Duraslot® Installation, Assembly & Field Cut Guide

Introduction

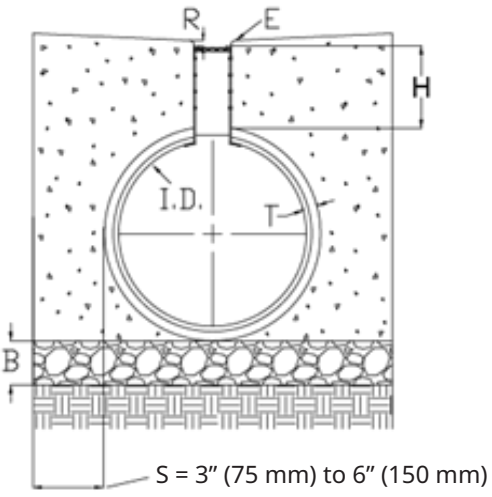
- Read this guide to account for additional incidental materials required to complete the installation.
- Detailed burial depth and backfill information should be determined before beginning construction. Duraslot installation and backfill conditions will vary depending on the pipe diameter and expected loading application.

Scan to watch video instructions

Duraslot Installation Guidelines

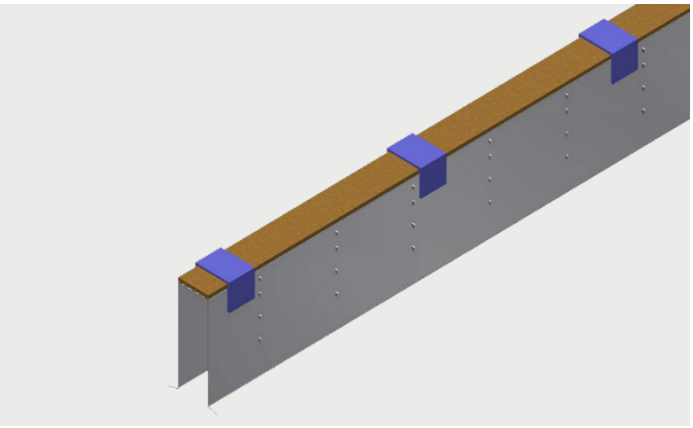
1. Excavate the pipe trench corresponding to the site plans (Figure 1).
   - If not provided, assume a trench width 12" wider than the pipe diameter to be installed.
   - When calculating excavation depths be sure to account for:
     - o Slot riser recess (R) below the finished pavement grade (E).
       - ¼" (6 mm) for pedestrian traffic
       - ¼" - ½" (6 mm – 13 mm) for H20 traffic
     - o Pipe corrugation height or pipe wall thickness (T). Invert elevations are from the inside diameter (ID) and do not account for wall thickness below the flowline.
     - o Additional depth of any base material (B) required.
2. As required, place base material level in the bottom of the trench.
3. Place and assemble the Duraslot pieces in the bottom of the trench.
   - Refer to the **"Duraslot Assembly Guide"** on the following pages for hardware assembly instructions.
   - If not connecting to a Nyloplast basin, a Duraslot adapter is required to connect to the outlet pipe or structure.
   - *Installation Tip:* Grate anchor assemblies can be installed before lowering these pieces into the trench.
   - *Installation Tip:* Duraslot can be field cut to a desired length. Refer to the **"Duraslot Field Cut Instructions"** on the following pages.

