Installation of FreeStyle Linear Drain™ with Full Mortar Bed Adapter Kit
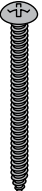
Discard Linear Drain installation instructions and refer to these instructions for Full Mortar Bed Adapter Kit. Carefully review all installation options and instructions before proceeding.

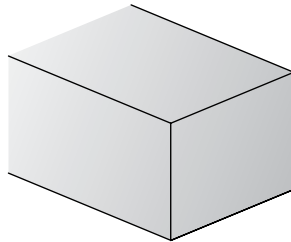## Full Mortar Bed Adapter Kit Hardware and Materials

Bracket Screw
#8 1/2" Phillips Pan Head Screws

Strainer Height Adjustment Screw
#10 2-1/2" Phillips Flat Head Screws. **Note:** Replaces Strainer Height Adjustment Screws from FreeStyle Linear Drain
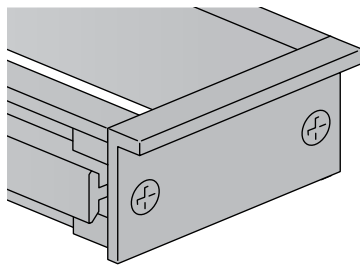
Strainer to Base Screw
#6 2-1/4" Phillips Pan Head Screws. **Note:** Replaces Strainer to Base Screws from FreeStyle Linear Drain
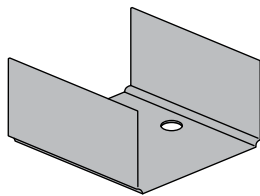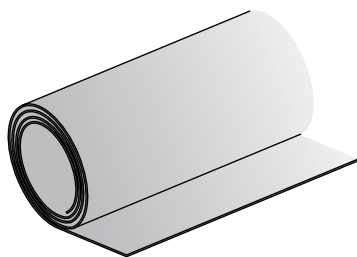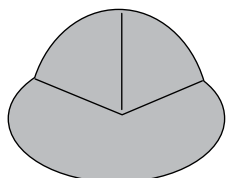
Brackets

Foam Block

Mortar Guard

Shower Pan Liner
Square footage amount ordered separately based on shower size. Must comply with state and local codes **Note:** Replaces NobleSeal® Flashing from FreeStyle Linear Drain

Outside Corner
Select outside corner material to match Shower Pan Liner material, PVC or CPE. Outside Corners ordered separately.
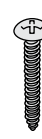
FreeStyle Linear Drain (Ordered Separately) Includes:

- Pre-Strainers
- Strainer
- Clamping Collar
- Drain Base
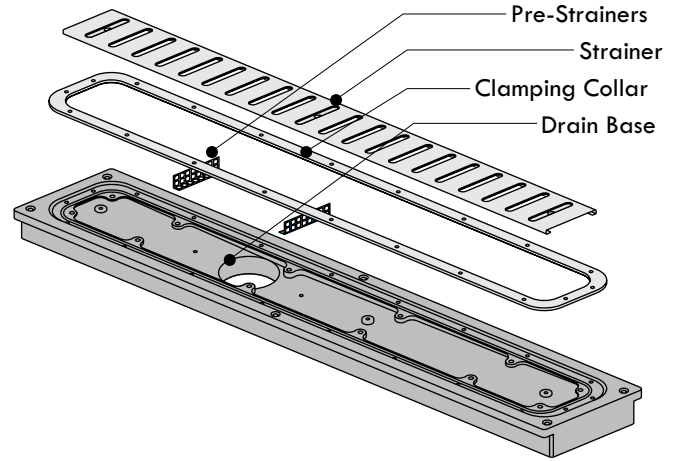
Hardware and Materials
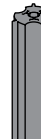
Pre-Strainer Screw
#8 1/2" Phillips Pan Head Screws

Clamping Collar Screw
#6 5/8" Phillips Flat Head Screws

Strainer to Base Screw
#6 1" Phillips Pan Head Screws. **Note: Will not be used with Full Mortar Bed Kit.**

Strainer Height Adjustment Screw
#10 1-1/4" Phillips Flat Head Screws. **Note: Will not be used with Full Mortar Bed Kit.**

Base to Sub-Floor Screw
#8 2-1/2" Phillips Course Deck Screws

Base to Sub-Floor, Concrete Anchor
1" Long 1/4" Hole
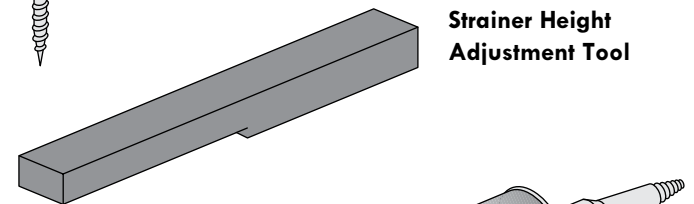
Strainer Height Adjustment Tool

Tube NobleSealant 150

NobleSeal™ Flashing

Note: Shower Pan Liner will be used to waterproof entire shower, this flashing will not be needed.

1

Pre-Planning

Be certain to gather all required tools and materials required prior to installation.

Sub Floor
Caution: Sub floor must meet local code requirements and Tile Council of North America (TCNA) guidelines.

Clean sub floor to be sure it is smooth and level.

Pre-Sloped and Full Mortar Bed Requirements
Follow manufacturers instructions.
Use products recommended for the type of sloped bed being installed.
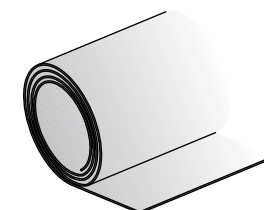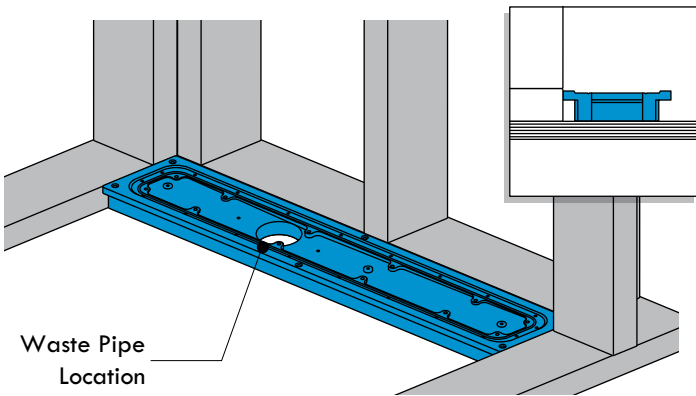
FreeStyle Linear Drain assembly is intended to install tight to toe plate and studs within shower prior to installation of mortar bed, backer board, waterproofing and tile.

