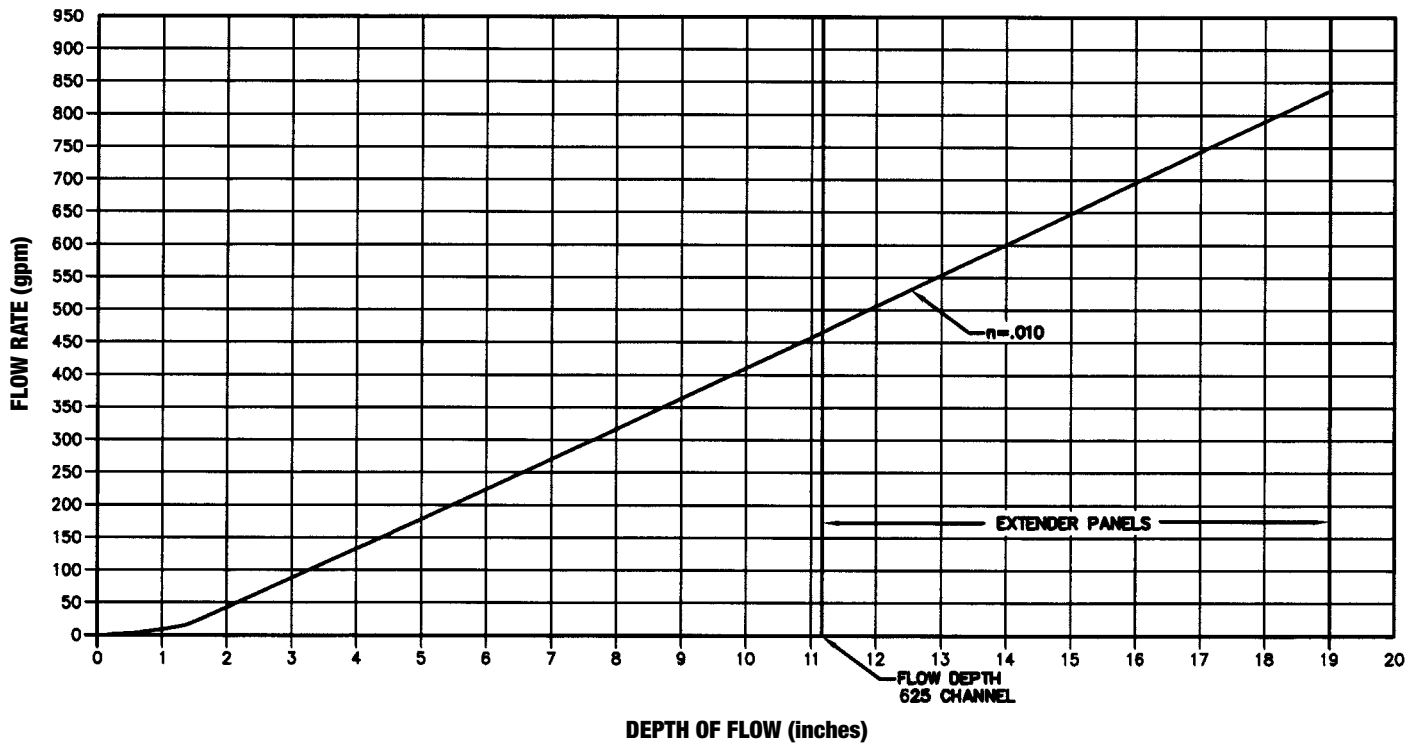
WHEN MAKING THE TRANSITION FROM 700 SERIES (HARDNOSE™/DURAGUARD®) TO 600 SERIES, THE ADJOINING CHANNEL IS TO BE INCREASED BY 5 NUMBERS.