Figure 1



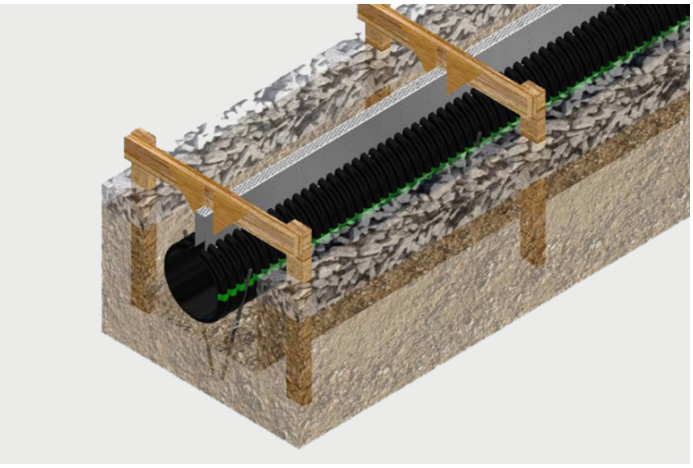
4. Cover the slot riser opening to prevent debris form entering the system (Figure 2).
   - *Installation Tip:* Run a thin piece of plywood over the grate and use duct tape to hold it in place. This method can also function as a form for concrete to cure around to ensure trhe slot rise is properly recessed into the pavement.

Figure 2



5. Brace the Duraslot so that it remains secure in place (Figure 3).
   - *Installation Tip:* Braces recommended at least every 5' (1.5 m). However, tall slot heights, large diameter pipe, Sandy soils or other conditions may require more bracing to prevent shifting, floation, or other unwanted movement during backfill.
   - Stake rebar or wood in bottom of trench to cradle the pipe (these will remain in the trench after installation).
   - Insert 2' x 4' (0.6 m x 1.2 m) vertically into the soil alongside of trench and span 2' x 4' (0.6 m x 1.2 m) across Duraslot's slot riser so that it is flush with the slot riser.
   - Angle Braces can then be attached to the middle of this lateral bracing to keep the slot from tipping.

Figure 3



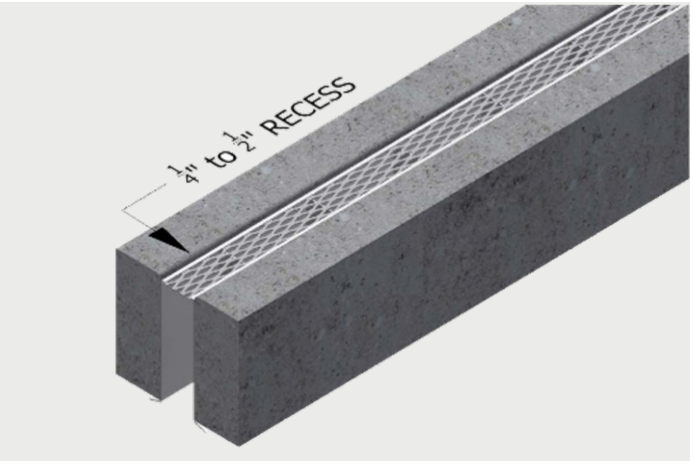
6. Backfill the trench with the appropriate material per the loading requirements of the application.
   - **H-20 traffic or heavier loading applications shall be backfilled in concrete.**
   - Backfill material should be placed simultaneoiusly on both sides of the slot to prevent the Duraslot from shifting.
   - *Installation Tip:* The backfill may have to be done in two or more lifts, depending on site requierments (Figure 4).
   - Additional concrete may be needed to reinforce the outlet pipe if installed above the product's minimum burial depth.

Figure 4

7. Remove the bracing around the slot riser.
   - If the backfill material is concrete, allow it to cure solid before removing bracing.
   - Be careful not to damage the exposed slot before the final backfill is complete (i.e., driving over it). Safety cones or similar may be setup to mark the exposed slot.

8. Backfill any remaining part of the trench to final grade (Figure 5).
   - The top of the slot should be recessed 1/4” (6 mm) into the pavement for pedestrian applications and 1/4” - 1/2” (6 mm - 13 mm) for H-20 applications, below the finished grade.
   - A mason’s tool can be used to knurl the edges of the slot recess after the cover placed over the slot has been removed.

