

FreeStyle™ Linear Drain

U.S. Patent No. 8,474,068

Patents Pending: Canada & EP Publication No. 2354339

Installation Instructions

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1. GENERAL INFORMATION

FreeStyle Linear Drain is a low-profile linear drain with flat base and internal slope constructed from one-piece of PVC or ABS with offset or center drain hole location. A membrane clamping collar assures a watertight seal with Noble waterproofing sheet membrane. The FreeStyle Linear Drain is available in 7 drain lengths and with 5 strainer options.

2. PRE-PLANNING

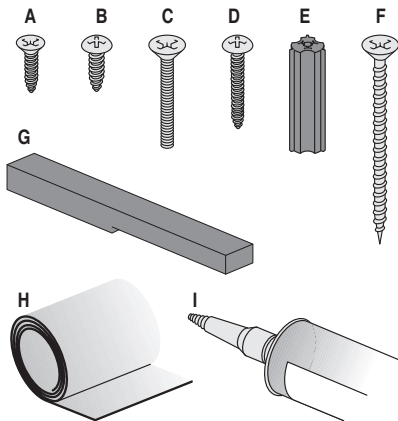
If you are installing one or more of the following, consult instructions for that product:

- Full Mortar Bed Adapter Kit
- Tile Top Strainer
- Connector

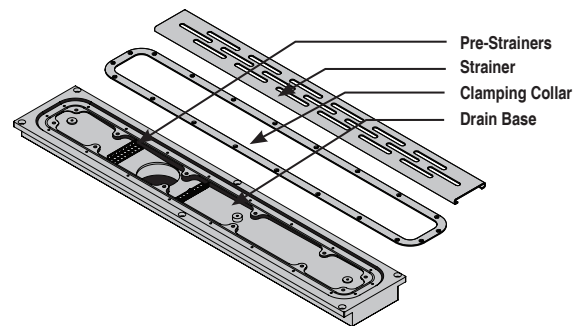
2.1 RECOMMENDED TOOLS:

- Tape measure
- Caulking gun
- Small floor roller
- Margin trowel
- PVC or ABS cement
- Utility knife
- Straight edge
- V-notched trowel ($\frac{1}{8}$ " x $\frac{1}{8}$ " or $\frac{1}{4}$ " x $\frac{1}{4}$ ")
- Square-notched trowel ($\frac{1}{4}$ " x $\frac{3}{8}$ " x $\frac{1}{4}$ ")
- Appropriate plastic pipe primer

Included with all FreeStyle Linear Drains:



- A) Clamping Collar Screw:
#6 $\frac{5}{16}$ " Phillips Flat Head
- B) Pre-Strainer Screw:
#8 $\frac{1}{2}$ " Phillips Pan Head
- C) Strainer Height Adjustment Screw:
#10 1" Phillips Flat Head*
- D) Strainer to Base Screw:
#6 1" Phillips Pan Head
- E) Drain Base to Sub-Floor Concrete
Anchor: 1" Long $\frac{1}{4}$ " Hole
- F) Drain Base to Sub-Floor Screw:
#8 2 $\frac{1}{2}$ " Phillips Course Thread
- G) Strainer Height Adjustment Tool
- H) Noble Sheet Membrane
- I) Tube of NobleSealant



***NOTE:** If tile thickness is greater than $\frac{1}{2}$ inch, a longer strainer height adjustment screw may be required.



3. PREPARATION

Read these instructions completely prior to installation. Test materials and method under job-site conditions to confirm suitability.

- 3.1 SUBSTRATES:** Backer board should be installed prior to the FreeStyle Linear Drain. Substrate condition for base is the same as tile (see TCNA guidelines). Substrate must be flat and level. Floor preparation (i.e., leveling, patching) should be done prior to installation of drain.
- 3.2 DRAIN LOCATION:** Establish a drain location. Size of shower determines size of drain to be used, which determines location of waste pipe through sub-floor. Match 2" I.D schedule 40 pipe type (PVC or ABS) to drain base type.
- 3.3 INSTALLER:** Installer should be familiar with Noble Company's current written instructions, TCNA Handbook recommendations, and ANSI A108 and A118 standards. Contractor should have knowledge of Noble Company products and installation procedures.
- 3.4 INSPECTION:** Substrate must meet requirements set forth by the TCNA and ANSI A108 and A118 standards. Report in writing any deficiencies that might affect performance of the system.
- 3.5 PROCEDURE:** Install FreeStyle Linear Drain.

4. PLANNING & LAYOUT

Refer to Full Mortar Bed Instructions when installing a full mortar bed. Curbless installation requires additional design considerations.