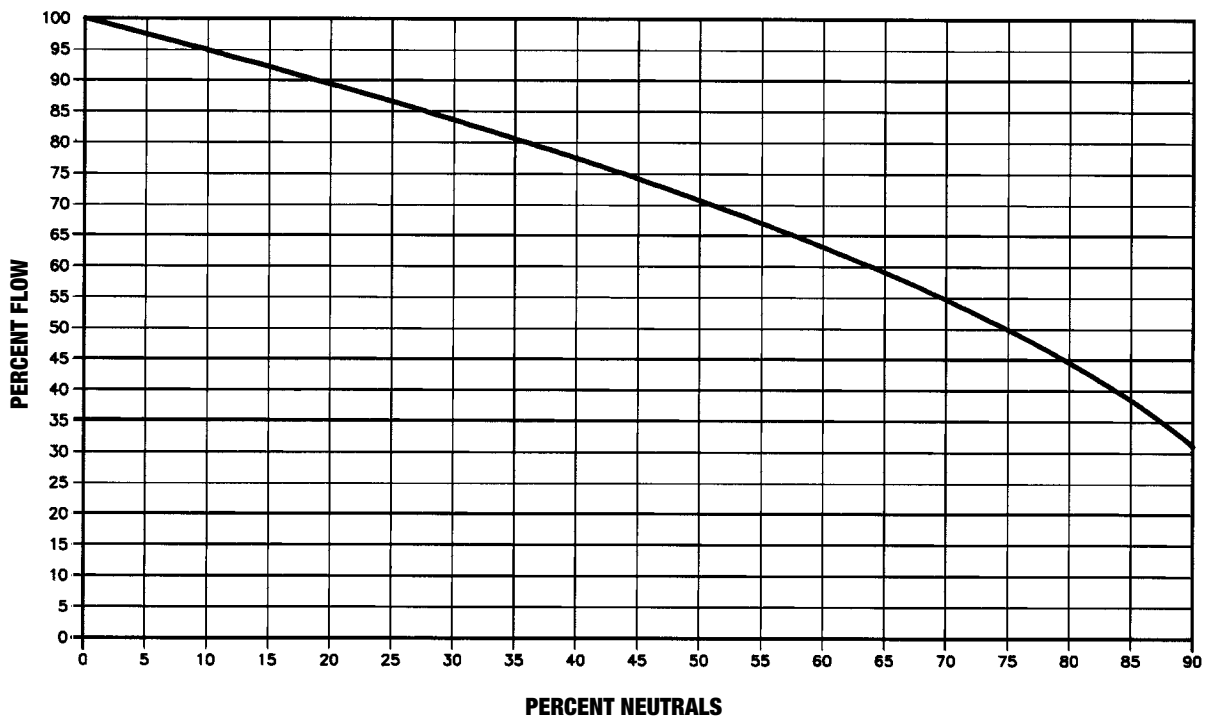
700 SERIES HARDNOSE

Performance Graphs for 700 Series Hardnose

FLOW CAPACITY



EFFECT OF NEUTRALS ON FLOW CAPACITY



* This graph is based on the Manning Equation.

700 Series Frames and Grates

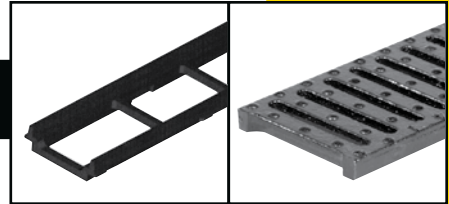


700 Series HARDNOSE Gray Iron Frame w/Iron Slotted

Part No. DG0700AA w/DG0641

DG0700 Series Frame and Part No. DG0641 grates used in areas exposed to heavy traffic and solid tire vehicles. Grating hold-down device DA0642BH must be maintained secure. Offers exceptional impact resistance. High frequency forklift traffic, low speed. Heavy duty.

Open Area: 19.8 in²/Linear Foot
 Dimensions: 6-1/4" x 24"
 Weight (grate plus frame): 30 lbs.
 Black Finish
 Grate In-Flow: See chart pg. 37



DG0700AA

DG0641



700 Series HARDNOSE Iron Frame w/Ductile Iron Longitudinal Slotted

Part No. DG0700AA w/DG0675HD

DG0700 Series Frame and Part No. DG0675HD grates used in areas exposed to heavy traffic and solid tire vehicles. Grating hold-down device DA0642BH must be maintained secure. Offers exceptional impact resistance. High frequency forklift traffic, low speed. Heavy duty ADA Compliant.