Figure 5



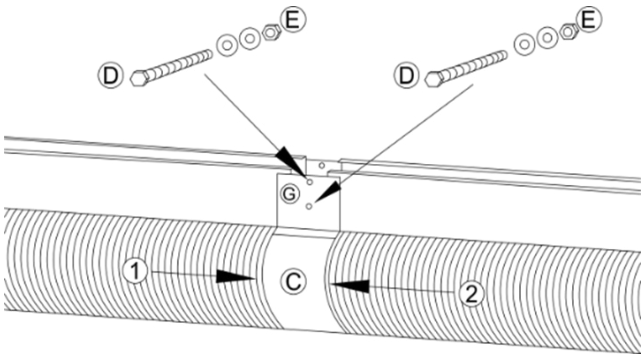
Duraslot Assembly Guide

Note:

- For custom height products, each piece is individually labeled for ease of assembly (i.e. pipe ABC1 connects to pipe ABC2 using coupler band ABC1,2).
- Before beginning assembly, check inside the Duraslot pipe for coupler bands.
- Duraslot coupler bands, end caps, and adapters will include all hardware required to complete an assembly.

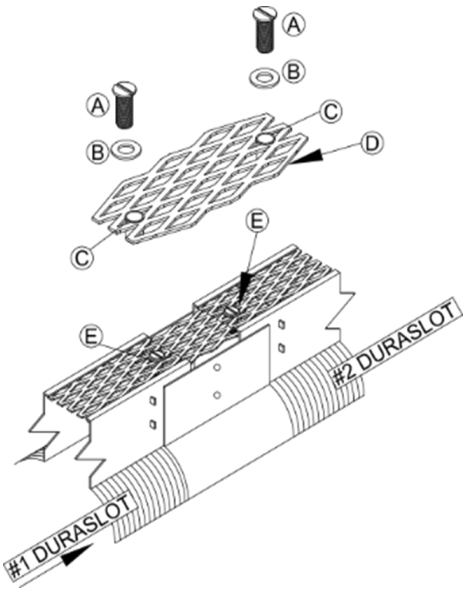
Coupler Assembly (Grated)

Figure 6



1. Backfill the trench with the appropriate material per the loading requirements of the application.
2. Wrap coupler band (C) around the end of he Duraslot pipe (1) leaving the bolt holes (G) in the metal past the end of the pipe’s slot.
3. (Figure 7) Slide grates connector (D) under the grate on Duraslot pipe (1).
4. Screw the first pan head screw (A) with washer (B) through hole (C) into the grate at point (E).
5. (Figure 6) Position the next piece of duraslot pipe (2) so that the grate connector (D) slides under the grate.
6. Insert hex head screws (d) with washers on both sides through the holes (G) in the coupler band (C) and tighten the hex head nut (E). Be careful not to overtighten.
7. (Figure 7) Screw the second pan head screw (A) with washer (B) through hole (C) into the grate at point (E).

Figure 7

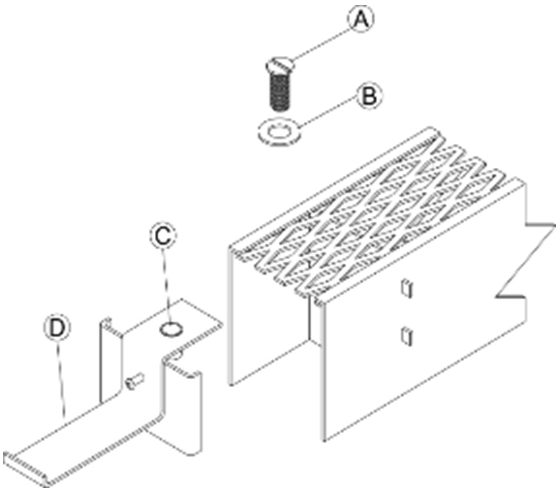


Grate Anchor Assembly

At the end of each run of Duraslot drains, a grate anchor should be installed to close off the end of the slot and hold the grate in tension. These are provided with ends caps and adapters, and may be used in conjunction with Nyloplast basins.

(Figure 8) To assemble, put metal tab (C) under the end of the Duraslot pipe grate so that grate anchor (D) extends into the area where concrete will be poured. Screw pan head screw (A) and washer (B) through hole (C) to secure to the grate.