Waste Pipe Location

If FreeStyle Linear Drain assembly is installed inside toe plates within shower, add a properly sloped mortar bed to fill the space between the toe plates and the drain base.
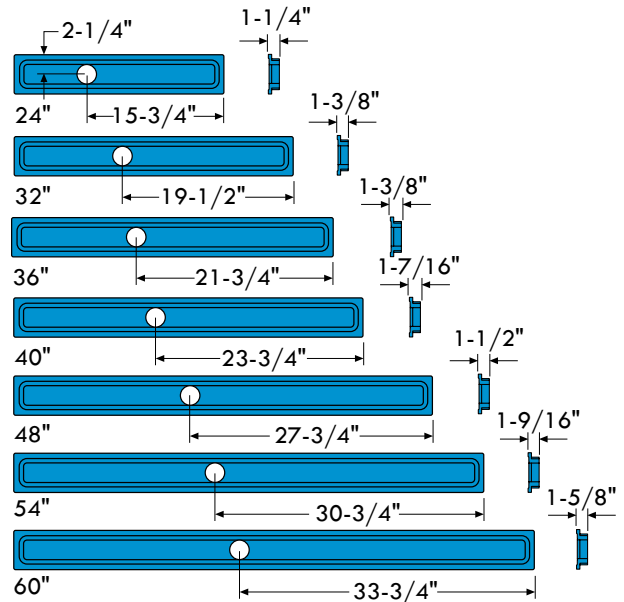
Fill

Waste Pipe Location

Fill
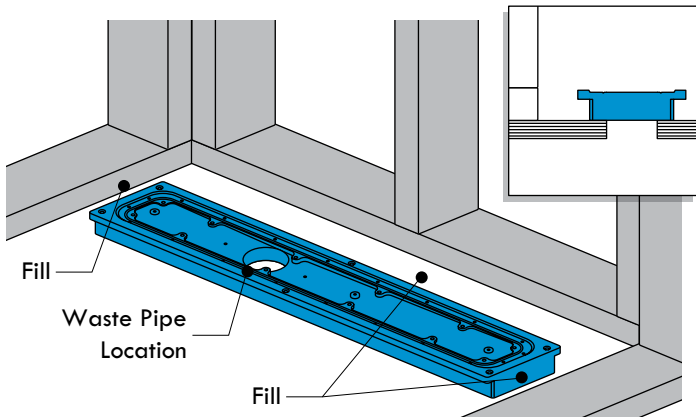
Note: If you are planning to install two drains, side-by-side, refer to Strainer Connector Kit Installation Instructions. The drain bases must be installed 1/4" apart and be "in plane." It may be necessary to use shims, mortar, etc. under the shorter drain to achieve an "in plane" surface alignment with the other drain.

Drain Sizes

Confirm Drain Size, Waste Pipe Type and Waste Pipe Location
Drain hole is off-set to accommodate floor joist 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.

24" — 2-1/4" — 15-3/4" — 1-1/4"
32" — 19-1/2" — 1-3/8"
36" — 21-3/4" — 1-3/8"
40" — 23-3/4" — 1-7/16"
48" — 27-3/4" — 1-1/2"
54" — 30-3/4" — 1-9/16"
60" — 33-3/4" — 1-5/8"

Typical Drain Locations
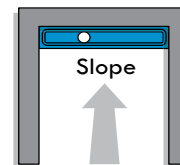
Drain at Back Wall
Slope
Flush to back wall.
Layout 1
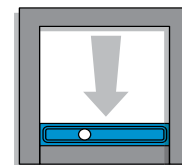
Drain at Full Curb Entry
Flush to curb.
Layout 2

Drain at Partial Width Curb
Flush to curb.
Layout 3

Drain at Curb-less Entry
Flush to both side walls.
Layout 4

Drain On Center
Flush to both side walls.
Layout 5

① *Wall Preparation*

Blocking

Blocking between studs may be needed for Shower Pan Liner attachment prior to drain installation.

Blocking

Sub-Floor

② *Sub-Floor Preparation*

Caution: Confirm that sub-floor meets all local code requirements and the Tile Council of North America's (TCNA) guidelines.
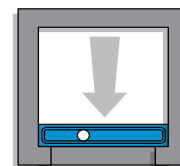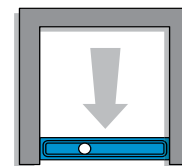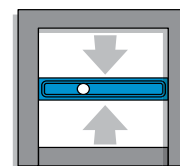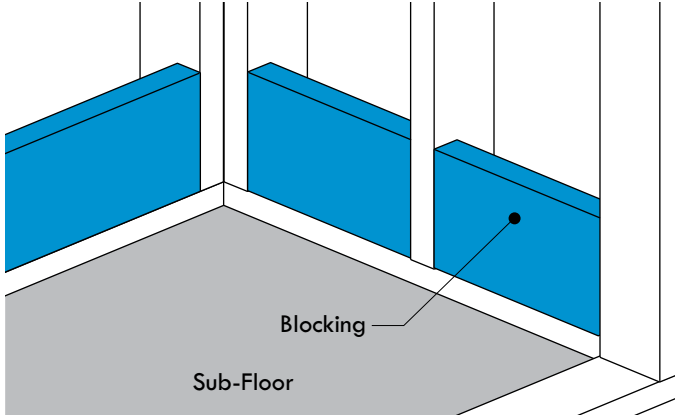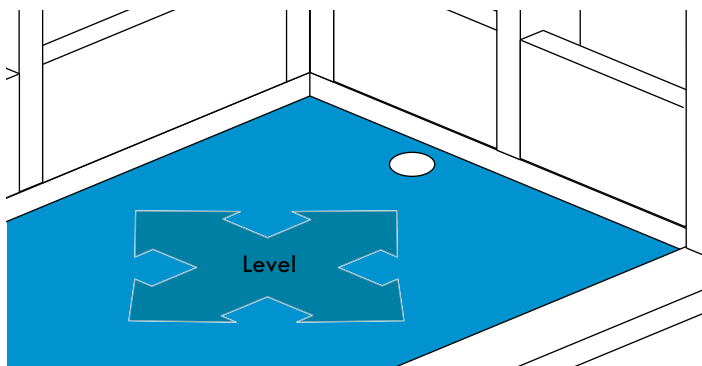
Check for Level. Clean

Sub-floor must be smooth and level.
Clean sub-floor.

Level

③ *Waste Pipe*

No Waste Pipe Installed

A **Place, Mark and Cut**

Place drain base in desired location on sub floor. Mark waste pipe location on sub-floor. Cut opening in sub-floor to access plumbing below.

Mark   Cut Hole

Place
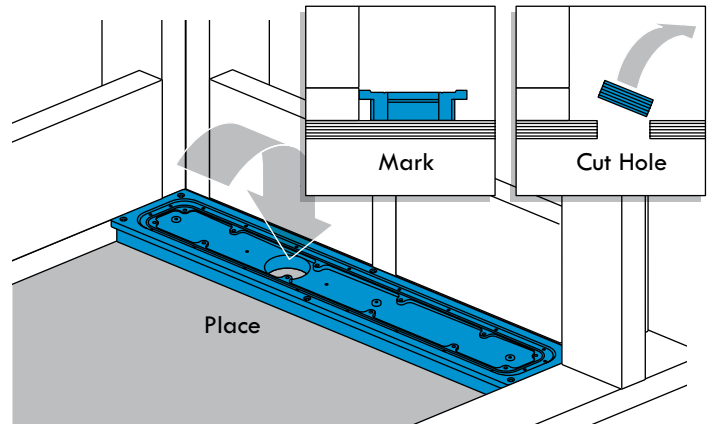
Install Waste Pipe

Follow local plumbing codes to properly install and secure 2" I.D. waste pipe 3/4" above sub-floor. **Note:** Waste pipe may be installed after fastening drain base if accessible from below.