Open Area: 32 in²/Linear Foot (26%)
 Dimensions: 5-1/4" x 24"
 Weight (grate plus frame): 30 lbs.
 ASTM A536 Class 65-45-12
 Black Finish
 Grate In-Flow: See chart pg. 37



DG0700AA

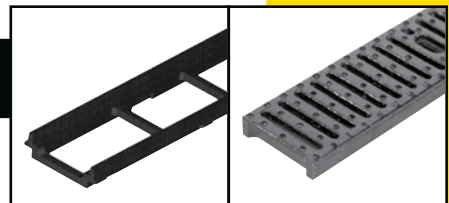
DG0675HD

700 Series HARDNOSE Iron Frame w/Ductile Iron Slotted

Part No. DG0700AA w/DG0641D

DG0700 Series Frame and Part No. DG0641D grates used in areas exposed to heavy traffic and solid tire vehicles. Grating hold-down device DA0642BH must be maintained secure. Offers exceptional impact resistance. High frequency forklift traffic and/or speeds above 15 mph. Extra heavy duty.

Open Area: 19.8 in²/Linear Foot
 Dimensions: 6-1/4" x 24"
 Weight (grate plus frame): 30 lbs.
 ASTM A536 Class 65-45-12
 Black Finish
 Grate In-Flow: See chart pg. 37



DG0700AA

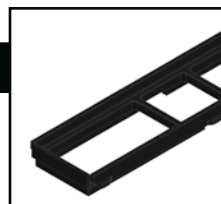
DG0641D

700 Series HARDNOSE End Frame


Part No. DG0700AC

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

Dimensions: 6-1/4" x 24"
 Weight: 15 lbs.
 ASTM A536 Class 65-45-12
 Black Finish



DG0700AC

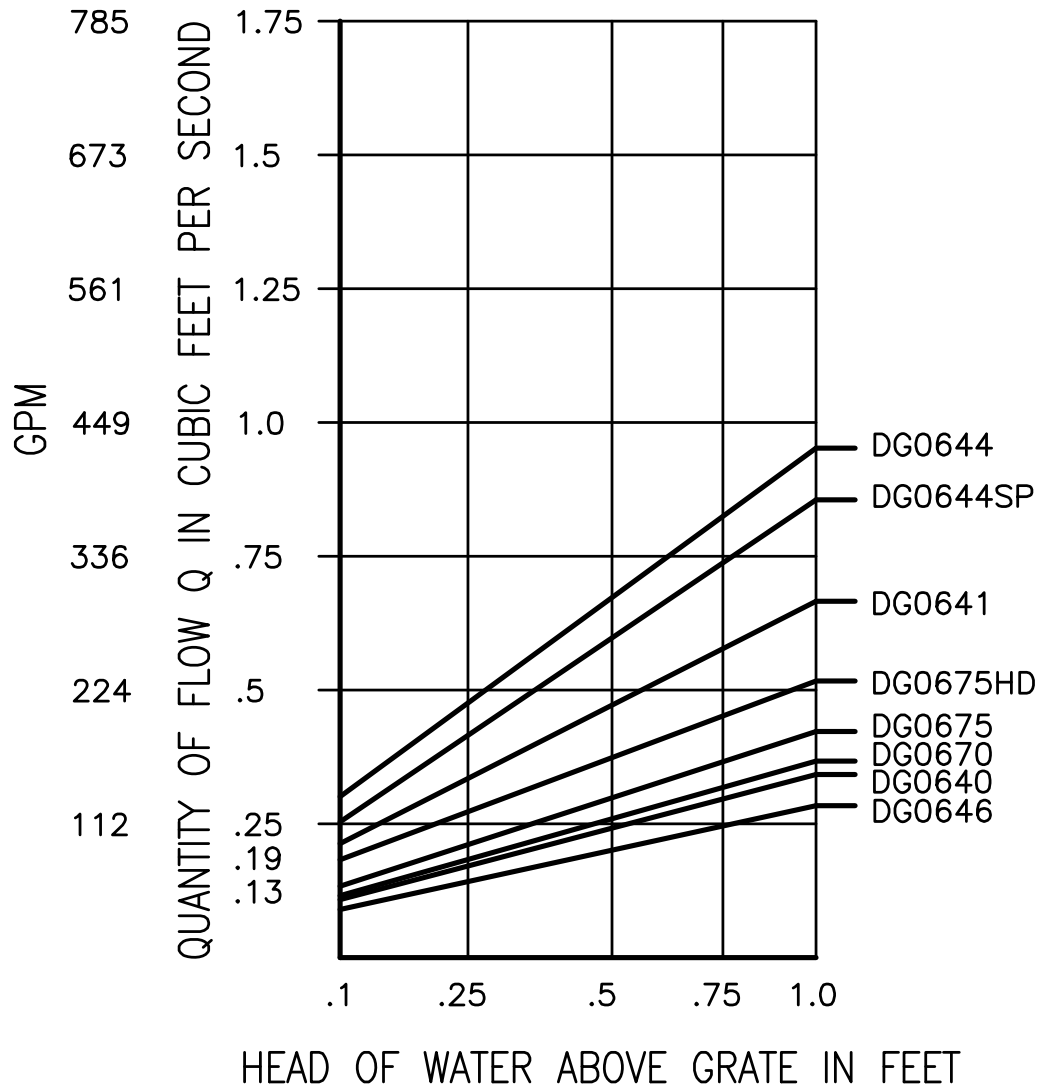
 **NOTE:** ADA Code—4.5.4 gratings. If gratings are located in walking surfaces, then they shall have spaces no greater than 1/2" (13mm) wide in one direction. If gratings have elongated openings, then they shall be placed so that the long dimension is perpendicular to the dominate direction of travel.