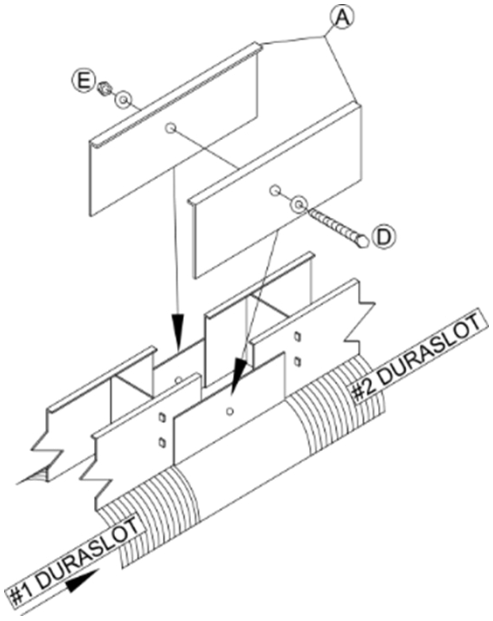
Figure 8



Coupler Assembly (Open Top)

1. Refer to (Figure 6) put the first section to Duraslot pipe (1) into the excavated trench.
2. Wrap coupler band (C) around the end of the Duraslot pipe (1) leaving the bolt holes (G) in the metal past the end of the pipe's slot.
3. Position the next piece of Duraslot pipe (2) into the coupler band.
4. Insert hex head screw (D) with washers on both sides through the bottom hole (G) in the coupler band (C) and tighten hex head nut (E).
5. (Figure 9) Set band flanges (A) over the joint.
6. Insert hex head screw (B) with washers on both sides through the top hole and tighten the hex head nut.

Figure 9

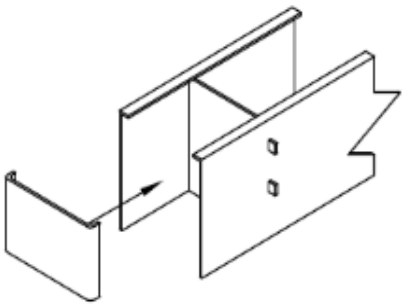


Slot Cap Assembly

(Figure 10) At the end of each run of Duraslot drains, a slot cap should be installed to prevent debris from entering the end of the slot. These are provided with end caps and adapters, and may be used in conjunction with Nyloplast.

