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.

TIPS

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

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

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.

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

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

Feet and Inches: All English product dimensions make site layout simpler and faster.

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

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

Layouts: Polycast provides a site plan layout service to all customers which includes outlet recommendations, piping schematics and a full bill of materials.
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
Grate In-Flow Chart

Quantity of Flow Through 800 Series Grates

Based on 1' 825 Channel
Computed using Orifice Equation $Q = CA^2gh$

<table>
<thead>
<tr>
<th>Head of Water Above Grate in Feet</th>
<th>Quantity of Flow in Cubic Feet Per Second</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.25</td>
<td>DG0841</td>
</tr>
<tr>
<td>1.00</td>
<td>DG0844</td>
</tr>
<tr>
<td>0.75</td>
<td></td>
</tr>
<tr>
<td>0.50</td>
<td></td>
</tr>
<tr>
<td>0.25</td>
<td></td>
</tr>
</tbody>
</table>

GPM

Head of Water Above Grate in Feet

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.
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.
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:

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>TEST METHOD</th>
<th>VALUES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compressive strength:</td>
<td>ASTM C-109</td>
<td>12,000 psi</td>
</tr>
<tr>
<td>Tensile strength:</td>
<td>ASTM C-307</td>
<td>1,700 psi</td>
</tr>
<tr>
<td>Water absorption:</td>
<td>ASTM 5-570</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Chemical resistance:</td>
<td>ASTM D-543</td>
<td>75% strength, &lt;2% change in</td>
</tr>
<tr>
<td></td>
<td></td>
<td>weight/dimension</td>
</tr>
<tr>
<td>Accelerated service</td>
<td>ASTM D-7566-E</td>
<td>75% strength, &lt;2% change in</td>
</tr>
<tr>
<td></td>
<td></td>
<td>weight/dimension</td>
</tr>
<tr>
<td>CTE (coefficient of thermal expansion)</td>
<td></td>
<td>15x10^{-6} in/in/°F</td>
</tr>
</tbody>
</table>

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.