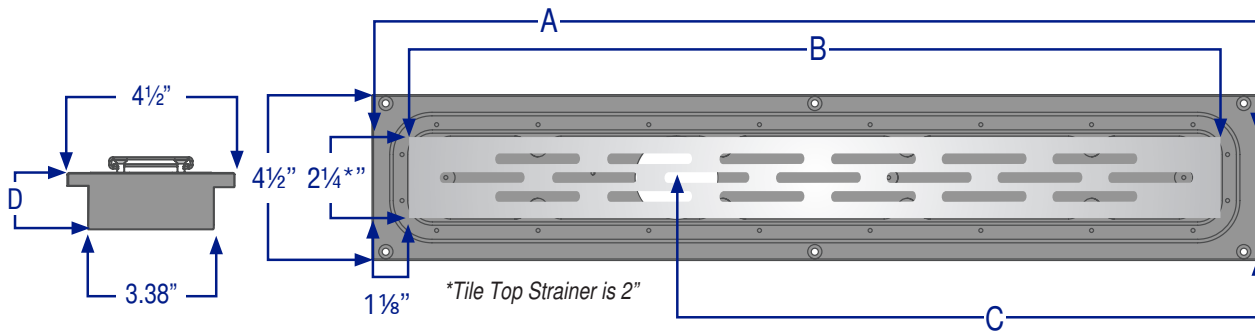
NOTE: Strainer length is shorter than drain body.

NOTE: If tile thickness is greater than 1/2 inch, a longer strainer height adjustment screw may be required.

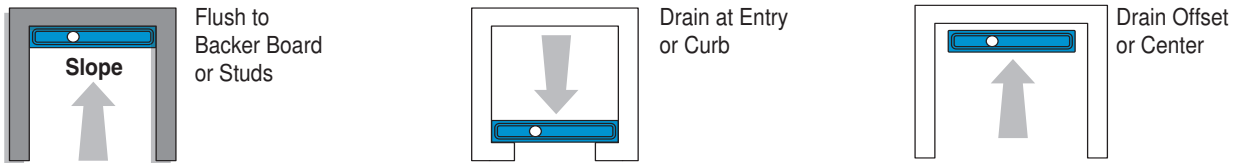
The FreeStyle Linear Drain is available in 7 drain lengths. Below is a chart showing the dimensions for:

A: Drain Length	A	24"	32"	36"	40"	48"	54"	60"
B: Strainer Length*	B	21 3/4"	29 3/4"	33 3/4"	37 3/4"	45 3/4"	51 3/4"	57 3/4"
C: Offset Hole Center**	C	15 3/4"	19 1/2"	21 3/4"	23 3/4"	27 3/4"	30 3/4"	33 3/4"
D: Thickness	D	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"

*Deduct 3/8" for Tile Top Strainers **For Center outlet hole location, divide A in half.



DRAIN LOCATION CONSIDERATIONS



ALTERNATE DRAIN MOUNTING METHODS



4. INSTALL DRAIN BASE

4.1 WASTE PIPE

4.1.a NO WASTE PIPE INSTALLED: Place drain base in the desired location on the subfloor. Mark the waste pipe location on the sub-floor. Cut an opening in the sub-floor to access the plumbing below. Follow local plumbing codes to properly install and secure 2" I.D. waste pipe 3/4" above the sub-floor and center pipe a minimum 2 1/4" from wall.

NOTE: Waste pipe may be installed after fastening the drain base if plumbing is accessible from below.

4.1.b WASTE PIPE PRE-INSTALLED: Dry fit drain base over location of existing waste pipe. It may be necessary to move the location of the plumbing to allow for proper installation of the drain body.

4.2 FASTEN DRAIN BASE TO SUBFLOOR

4.2.a FOR CONCRETE SUB-FLOORS: Dry fit the drain base over the location of the existing waste pipe. Mark all holes in outside flange of the drain base onto the concrete floor. Remove the drain base and drill 1/4" holes, 1 1/2" deep where marked. Drive plastic anchors flush in all holes.

Apply appropriate plastic pipe primer and cement to drain body and waste pipe following local plumbing codes and manufacturer's instructions. Fit and fully seat the drain base onto the waste pipe. Fasten drain base to sub-floor by screwing 2½" deck screws through all holes in the outside flange of the drain base into the plastic anchors. **Do not over tighten.**

4.2.b FOR WOOD SUB-FLOORS ONLY: Dry fit the drain base over the location of the existing waste pipe. Apply appropriate plastic pipe primer and cement to drain body and waste pipe following local plumbing codes and manufacturer's instructions. Fit and fully seat the drain base onto the waste pipe. Fasten drain base to sub-floor by screwing 2½" deck screws through all holes in the outside flange of the drain base. **Do not over tighten.**



5. INSTALL SLOPE

5.1 **PROBASE® II (Preferred):** Refer to ProBase II Installation Instructions.

5.2 **SLOPED MORTAR BED:** Protect drain base, install sloped mortar bed according to manufacturer's instructions. Use products recommended for the type of slope being installed. Follow industry standards to complete sloped mortar bed installation. Be certain mortar completely fills void below drain base flange. Allow to dry before proceeding.

