

## 2 Assembly of Accessories

- 1 At the deepest end of the channel run:
  - Install a **Dura Slope™ Catch Basin DS-340 OR**
  - Install an **End Outlet DS-227**. Cut the end outlet to fit the channel using the guidelines molded on the part. Attach End Outlet to the channel drain using screws and screw driver. Connect SDR-35 pipe **OR**
  - Install an **End Cap DS-224**. Cut the end cap to fit the channel using the guide lines molded on the part. Attach End Cap to the channel drain using screws and screw driver. Drill out the bottom outlet using a 4" hole saw by sliding the saw into the bottom outlet and cutting through the bottom of the channel.
  - Connect As Follows:
    - > For 4" Schedule 40 fittings: Slide a Sch 40 fitting over the molded outlet.
    - > For 4" SDR-35 pipe: Slide a DS-126 into the bottom outlet.+
- 2 At the shallowest end of the channel run:
  - Cut an **End Cap DS-224** to the depth of the shallowest channel section using the guidelines molded into the part. Slide End Cap into female connection at end of channel.

**FIGURE 2: Assembly of Accessories**

### Drain Outlets



## 3 Assembly of Channel Sections

- Place a bead of butyl caulking or silicone sealant in the channel's joint or groove, if a water-tight seal is required.
- Snap the channel sections together.
- Wipe down excess caulking or silicone from the inside of the channel.
- Repeat the steps above for the remaining sections.

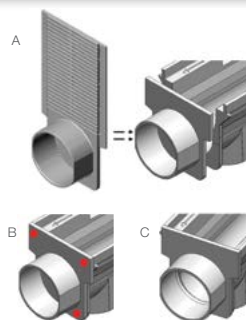
**FIGURE 3: Assembly of Channel Sections**

### Joined Channels



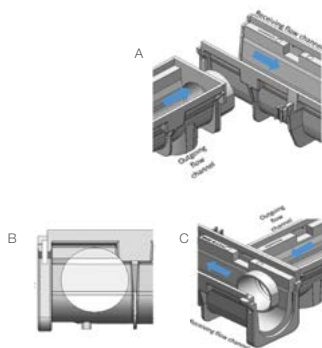
## 2 Attachment of End Outlet to Outgoing Flow Channel

- Cut DS-227 to desired outgoing flow channel height by using reference marks.
- Attach DS-227 to outgoing flow channel using at least four (4) screws.
- Remove DS-227 knockout for drainage and cut off male side tabs.



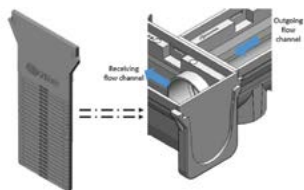
## 3 Attachment of Outgoing and Receiving Flow Channels

- Align outgoing flow channel's male end to receiving flow channel's female end. Trace the outside diameter of the DS-227 outlet onto the receiving flow channel.
- Using a 4-3/4 inch hole saw, cut-out a hole for the DS-227 outlet on the receiving flow channel.
- Butt the outgoing flow channel to the receiving flow channel using the hole previously cut as a guide.



## 4 Attachment of End Cap to Receiving Channel

- Cut DS-224 End Cap to the desired channel height using the reference cut-lines.
- Place modified DS-224 into the female end of the receiving flow channel.
- Install channel section and pour concrete encasement.



## 5 Final Appearance of Direct Channel-to-Channel Connection

Final finish of assembled units is as shown right:



Items needed include the following:

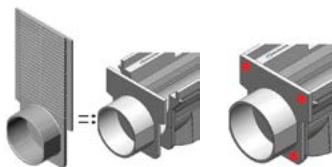
- DS-227 End outlet
- 4" PVC SDR 35 Pipe
- 4" PVC 90° Elbow 4P02 or any other angle

**Note: Start installation at the Indirect Angled Connection and work outward.  
Adjust other channel lengths to complete the required length.**



## 1 Attachment of End Outlet to Outgoing Flow Channel

- Cut DS-227 to desired flow channel height by using reference marks.
- Attach DS-227 to flow channel using at least four (4) screws.



## 2 Attachment of Flexible Couplings to End Outlets

- Attach SDR 35 pipe to the end outlets.



### 3 Attachment of 90° Elbow to Flexible Couplings

- Align elbow with SDR 35 pipe and fix firmly in place.



### 4 Concrete Encasement

- Pour concrete encasement under and around the channels and fittings.

**Table 2: Summary of Direct and Indirect Connections**

Type of Connection	Angle of Connection	Required Fitting	Channels to be Used	Flow Direction	Difference in Elevation between Connecting Pieces
Direct (Channel-to-Channel)	90°, Tee	No Fittings Required	Smallest Channels that can be used: One DS-093 (4.67" to 5.01" deep) and one DS-096 (5.68" to 6.01" deep)	From Shallow to Deep Channel	3 Channel Section difference between "Outgoing" Channel and "Receiving" Channel
Indirect (Pipe)	90°, 45°, 22.5°, Any Other Angle	4P02, 4P03, 4P04, 4PVAF respectively	Any Dura Slope Channels along with DS-227 End Outlet	From shallow to deep channel, e.g., DS-091 to DS-092	Not required

# Dura Slope™ Slot Top Installation

**Slot Top is Heel-Proof and ADA-Compliant.**

## Tools & Materials

Shovel/Excavating equipment	Phillips screw driver
Hammer	Concrete vibrator
Butyl caulk or adhesive silicone sealant	#4 Rebar (1/2")
Caulking gun	Tie-wire and self-tapping screws
Stringline	Pliers and cordless screw driver
Level or laser line	4" Hole saw

Concrete. Compressive strength and mix design per Engineer's recommendation. It can vary from 2,500 psi for pedestrian to 4,000 psi for heavy loads.

