

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

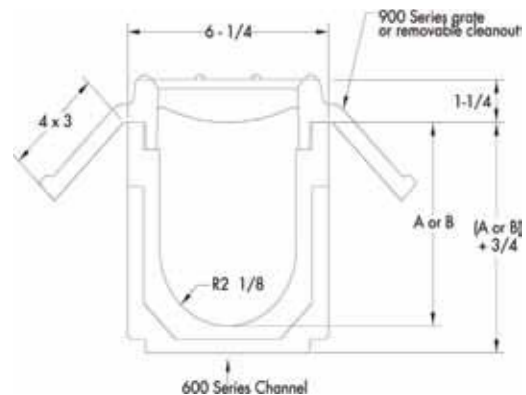
The ductile iron grates developed for the POLYCAST® 900 Series Grated Line Drain was designed to provide maximum inlet capacity. Both one-piece and removable designs incorporate positive anchoring flanges or bolts on each corner to help the grate withstand pull-out from high-speed highway traffic and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

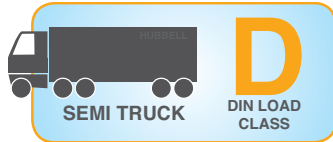
The POLYCAST 900 Series grates comply with the provisions cited in CALTRANS Section 10-1.35, "Grated Line Drain" and are made in compliance with CALTRANS Section 75-1.02, "Miscellaneous Iron and Steel" utilizing ASTM A-536, Grade 65-45-12 ductile iron. All grates and frames resist pullout forces in excess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

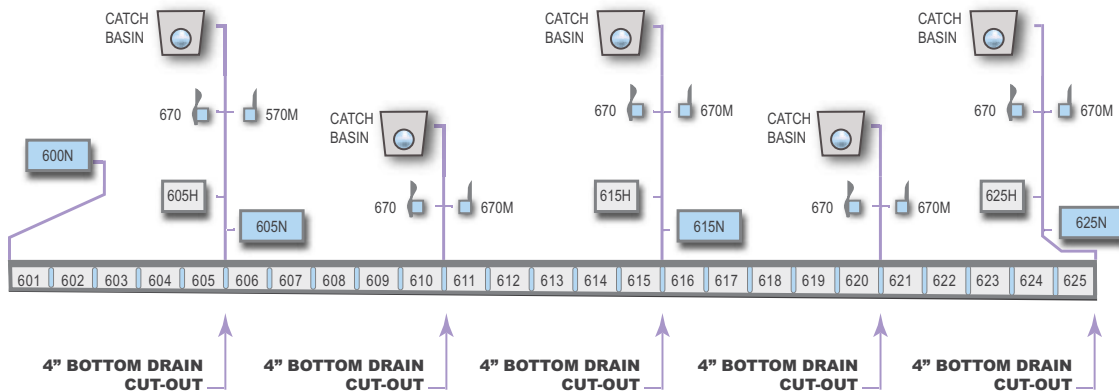
Part No. DG0941D

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

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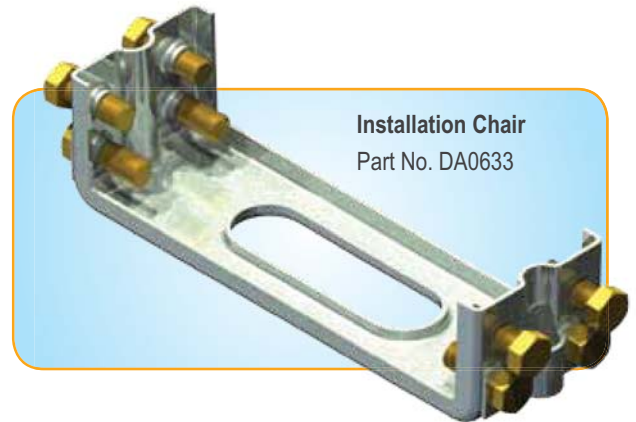
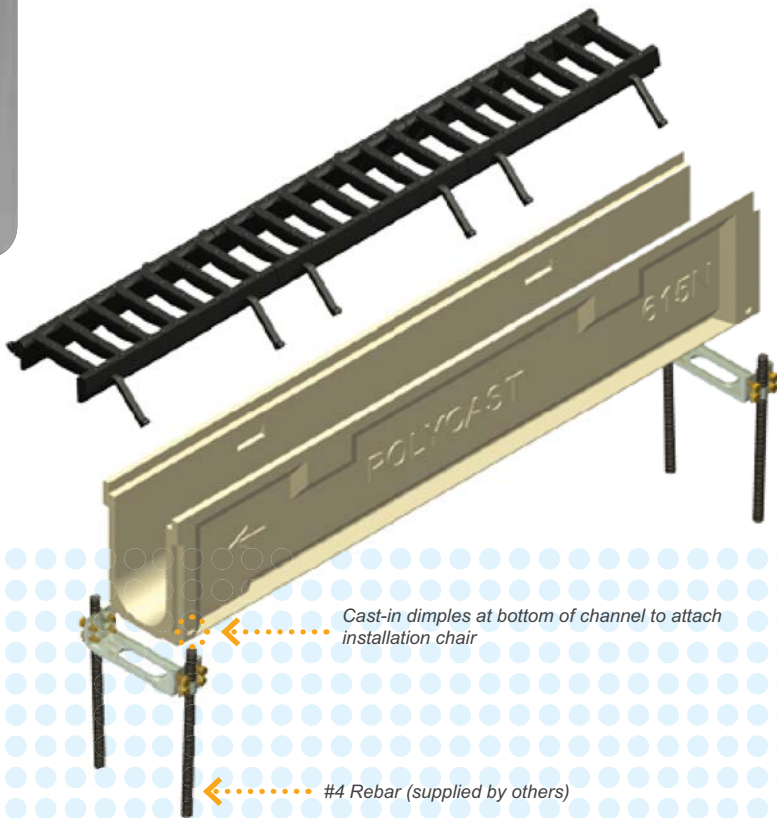
900 Series Installation & Details

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.



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

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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.