2-1/4"

3/4"

2" I.D. Pipe
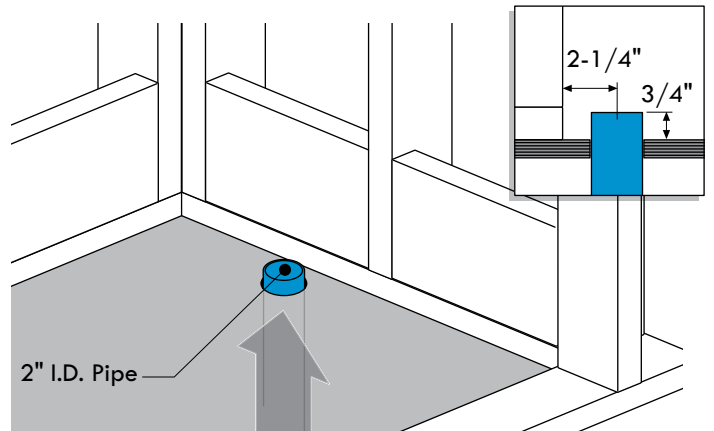
B **Waste Pipe Pre-Installed**

Dry fit drain base over location of existing waste pipe. If location does not allow drain base to fit flush against at least 2 shower walls, move location of plumbing to allow for proper installation. May also require moving existing studs and toe plate.

Dry Fit

3/4"

Must fit Flush to Sub-Floor

Waste Pipe
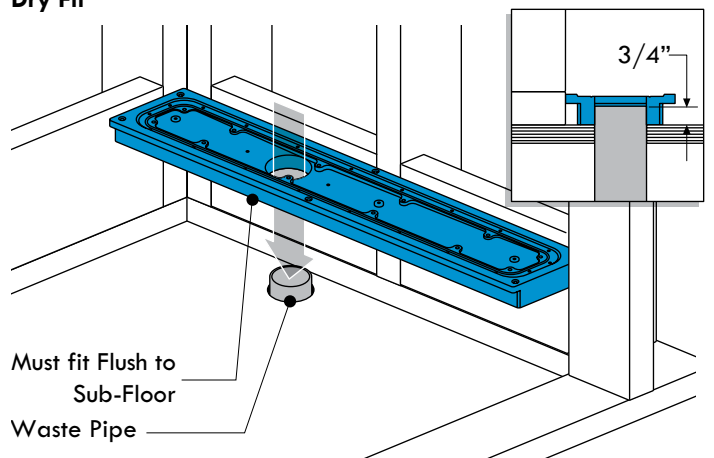
Alternate Drain Mounting Methods

Recessed mount in concrete substrate

Recessed mount in wood subfloor

4 Preparation for Pre-Sloped Bed

Mark Bed Slope
1/4" per foot slope to drain is required.

Studs

1/4" Per Foot Slope

Mark

Front Edge of Drain Base

5 Fasten Drain Base to Sub-Floor

For Concrete Sub-Floor A & B
For Wood Sub-Floor B only

A Mark For Anchors

Dry fit drain base over waste pipe. Mark all holes in outside flange of drain base on concrete floor. Remove drain base. Drill 1/4" holes, 1-1/2" deep where marked. Drive plastic anchors flush in all holes.
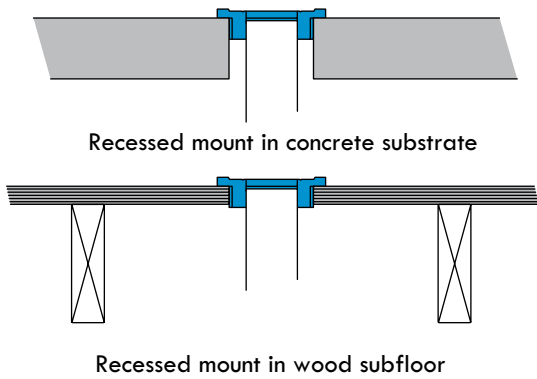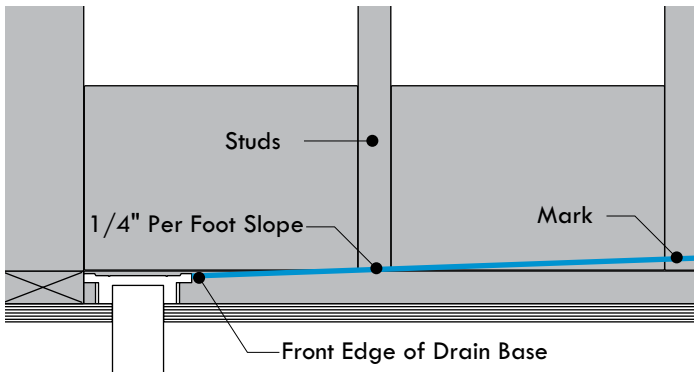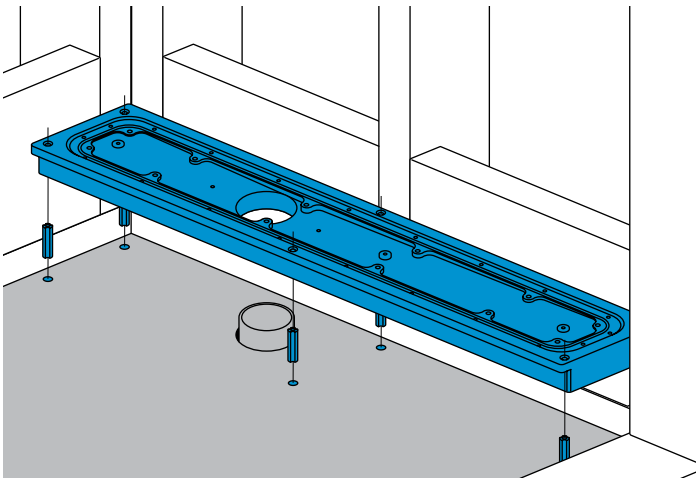
5 Continued. Fasten Drain Base to Sub-Floor

B Install Drain Base to Waste Pipe and Sub-Floor

Caution: Confirm proper plastic pipe cement and primer for drain base type (PVC or ABS). Check drain base label to confirm.

Apply appropriate plastic pipe cement and primer to drain and waste pipe following local plumbing codes and manufacturers instructions.

Fit and fully seat drain base onto waste pipe.