700 SERIES HARDNOSE

Grate In-Flow Chart

**Quantity of Flow Through
600 Series Grates**

Based on 1 foot 600 Series Channel
Computed using Orifice Equation $Q=CA\sqrt{2gh}$



700 SERIES HARDWARE

Channel Installation Alignment Chair

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

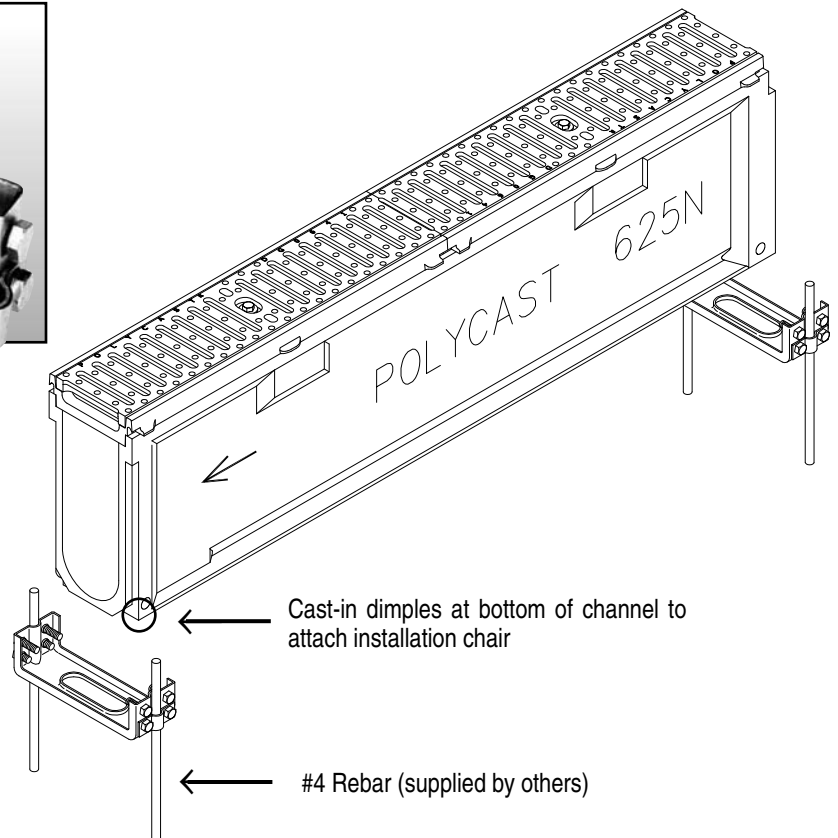
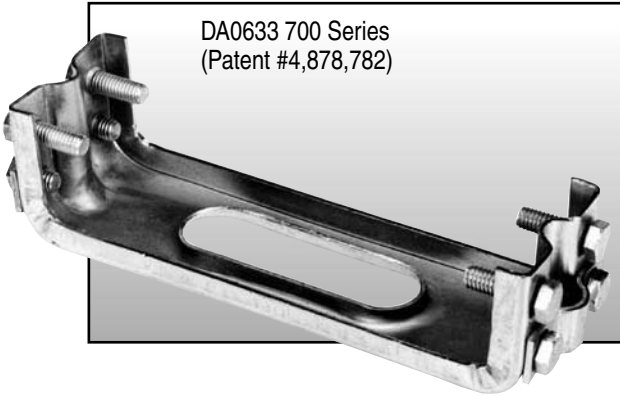


The POLYCAST® Installation Chair is the most efficient and economical means of setting a precast trench system. The installation chair supports the ends of the channels, aligns and locks the joint rigidly together and prevents the channels from floating. Adjusting channel elevation is easy with the POLYCAST®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

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

One chair per joint required.

