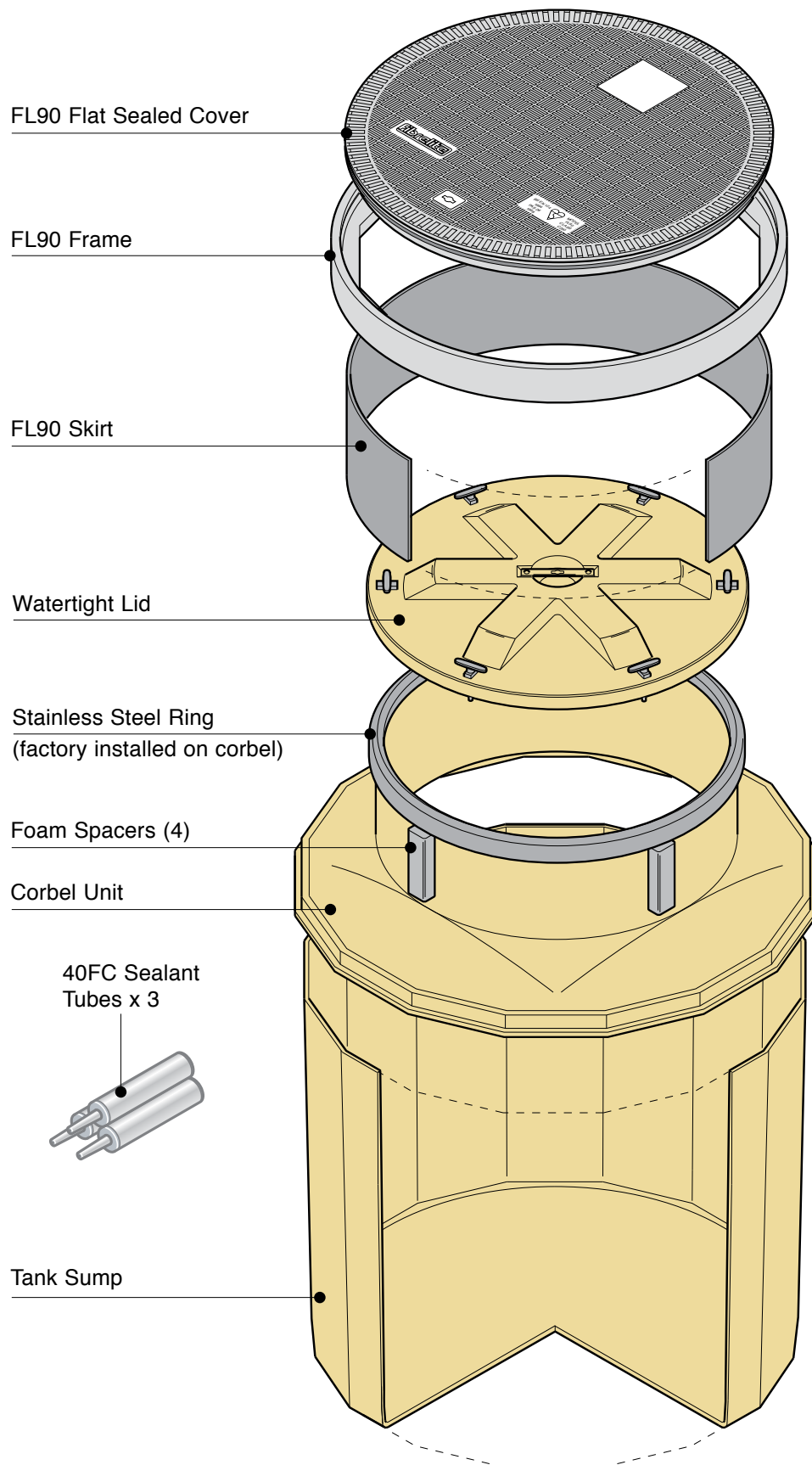


# INSTALLATION INSTRUCTIONS

## S8SB WT Tank Sump Systems

### S8SB-390-WT, S8SBD-390-WT, S8SB-3100-WT, S8SBD-3100-WT Tank Sump Systems



# INSTALLATION INSTRUCTIONS

(Inspecting Parts and Achieving Correct Sump Height)