Fasten drain base to sub-floor by screwing 2-1/2" deck screws through all holes in outside flange of drain base into plastic anchors or directly into wood sub-floor. **Do not over-tighten.**
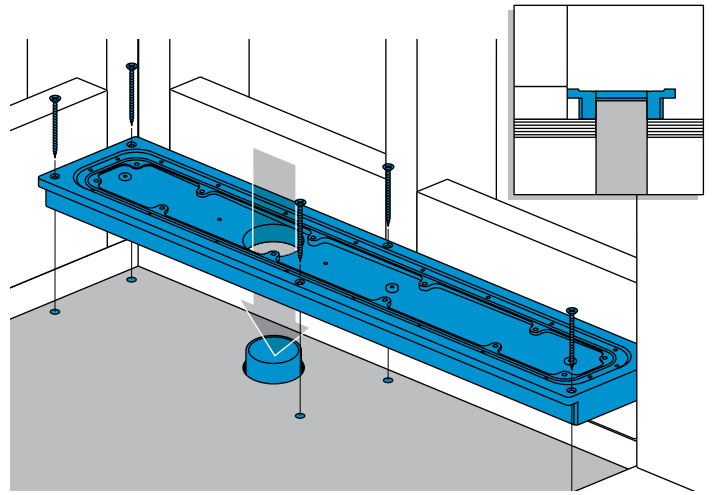
6 Pre-Sloped Bed Installation

Protect Drain Base.
Apply tape over entire top surface of drain base.

Install Pre-Sloped Bed
Follow industry standards to complete pre-sloped bed installation. If using mortar, be certain mortar completely fills void below drain base flange. Allow to dry before proceeding.

Tape

Pre-Sloped Bed

Making Corners

Tucked Corner (when space is available between studs)
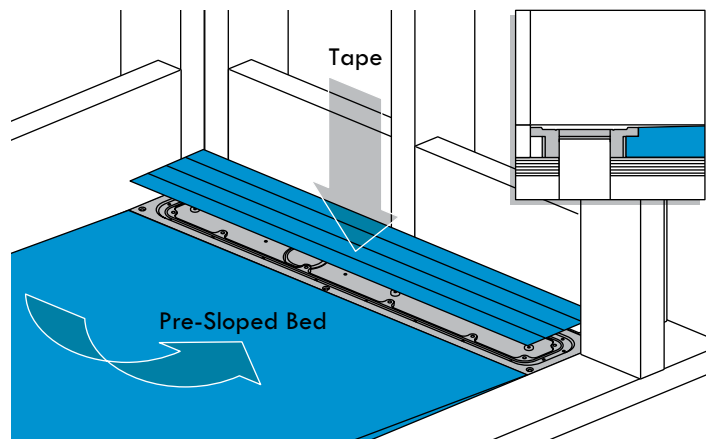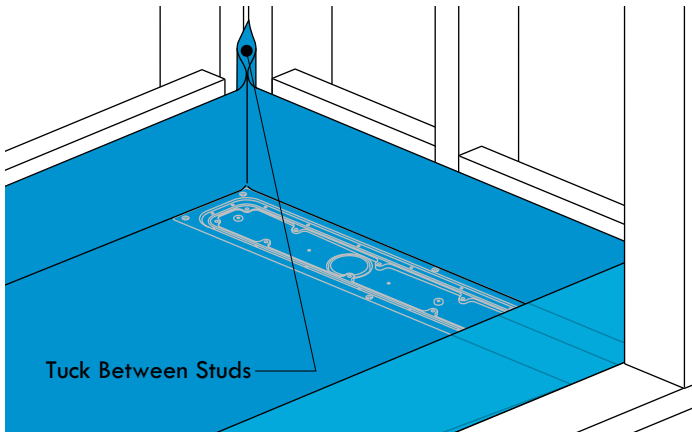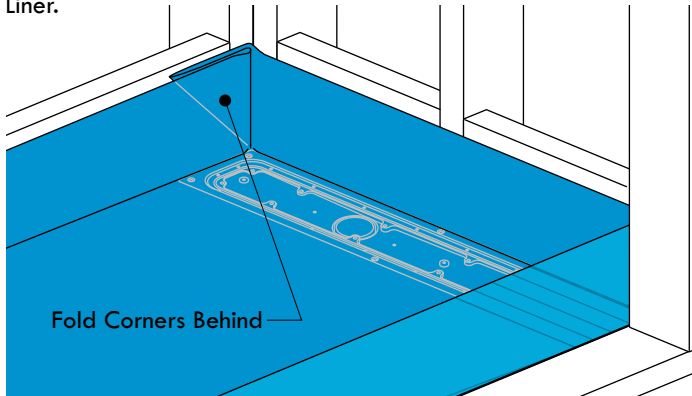Fold and crease to size. Tuck Shower Pan Liner into space between studs.

Tuck Between Studs

Folded Corner
Fold and crease to size. Fold corners behind Shower Pan Liner.
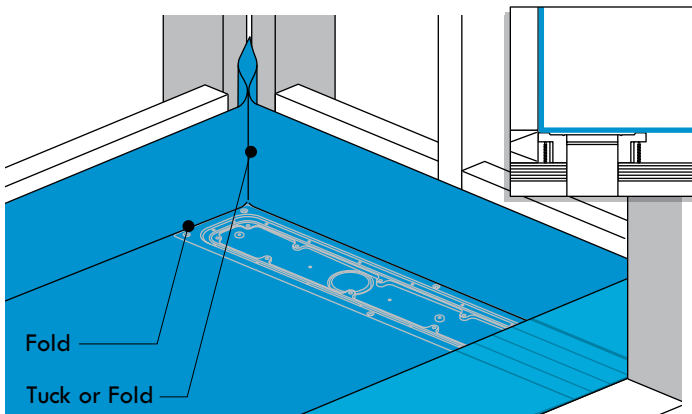

Fold Corners Behind

7 Prepare Shower Pan Liner

Drain at Back Wall Layout 1

Shower Pan Liner must turn up the walls a minimum of 3" above finished shower curb and 6" above floor in showers without curbs.

Measure width of shower floor across drain base. Lay Shower Pan Liner flat. Measure and mark Shower Pan Liner.

Fold and crease for upturns and create corners. **Note:** Do not secure Shower Pan Liner at this time.

Fold

Tuck or Fold

7 Continued. Prepare Shower Pan Liner

Drain at Full Curb Entry Layout 2

Shower Pan Liner must turn up the walls a minimum of 3" above finished shower curb and 6" above floor in showers without curbs.

Prior to installing Shower Pan Liner, install pre-formed outside corners available separately from Noble Company following manufacturer's instructions. 2 per side.

Measure width of shower floor across drain base. Measure up and over curb. Lay Shower Pan Liner flat. Measure and mark Shower Pan Liner.

Cut, fold and crease to proper size and fit. **Note:** Do not secure Shower Pan Liner at this time.

Note: Noble Curb may also be used. See manufacturer's instructions.

Inside Shower

6" min.

Outside Corners Under Membrane

Outside Shower

3" min.