NOTE: For use with 700 Series Channels.



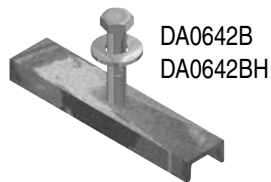
- **Rapid, accurate installation**
- **Aligns channels**
- **Sets elevation**
- **Tightens joint**
- **Reduces leakage during concrete placement**
- **Prevents channels from floating during concreting**

DG0641 W/DG0700AA

700 SERIES HARD NOSE

Accessories

LOCKING DEVICES

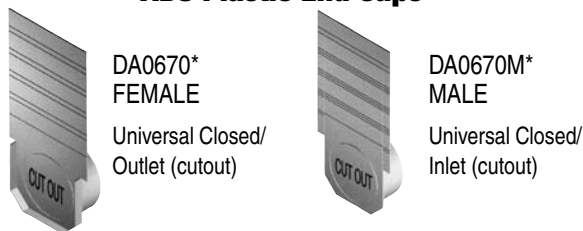


Locking Devices are to be used with all grating systems where wheel traffic occurs. This is necessary to provide system integrity.

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. They fit all channels ending in five (5), zero (0), neutrals (N) and halves (H).

ABS Plastic End Caps



Patent #6,027,283

Male End Caps

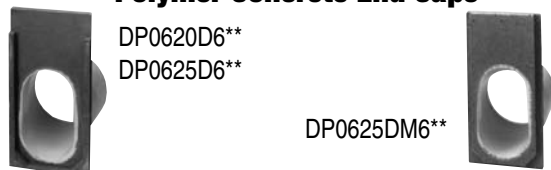
POLYCAST® Universal male end caps are used to enclose or provide 4" pipe inlets to the female channel ends. Inlets accommodate 4" pipes.

Female End Caps

POLYCAST® Universal female end caps are used to enclose or provide 4" pipe inlets to the male channel ends. Inlets accommodate 4" pipes.

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

Polymer Concrete End Caps



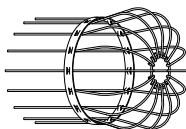
These inlets and outlets accommodate 6" pipes.

**** Fits CORRESPONDING 600 Series Channels**

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.

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



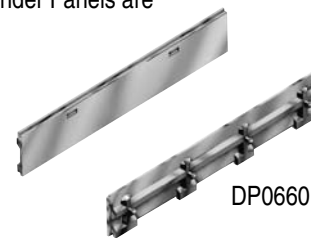
Use a DP0699M channel adapter to join two drain run ends together at a low point

EXTENDER PANEL

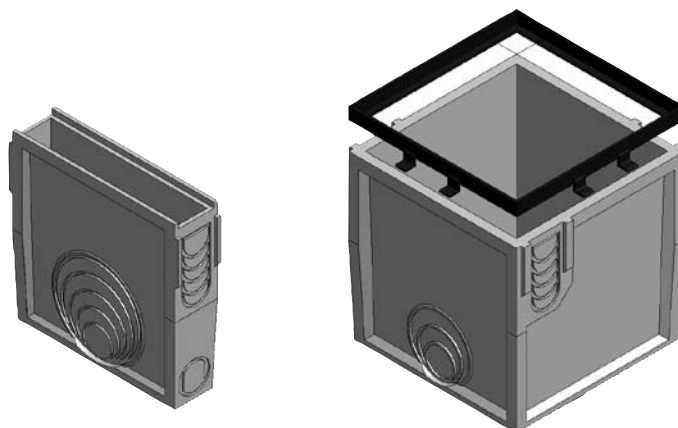
The Extender Panel Set (DP0660) provides additional design flexibility in meeting requirements of extended run lengths and/or higher flow capacities.

The Extender Panel adds an additional depth of 7-13/16" to the 600 Series Channels. Extender Panels are available in 48" lengths.

See detail — page 34.



CATCH BASIN



Information about Catch Basins can be found on Page 50.

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