

EXPANDED POLYSTYRENE (EPS) TRENCH FORMING INSTALLATION GUIDELINES

The alternate EPS trench forming system can be installed much faster and less expensively than traditional forming procedures. Meant to work with the 6800, 6808 and 6900 series bolted top flange trench frames, it is installed at the end of a project instead of the beginning, ensuring that the trench drain will be lower than the surrounding area.

To use this system, determine the length of individual runs. Note that the most cost effective trenches come in 8' increments, but others are available. Also determine the starting depth and ending depth of each run, if incorporating in a slope. Note that a neutral slope (start depth equals ending depth) can also drain water effectively and is the most cost effective option. Select a trench cross sectional profile- note that the classic trapezoidal look can be designed to accept a flat blade shovel on the bottom of trench for ease of cleaning and routine maintenance.

Basic items needed for installation:

- 1.** 2" x 4" boards – 8' long. These are used to fasten the forms to the trench assemblies. Use one for trenches under 15" wide. Use two for trenches over 15" wide.
- 2.** 4" x 4" boards– Length depends on how wide of a trench is selected. These are used to hang the trench assemblies in the open area. Two are needed per 8' long assembly.
- 3.** 12" long J Hooks – four needed per 8' long assembly. You can also bend long 1/2" bolts so the head of the bolt can be hooked under a bar of the trench grate assembly.
- 4.** 10" to 12" long wood screws – eight needed per 8' long assembly. These are used to connect the forms to the trench drain assemblies.
- 5.** Various shims of thicknesses ranging from 1/16" – 1".
- 6.** Rebar – per the plans or engineer's specification.
- 7.** 1/2" bolts (2 3/4" long), nuts, and washers to bolt assemblies together. Two needed per foot of trench.

Step 1. The trench assemblies can be fabricated off site to minimize impact on construction area. Prepare trench frame and grate assemblies by laying them out in manageable sections that can be safely lifted with equipment. Each frame and grate section should be bolted end to end with four 1/2" bolts. To expedite assembly these can be then stacked once assembled. The top flange trench assemblies shall be assembled in the length of the forms.

Step 2. Select the correct foam sections based on the layout profile and remove forms from their shipping shell. Turn foam sections upside down and apply two coats of the supplied form release. Apply the form release by brush or roller in accordance with product instructions. Let forms cure for 24 hours between coats.



Step 1



Step 1, stacked assemblies.



Step 2

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Step 2. (continued) Also note that alternatively the second coat of form release can be applied immediately before the trench assemblies are installed prior to pouring concrete. The forms need to remain dry as moisture activates the form release agent.

Step 3. Once the form release has cured prepare foam sections for attachment to the trench assemblies. Plastic sheets will help prevent the mold release from transferring to the floor when the foam core invert section is turned over. Insert 2" x 4" in channels cut in foam core. You can now set the trench frame section on the invert channel section and secure them together with the ten 12" deck screws. Typically, two to four in each grate section is sufficient. (Note: If using a parabolic or rounded bottom profile, save the protective shipping pieces so they can be re-used to provide a flat bottom to attach trench assemblies). Several sections can be prepared for trench installation.

Step 4. The area where the trench is to be installed shall have an open area in the concrete that is at least 2' wider than the clear opening of the trench drain assembly. Rebar cages can be assembled and installed into the trench opening. Transport the trench drain assemblies to the job location. Attach 4" x 4" to the top of each trench drain assembly near the ends of each trench drain and form assembly. Use the J Hooks and drill holes through the 4" x 4" boards, hooking the J- hooks under a bar on the trench drain assembly. Using washers and nuts, secure the 4" x 4" tightly to the trench drain assembly.

Step 5. Transport the trench drain assemblies to the job location. Attach 4" x 4" to the top of each trench drain assembly near the ends of each trench drain and form assembly. Use the J Hooks and drill holes through the 4" x 4" boards, hooking the J- hooks under a bar on the trench drain assembly. Using washers and nuts, secure the 4" x 4" tightly to the trench drain assembly.

Step 6. Set the trench drain and form sections into trench in the order shown on the layout detail sheet. Set the correct height of each section by using shims placed under the 4" x 4" boards on the adjacent concrete. Typically, the trench assembly is placed 1/8" to 1/4" below the adjacent concrete. After the height is set on an assembly, install the next assembly and bolt the flanges of each assembly together. Holes are provided in cast iron frame sections if continuous rebar is required. Install it at some point during this assembly to tie into the pretied rebar cage.