Outside Corners Under Membrane

Drain at Partial Width Curb Layout 3

Shower Pan Liner must turn up the walls a minimum of 3" above finished shower curb and 6" above floor in showers without curbs.
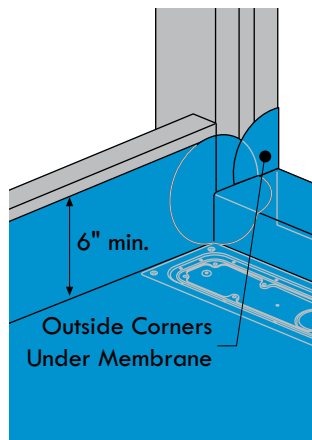
Prior to installing Shower Pan Liner, install pre-formed outside corners available separately from Noble Company following manufacturer's instructions. 2 per side.

Measure width of shower floor across drain base. Measure up and over curb. Lay Shower Pan Liner flat. Measure and mark Shower Pan Liner.
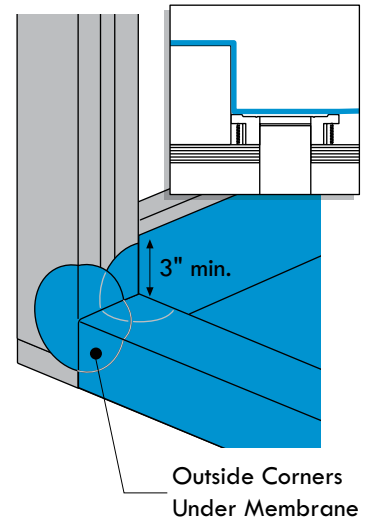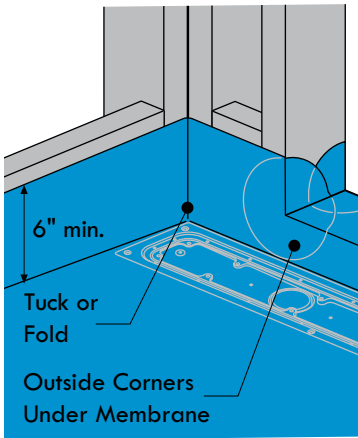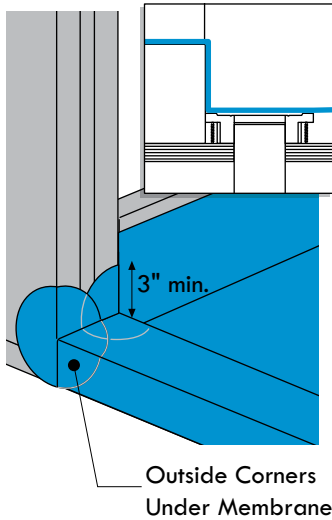
Cut, fold and crease to proper size and fit. **Note:** Do not secure Shower Pan Liner at this time.

Note: Noble Curb may also be used. See manufacturer's instructions.

Inside Shower   **Outside Shower**

6" min.

Tuck or Fold

Outside Corners Under Membrane

3" min.

Outside Corners Under Membrane

Drain at Curb-less Entry Layout 4

Shower Pan Liner must turn up the walls a minimum of 3" above finished shower curb and 6" above floor in showers without curbs.

Prior to installing Shower Pan Liner, install pre-formed outside corners as needed, available separately from Noble Company following manufacturer's instructions.

Measure width of shower floor across drain base. Lay Shower Pan Liner flat. Measure and mark Shower Pan Liner.

Cut, fold and crease to proper size and fit. **Note:** Do not secure Shower Pan Liner at this time.

Inside Shower   **Outside Shower**

6"

Fold Outside Corners Under Membrane

Fold Outside Corners Under Membrane
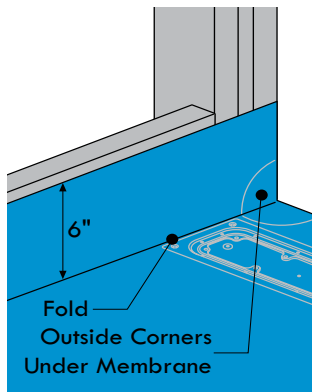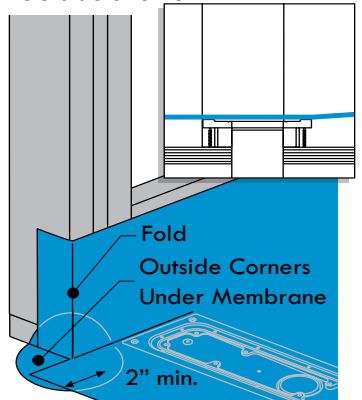
2" min.

Drain On Center Layout 5

Shower Pan Liner must turn up the walls a minimum of 3" above finished shower curb and 6" above floor in showers without curbs. Prior to installing Shower Pan Liner, install pre-formed outside corners as needed, available separately from Noble Company following manufacturer's instructions.

Measure width of shower floor across drain base. Lay Shower Pan Liner flat. Measure and mark Shower Pan Liner.

Fold and crease for upturns. **Note:** Do not secure Shower Pan Liner at this time. Noble Curb may also be used. See manufacturer's instructions.
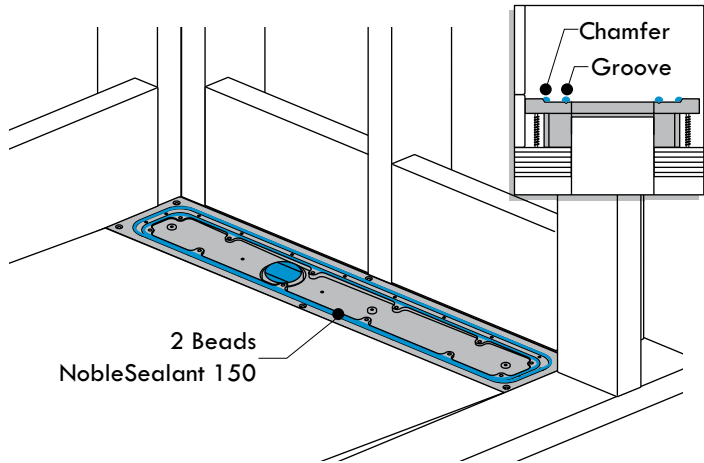

6"

Fold
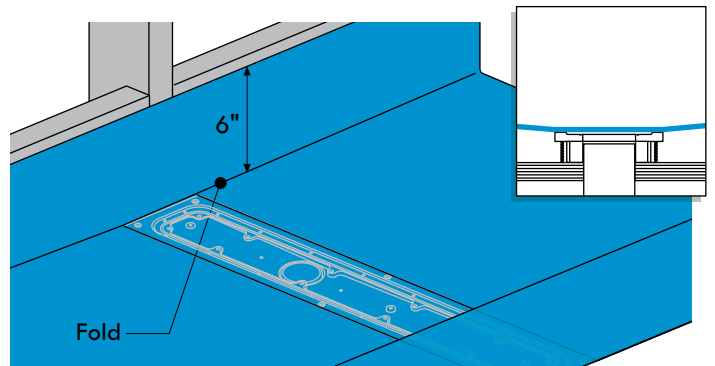
8 Secure Shower Pan Liner

A Seal Drain Base

Lift out Shower Pan Liner. Remove tape, leaving tape over drain hole only.