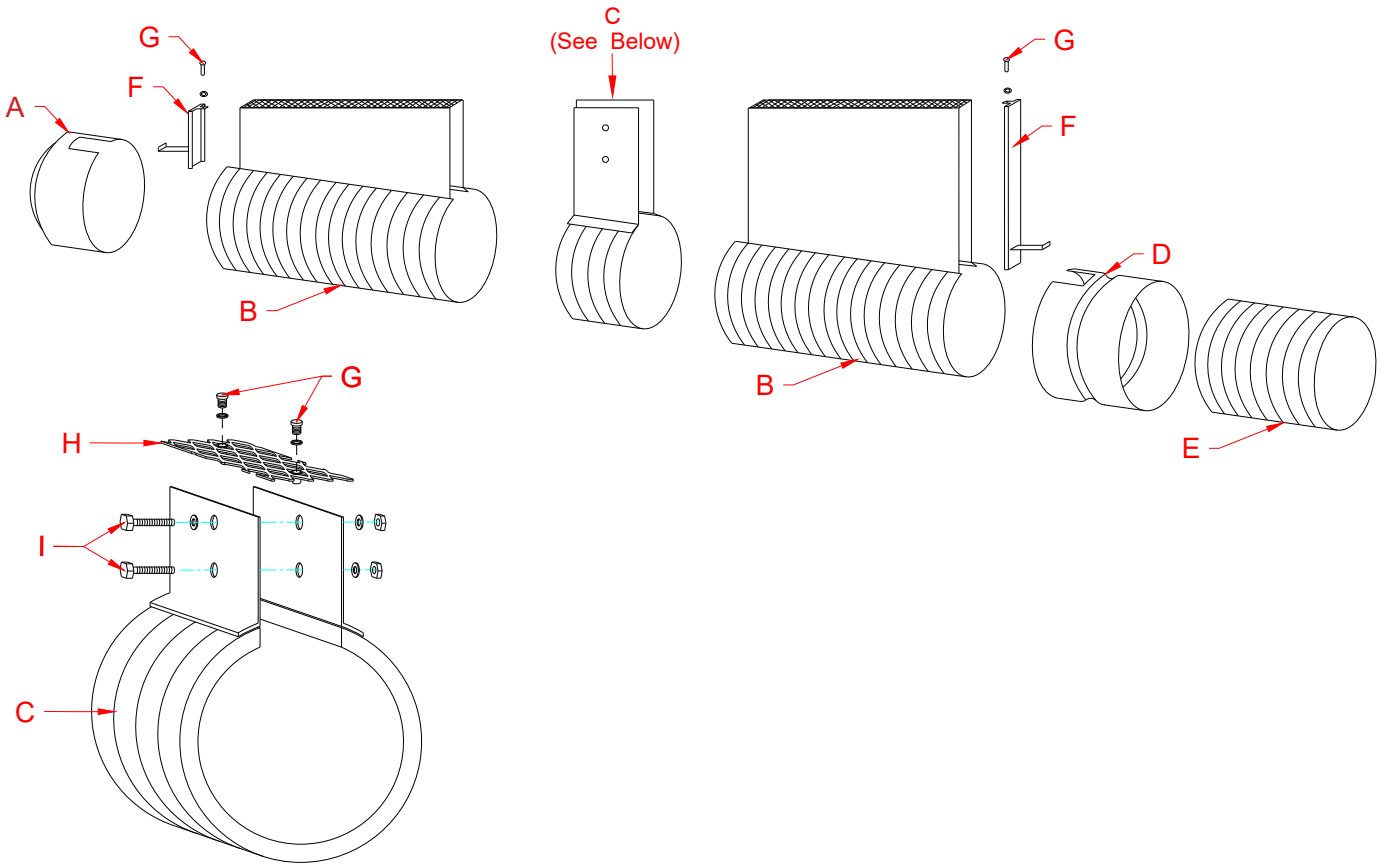
To assemble, press-fit the slot cap over the end of the slot. If needed, duct tape may be used to help hold in place.