**⚠ Observe all safety precautions when operating electrical equipment.**

## 1 Excavation – Excavate a trench for the Dura Slope™ channels.

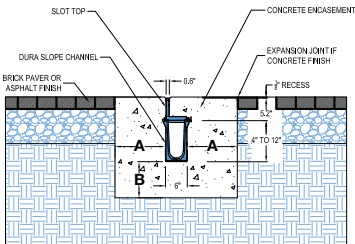
The width and depth of the excavation depends on the size of the Dura Slope™ channel (4 to 12 inches in depth and 6 inches in width), the depth of the Slot Top, the dimensions of the concrete encasement on both sides and below channel (4 to 8 inches), and the method of installation (form board or rebar suspension). See Table 1 and Figure 1 below.

**TABLE 1: Excavation Dimensions**

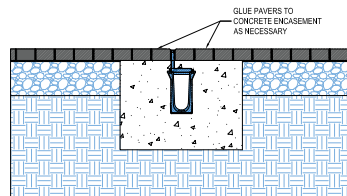
Type of Traffic	Concrete Encasement - Width each side "A" & Depth Below Channel "B"	Width of Channel	Depth of Channel	Depth of Slot Top + 1/8" Recess	Width of Excavation*	Depth of Excavation*
Pedestrian/Class A	4"	6"	4" to 12"	5.3"	14"	13.3" to 21.3"
Light Duty/Class B	4"	6"	4" to 12"	5.3"	14"	13.3" to 21.3"
Medium Duty/Class C	6"	6"	4" to 12"	5.3"	18"	15.3" to 23.3"
Heavy Duty/Class D	8"	6"	4" to 12"	5.3"	22"	17.3" to 25.3"

\* Does not include formwork

**FIGURE 1: Concrete Encasement Dimensions**



BRICK PAVEMENT, ASPHALT FINISH, OR CONCRETE FINISH - CONCRETE ENCASEMENT VISIBLE



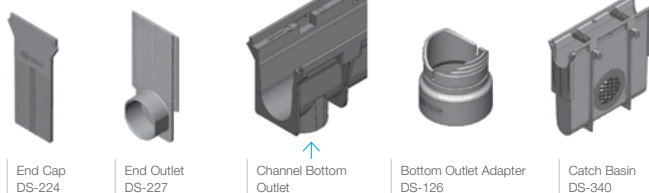
BRICK PAVEMENT OR ASPHALT FINISH - CONCRETE ENCASEMENT HIDDEN

## 2 Assembly of Accessories

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**FIGURE 2: Assembly of Accessories**

### Drain Outlets



## 3 Assembly of Channel Sections

- Place a bead of butyl caulking or silicone sealant in the channel's joint or groove, if a water-tight seal is required.
- Snap the channel sections together.
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- Repeat the steps above for the remaining sections.

**FIGURE 3: Assembly of Channel Sections**

### Joined Channels



## Summary of Part Numbers

### CHANNELS (COMMON TO GRATE TOP & SLOT TOP)

Sloped (3.99" to 12.06" deep)	DS-091 through DS -114
Neutral/Non-Sloped (3.99" to 11.39" deep)	DS-090N, -091N, -094N, -097N, -100N, -103N, -106N, -109N, and -112N

### GRATE TOP

Standard	
Up to Car Traffic Loading	660, 661, 661LG, 662, 663, 664, 665
Up to Forklift Loading	DS-231, DS-232, DS-601, DS-602, DS-603, DS-604, DS-609
Up to Semi Truck Loading	DS-221
Heel-proof and ADA Compliant	
Up to Pedestrian Loading	DS-226, DS-228
Up to Car Traffic Loading	DS-670, DS-671
Ductile Iron Frame (Use only with Cast Iron & Ductile Iron Grates)	
Up to Pneumatic Tire Fork Lifts	DS-200H

### SLOT TOP

Heel-proof and ADA Compliant	2' Slot top: DS-ST2 and 4' Slot top: DS-ST4
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### ACCESSORIES (COMMON TO GRATE TOP AND SLOT TOP)

Catch Basin	DS-340
Universal End Cap	DS-224
Universal End Outlet	DS-227
Bottom Outlet Adapter for SRD-35 pipe	DS-126

### ACCESSORIES (GRATE TOP)

Pro-Fit Grate Lock	DS-122
Duraslope Frame and End Screws	DS-123
Grate Screws	629
Optional Security Screws	DS-650
Duraslope Radius Coupling	DSRC
Grates for Radius Coupling	DS-660MG, -661MG, 661LGMG, - 662MG, -663MG, -664MG, -665MG, -681LGMG, -232MG, -226MG, -221MG

### ACCESSORIES (SLOT TOP)

Maintenance Unit	DS-STMAINT
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