Apply a 1/8" continuous bead of NobleSealant 150 around chamfer on base flange and another bead in groove on drain base.
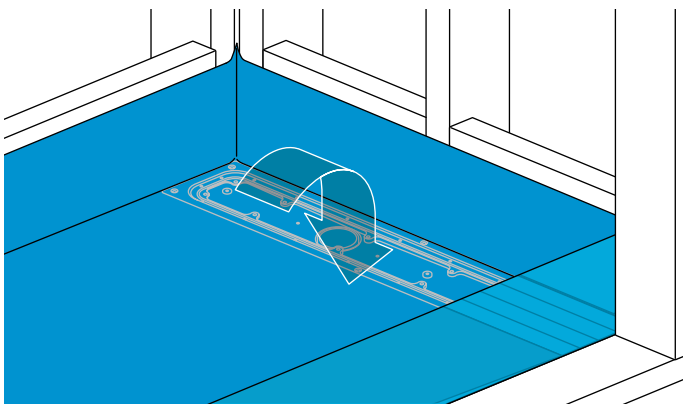

Chamfer
Groove

2 Beads
NobleSealant 150

B Pre-Formed Corners

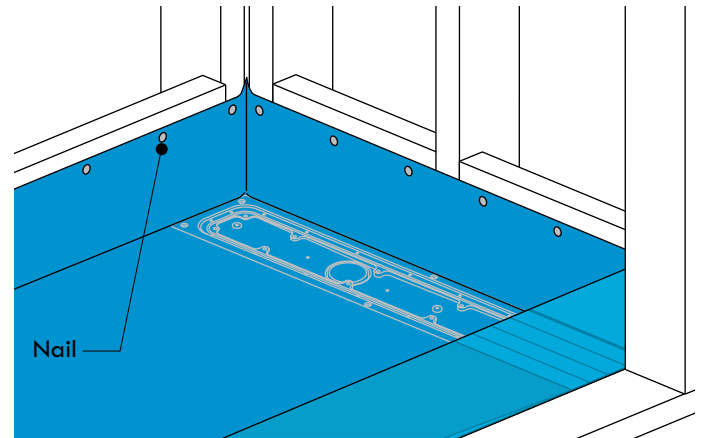Apply NobleSealant 150 to any pre-formed corners.

C Press Shower Pan Liner into Sealant

Align Shower Pan Liner, fit or re-tuck corners and firmly press Liner into sealant on drain base and any pre-formed corners.
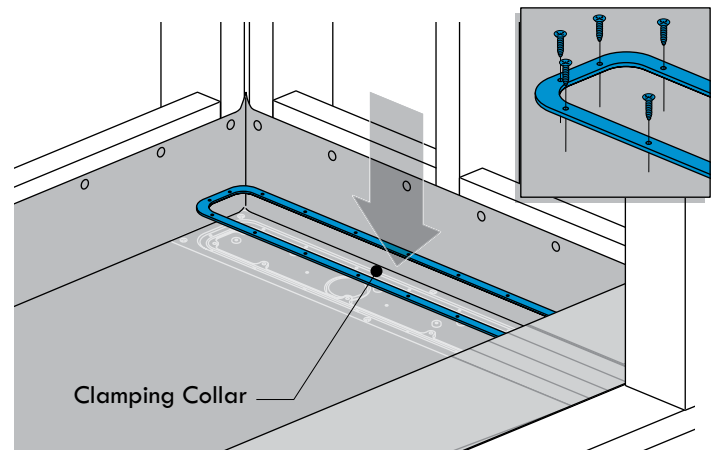

9 Fasten Shower Pan Liner

Nail through top 1" of Shower Pan Liner to studs and/or blocking.

Nail

10 Install Clamping Collar

Align collar with drain base under Shower Pan Liner. Press firmly. Starting at one end, insert 5/8" screw through collar, punch through Shower Pan Liner and screw into base. Repeat for all screws.
Do not over-tighten.

Clamping Collar

11 Cut Out Flashing

With a razor knife, carefully trim out Shower Pan Liner from center of collar. Remove tape from drain hole. **Caution:** Do not puncture Shower Pan Liner outside of collar.

Cut Out Flashing
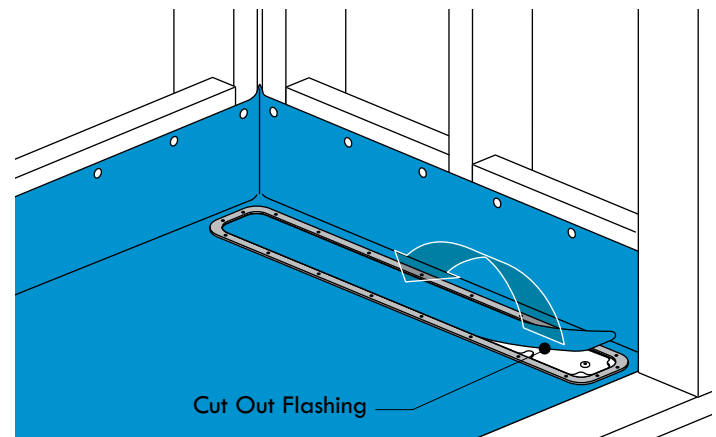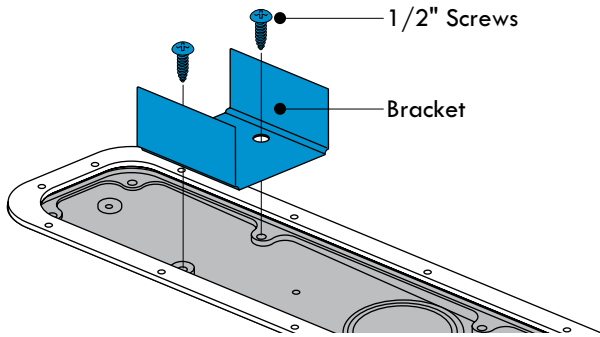
12 Flood Test

Flood test as required by local codes.

13 Drain

Drain and dry after successful flood test.

14 Install Brackets

Align holes in Bracket with second set of holes in from end of drain base. Attach using two 1/2" screws. Repeat for opposite end of drain base. **Do not over-tighten screws.**
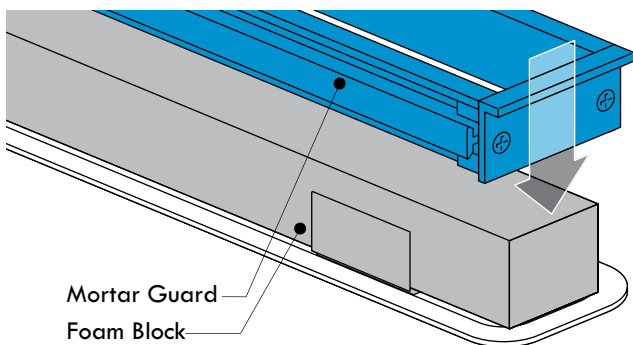
1/2" Screws

Bracket

15 Install Foam Block

Lay Foam Block in brackets and align ends of foam with inside edge of Clamping Collar.