**FIBRELITE**  
PART OF OPW a **DOVER** company

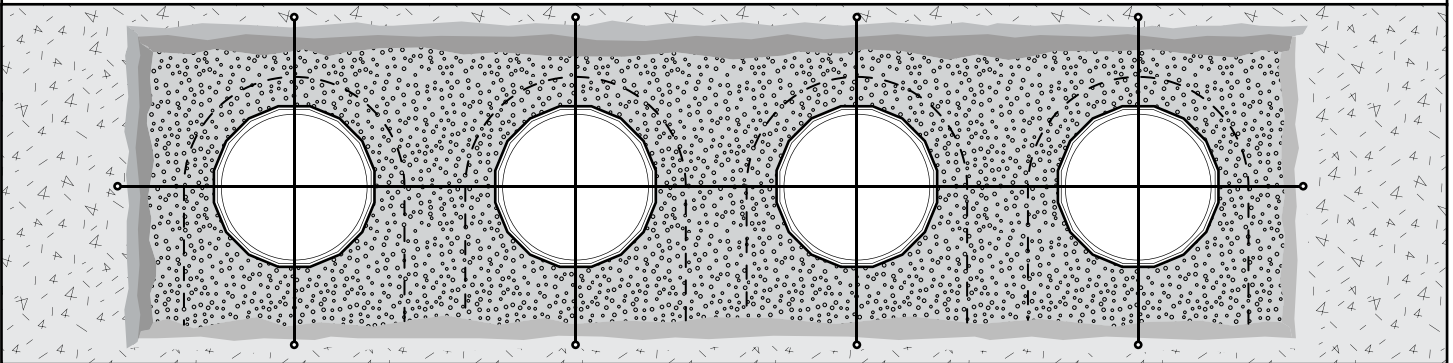
## DO NOT STORE SUMPS ON THEIR SIDES PRIOR TO INSTALLATION



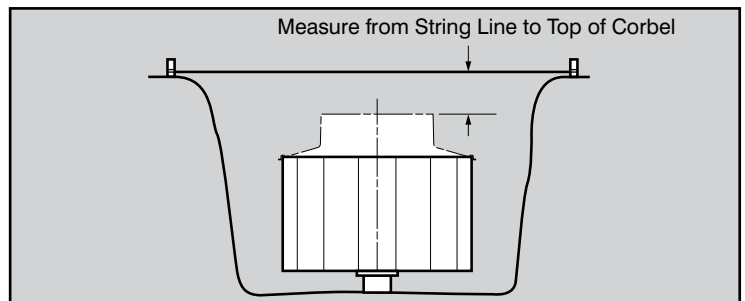
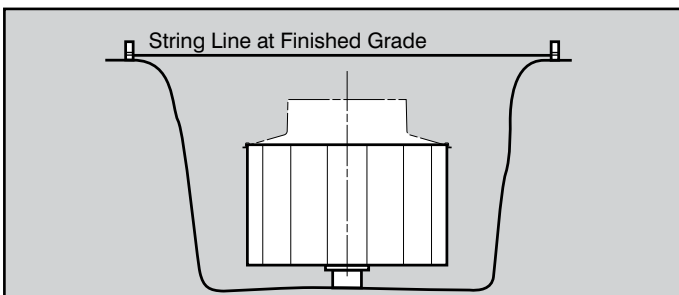
Failure to follow this instruction may cause the sumps to deform and become “out of round.” Store sumps on either round end to prevent this from happening.

**1** Using the packing list and the drawing on the front page of these instructions as a reference, **confirm that all sumps, manholes and related parts and accessories have been received.**

**2** Install string lines at finished grade level (manhole grade level) across the length and width of the tank farm (as shown below) in order to accurately measure the distance from grade level to the tank top.

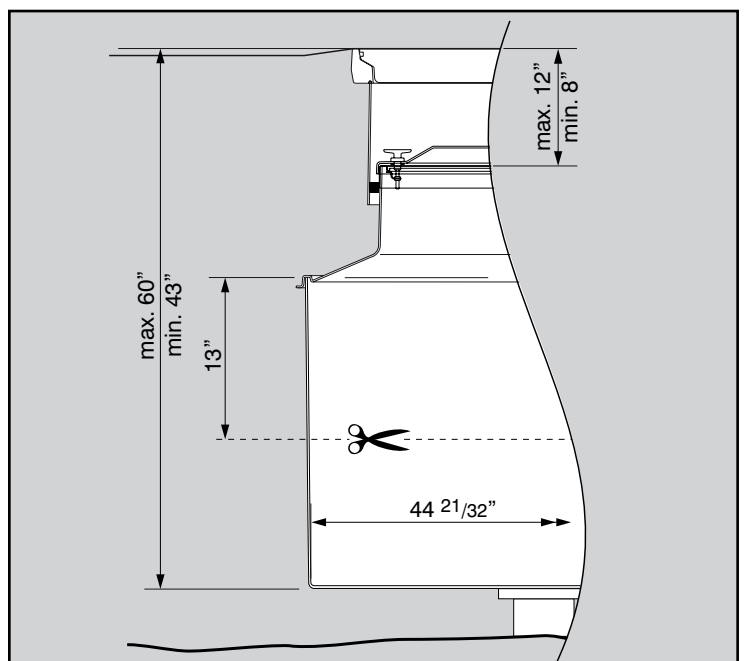


**3** Place the corbel (tophat) on top of the sump and measure from the top of the corbel to the base of the sump. Measure the distance from grade level to the top of the tank bung that the sump will be installed on and then subtract the sump/corbel measurement (e.g. 40" depth – 33" sump/corbel height = 7"). Compare the result against the measurement chart in Instruction 4 below and take the appropriate action