Note: If using a hinged trench product, take care to cover the hinge pockets so that excess concrete does not foul the hinge pocket area. DO NOT cover vent holes in frame, these allow trapped air escape and ensure complete embedment of the frame section. Attach the trench end section if using.



Step 3



Step 4



Step 6

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Step 7. Pour concrete equally from both sides of the trench. Fill the trench until the trench is about 3/4 full (concrete just touching the bottom of the trench frame). Be sure to properly use vibratory equipment during the concrete pouring process. When the concrete is just touching the bottom of the trench frame, place weights on top of the trench assemblies. These will ensure that the assemblies do not float while the trench is filled to the top. Come back and fill the trench to the surface and use vibratory equipment to ensure that concrete comes through the vent holes. Continue to check the height of the trench assemblies to ensure that it is still correct. Additional weight may be needed to maintain proper elevation in trench. The foam sections will float when vibratory equipment is used to consolidate the concrete when placement is occurring.

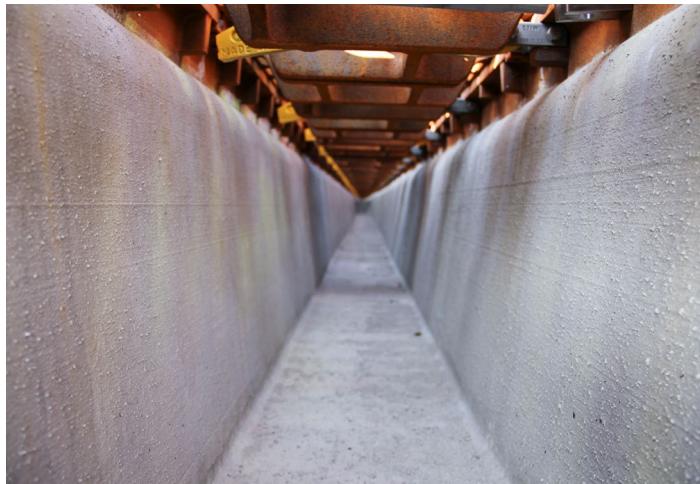
Step 8. Finish concrete as required by project details/plans. Allow concrete to hard cure set (green cure). You can now start to remove surface timber and counterweight materials. The trench can be left with the forming materials in place until several sections are ready for removal. It is recommended that the forms remain installed for at least 48 hours before removal.

Step 9. To remove forming materials, unbolt grate sections and remove them (hinged grates have a self engaging safety arm). Remove center wedge section, then collapse side wall sections. Foam sections are NOT re-usable. Remove 2" x 4" boards from center core sections and dispose of foam in accordance with local laws/ordinances. Sweep up and dispose of any debris that may be remaining in the trench. If additional hardware (lift assist struts) is required, they can be installed in designated sections using provided hardware. To lower the grate, lift the "Yellow" safety arm until the arm "disengages". Lower the grate down until it sits flush in the frame. Do NOT allow the grate to slam shut. Resecure the grates using previously removed hardware.

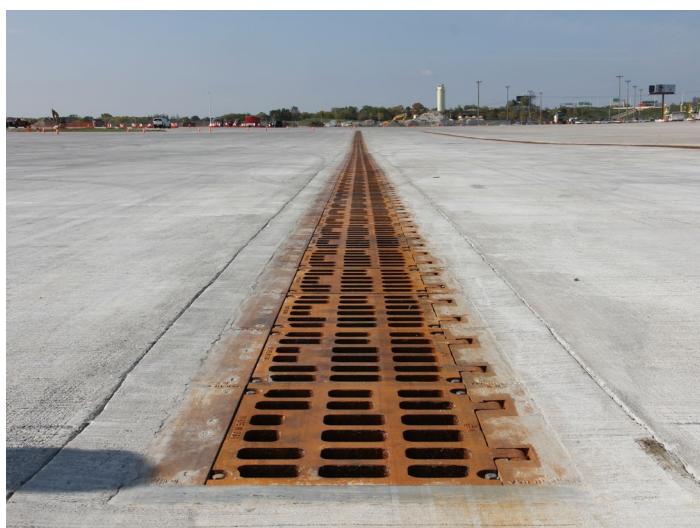
For more information, please call 800 626 4653.



Step 7



Step 8, 9



Step 8, 9