Align

Foam Block
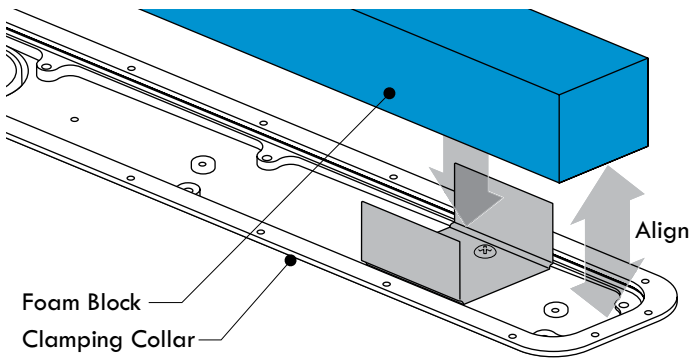
Clamping Collar

16 Install Mortar Guard

Install Mortar Guard over Foam Block and Brackets. Center end to end over Clamping Collar. Fully seat Mortar Guard to Clamping Collar on Drain Base.

Mortar Guard

Foam Block

17 Install Mortar Bed

Follow industry standards to install mortar bed flush to top of Mortar Guard 1-1/4" thick. Pack mortar into top and bottom of T-Channels to lock Mortar Guard in place. Be certain to maintain uniform thickness within entire bed. Allow to dry before proceeding.

Full Mortar Bed

1-1/4" Thick

T-Channel
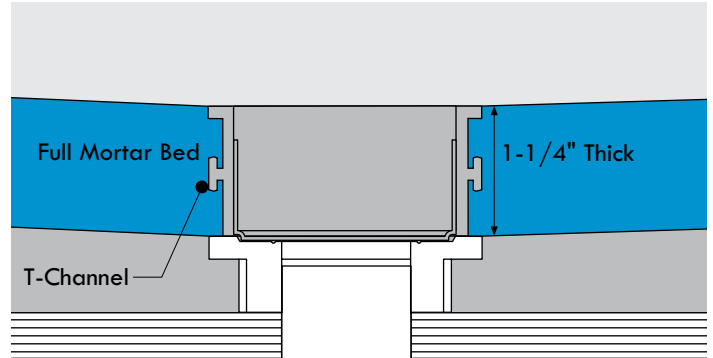
18 Remove Foam Block and Brackets

Carefully remove Foam Block. Remove Bracket Screws and Brackets.
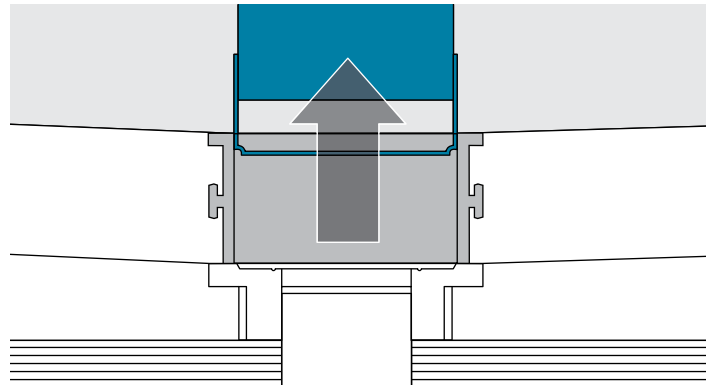
19 Install Backer Board and Wall Waterproofing

Note: Plumbing codes and TCNA guidelines state that shower walls must be sealed with a vapor barrier or waterproofing membrane.

Install 1/2" backer board and wall waterproofing according to manufacturer's instructions.

Caution: Do not puncture Liner.

20 Install Pre-Strainers

Place short leg of Pre-Strainer down, facing drain hole. Install 1/2" pan head screw, align strainer and tighten screw. Repeat for opposite strainer.

Note: On 24" drain, place long leg of Pre-Strainer down, facing drain hole.

1/2" Screws
Pre-Strainer
Short Leg
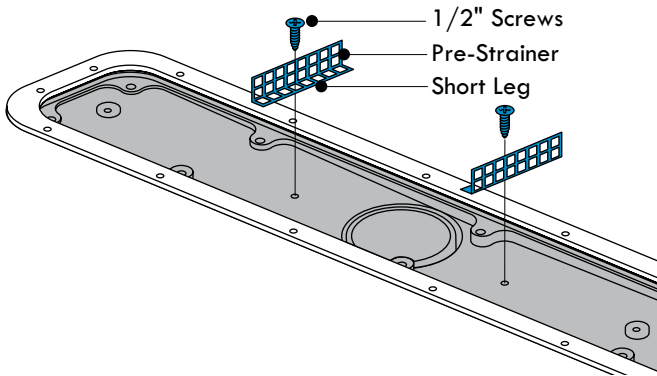
21 Install Height Adjustment Screws

Screw in all 2-1/2" flat head height adjustment screws to approximately 1-5/8" above the clamping collar.

2-1/2" Screws from Full Mortar Bed Adapter Kit

1-5/8"

1-5/8"

Clamping Collar
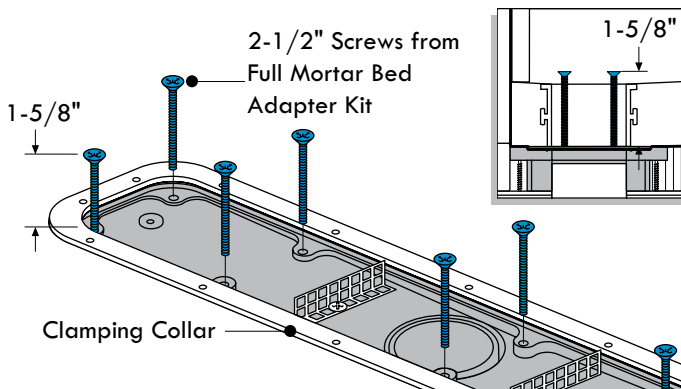
22 Temporarily Attach Strainer

Note: Strainer attachment holes are not symmetrical. If screws do not align with holes in drain base, turn strainer end-to-end.