5.3 **FULL MORTAR BED:** Refer to Full Mortar Bed Installation Instructions.

6. INSTALL NOBLE SHEET MEMBRANE

6.1 **MEASURE AND CUT:** Measure the shower floor, adding 2" for each upturn onto walls and Curbs. Cut Noble sheet membrane to measurements. Fold and crease the sheet, then dry fit to the shower floor. Remove sheet.

6.2 **APPLY BONDING AGENT:** Spread adhesive with the appropriate trowel to achieve coverage (e.g., ⅛" - ¼" v-notch) onto base and upturns.

6.3 **EMBED SHEET:** Embed Noble sheet membrane into bond coat (flatten all ridges).



7. SECURE NOBLE SHEET MEMBRANE TO DRAIN

7.1 **TEMPORARILY INSTALL CLAMPING COLLAR:** Align the clamping collar with the drain base under the membrane and press firmly to embed. Starting at one end, insert ⅝" screw through collar, piercing membrane, and into drain base. Install two screws on each end using a screw driver or low-torque cordless drill. **Do not over tighten.**

7.2 **CUT AWAY NOBLE SHEET MEMBRANE:** Cut away membrane from inside of the clamping collar. Remove the four ⅝" screws and clamping collar and set aside.

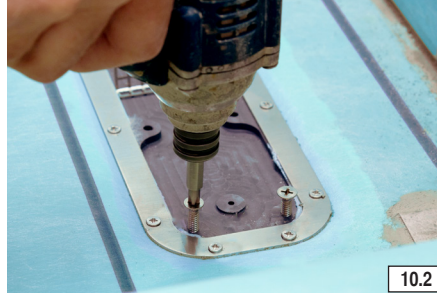
7.3 **APPLY NOBLESEALANT:** Apply ¼" continuous bead of NobleSealant under the membrane and next to the chamfer on the drain base.

7.4 **REINSTALL CLAMPING COLLAR:** Reattach the clamping collar to the drain base using all of the ⅝" screws.

NOTE: Some NobleSealant may squeeze out. Allow to dry and carefully peel away with a knife.



8. **PROTECTION OF SHEET:** After installation, sheet must be kept clean to enable tile adhesive to bond. If not covered by wearing surface, protect the installed sheet from damage and all foot traffic (use mortar skim coat, rugs, plywood, etc.).
9. **FLOOD TESTING:** Allow sufficient time for curing, typically 24 hours. Flood test in accordance with local plumbing code requirements.
10. **COMPLETE FREESTYLE LINEAR DRAIN INSTALLATION**
 - 10.1 **INSTALL PRE-STRAINERS:** Place short leg of pre-strainer down, facing drain hole. Align strainer and install ½" pan head screw.
NOTE: On 24" drain, place long leg of Pre-Strainer down, and secure in place.
 - 10.2 **INSTALL HEIGHT ADJUSTMENT SCREWS:** Screw in all 1¼" flat head height adjustment screws to approximately ¾" above the clamping collar.
 - 10.3 **TEMPORARILY ATTACH STRAINER:**
NOTE: If using a Tile-Top strainer, refer to separate instruction sheet included with strainer.
Place strainer over height adjustment screws. Temporarily fasten with 1" pan head screws. **Do not over tighten.**
NOTE: Strainer attachment holes are not symmetrical. If screws do not align with holes in the drain base, turn the strainer.



- 10.4 **TILE AND GROUT:** Protect the strainer with tape. Allow for a 1/16" clearance between the strainer and the tile. Tile and grout all surfaces in accordance with TCNA Handbook recommendations, ANSI A108 standards, and bond coat manufacturer's directions. Complete coverage of NobleSeal by the bond coat is required. Allow additional cure time (approximately 50%) when installed over NobleSeal.
NOTE: If tiling with 2" x 2" or smaller tiles, use epoxy grout.
- 10.5 **ADJUST HEIGHT ADJUSTMENT SCREWS:** Remove strainer. Remove tape from strainer. Place thin end of height adjustment tool on the tile and rest other end on height adjustment screws. Adjust the screws for level.
- 10.6 **REINSTALL STRAINER:** Clean and polish strainer with a Tub O' Towel. Place strainer over height adjustment screws. Confirm that strainer is flush with tile. Fasten three 1" pan head screws. **Do not over tighten.**
11. **CLEANING DRAIN:** To clean drain, remove 3 screws in top of strainer. Clear any hair or other obstructions from drain.
 - 11.1 **RE-ATTACH STRAINER:** Place strainer over height adjustment screws. Replace all three screws. **Do not over-tighten.**
NOTE: Strainer attachment holes are not symmetrical. If screws do not align with holes in drain base, turn the strainer.
12. **LIMITATIONS:** For applications or procedures not specifically detailed in these installation instructions, contact Noble Company. Installation must follow TCNA recommendations and appropriate industry standards.
For any applications or procedures not covered in these instructions, contact Noble Company.