Figure 10

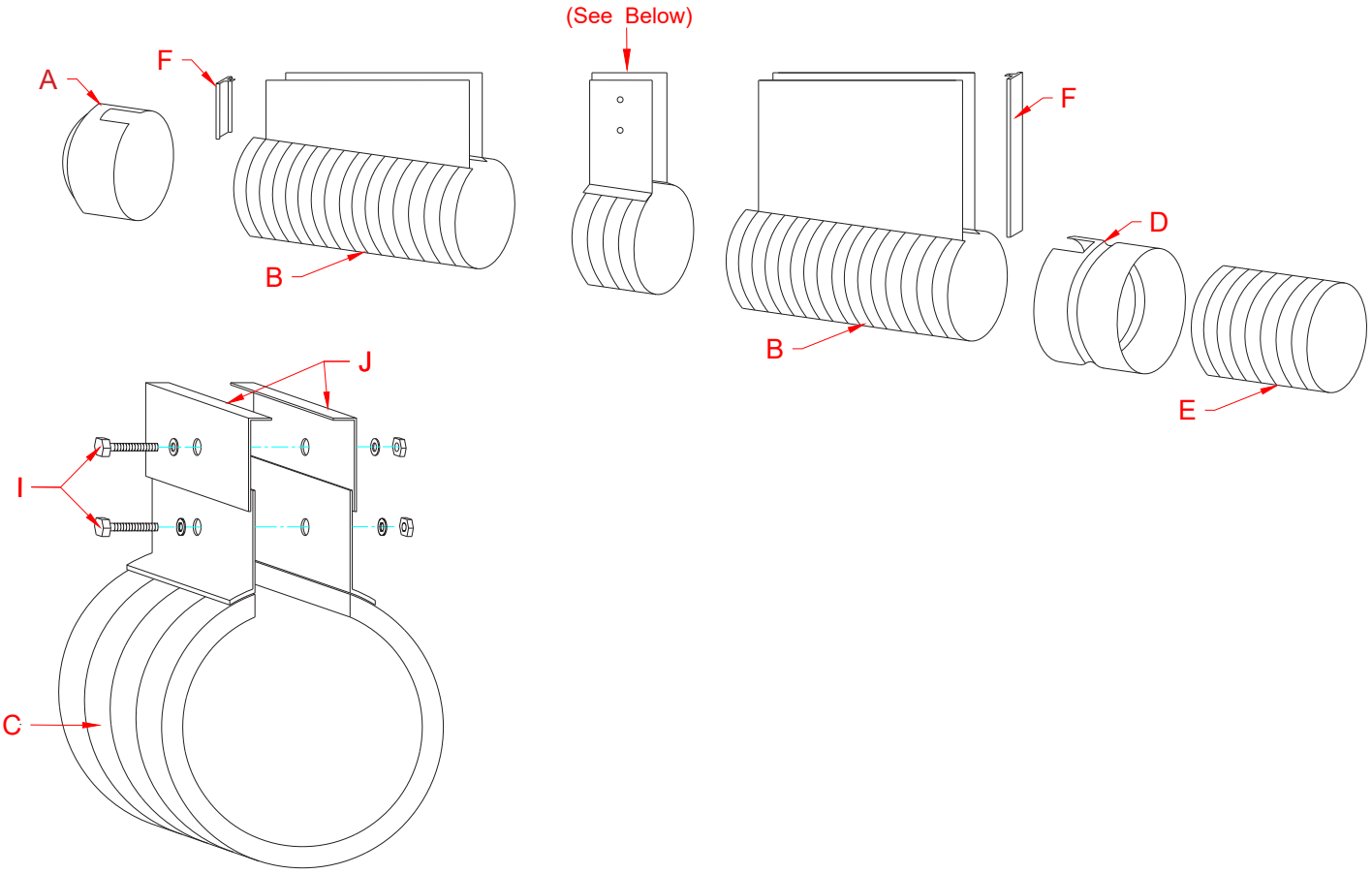


Duraslot Field Cut Instructions

1. Determine the length of pipe required and mark where the pipe/slot needs to be cut.
   - Installation Tip: It is best to cut the piece of Duraslor furtherest from the outlet.
   - If the cut is near a vertical spacer (located inside the slot), leave at least a 1 1/2" (25.5 mm) gap between the cut and the spacer. This will ensure the grate anchor and end cap will attach properly.
2. Use a reciprocating saw to cut through the alumunum slot and pipe.
3. Attach the grate anchor and end cap assembly to the open end of the aluminum slot.
   - See the "**Duraslot Assembly Guide**" for more information.
4. Proceed with the installation requirements per "**Duraslot Installation Guidelines**".



A. Duraslot End Cap
B. Duraslot Pipe
C. Duraslot Coupler Band
D. Duraslot Adapter
E. ADS N-12® HDPE or HP Storm Pipe or Plain End Fitting
F. Duraslot Grate Anchor Assembly
G. ¼" (8 mm) - 20 Flat Head Screw w/ Washer
H. Duraslot Grate Connector
I. Hex Head Assembly: 5⁄16" (8 mm) Hex Head Screw x 3½" (88 mm) Long w/ (2) Washers & 5⁄16" (8 mm) 18 Hex Nut



A. Duraslot End Cap
B. Duraslot Pipe
C. Duraslot Coupler Band
D. Duraslot Adapter
E. ADS N-12® HDPE or HP Storm Pipe or Plain End Fitting
F. Duraslot Slot Cap
G. N/A
H. N/A
I. Hex Head Assembly: 5⁄16" (8 mm) Hex Head Screw x 3½" (88 mm) Long w/ (2) Washers & 5⁄16" (8 mm) 18 Hex Nut
J. Duraslot Band Flanges