Place strainer over height adjustment screws. Temporarily fasten with three 2-1/4" pan head screws. **Do not over-tighten.**
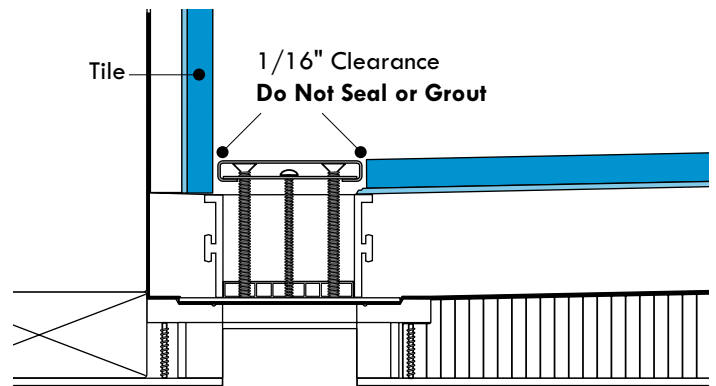
2-1/4" Screws from Full Mortar Bed Adapter Kit
Strainer
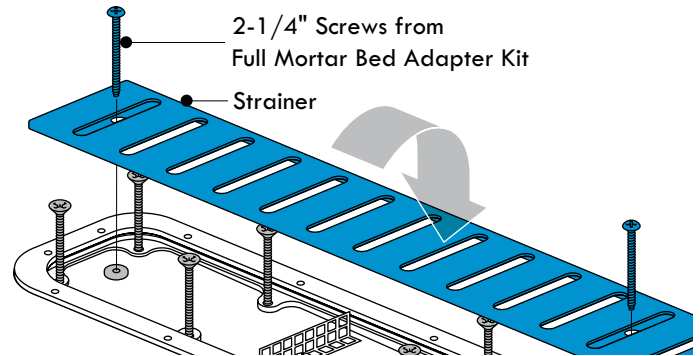
23 Tile and Grout

Be certain strainer is protected with tape.

Allow for 1/16" clearance between strainer and tile.

Caution: Do not grout or seal this space.

Tile and grout all surfaces following manufacturer's instructions and TCNA guidelines.

Tile
1/16" Clearance
Do Not Seal or Grout

24 Adjust Strainer Height

Remove strainer. Remove tape from strainer. If factory installed film, start peeling at one end of strainer. Peel side to side (saw tooth pattern) to other end of strainer. Remove remaining residue by wiping with a soft cloth and WD40™ or Goo Gone™.

Place thin end of height adjustment tool on tile and rest other end on height adjustment screw. Adjust screw for level. Repeat for all height adjustment screws.
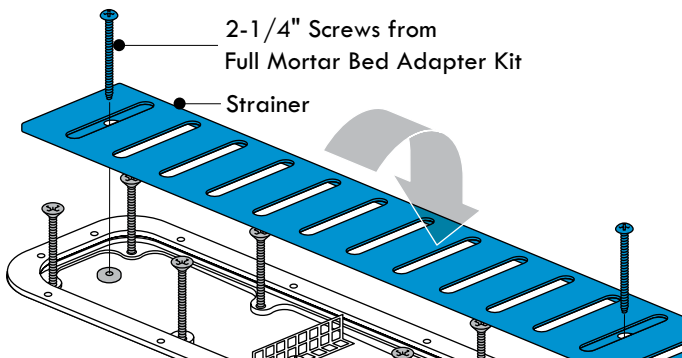
Remove Strainer

Height Adjustment Tool
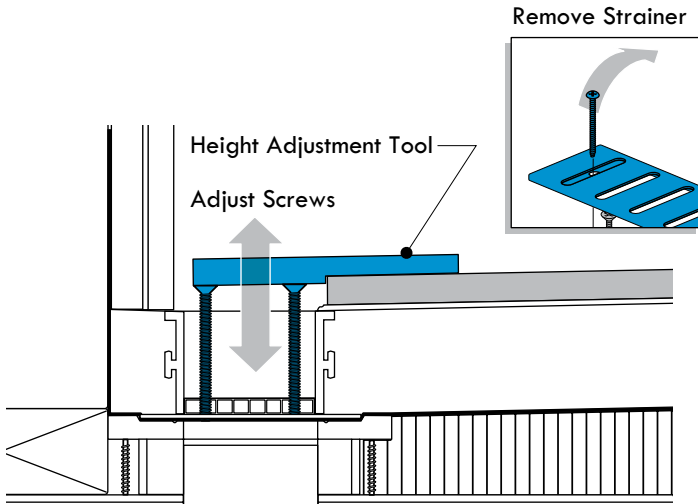
Adjust Screws

25 Re-Install Strainer

Note: Strainer attachment holes are not symmetrical. If screws do not align with holes in drain base, turn strainer end-to-end.

Place strainer over height adjustment screws. Confirm that strainer is flush with all tiles. Fasten with three 2-1/4" pan head screws.
Do not over-tighten.

2-1/4" Screws from
Full Mortar Bed Adapter Kit

Strainer

Other shower products available from Noble Company.
Visit noblecompany.com

NobleSeal TS waterproofing liner
Noble CPE outside corners
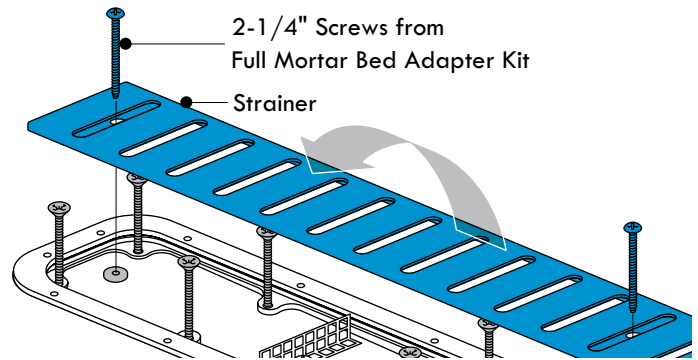**Wall Seal™ for vertical waterproofing**
Noble Niches
Noble Benches
Noble Curbs

Cleaning Drain

To clean drain, remove 3 screws in top of strainer. Clear any hair or other obstructions from drain.

Remove Strainer

2-1/4" Screws from
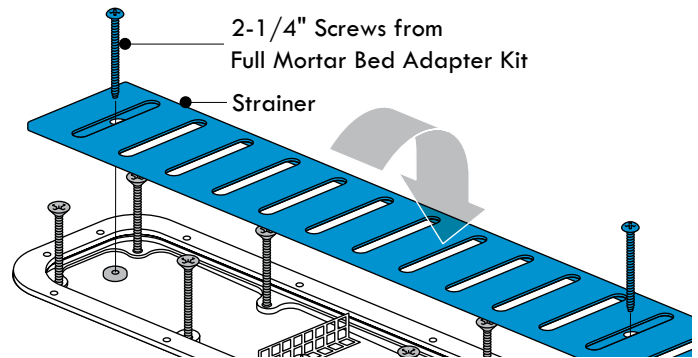Full Mortar Bed Adapter Kit

Strainer

Re-Attach Strainer
Note: Strainer attachment holes are not symmetrical. If screws do not align with holes in drain base, turn strainer end-to-end.

Place strainer over height adjustment screws.
Replace all three screws.
Do not over-tighten.

2-1/4" Screws from
Full Mortar Bed Adapter Kit

Strainer

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