**4** Refer to this measurement chart;

Distance from Grade Level	Action
Min. 8" Max. 12"	No trimming or extensions required, proceed with installation.
Less than 8"	Sump base only (do not trim corbel) must be trimmed to allow for minimum 8" clearance – follow instructions on next page.  <b>Do not trim more than 13" from sump base – contact distributor for shorter base if required.</b>
More than 12"	Install 12" extension to sump base – contact distributor and order S8-EXT12 extension. Follow “Bonding the Extension” instructions.

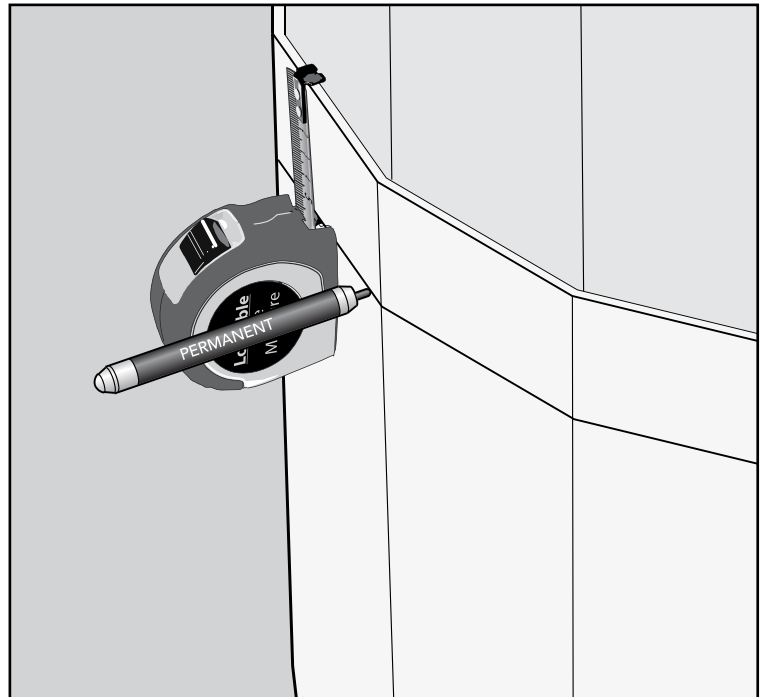


## INSTALLATION INSTRUCTIONS

(Trimming Sump Base to Achieve Correct Sump Height)

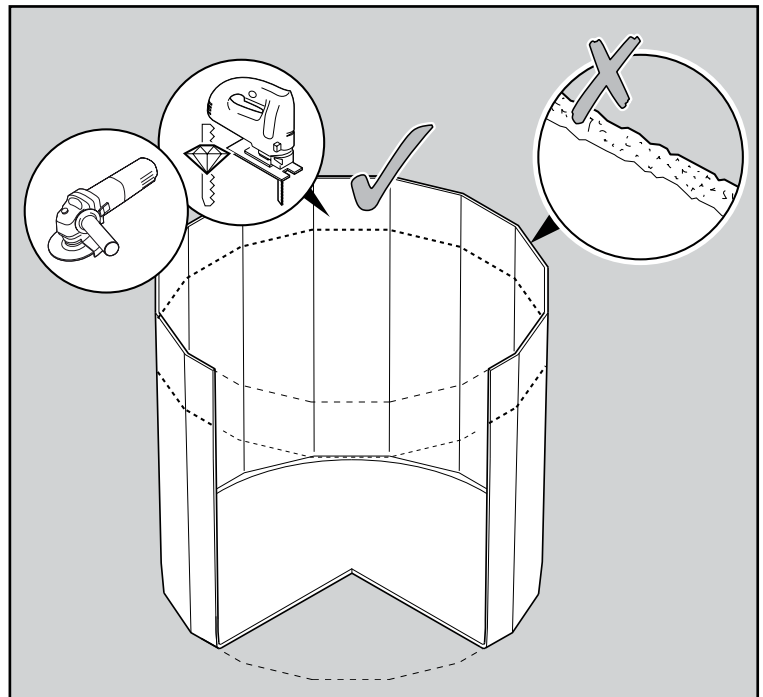
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PART OF OPW a **DOVER** company

- 5** If the sump needs to be trimmed and as shown in the drawing to the right, mark the trim line on the sump base using an indelible marker - make sure to mark a level line on the tank sump for cutting (use a locked tape measure as shown). If the line is not level, re-measure and re-mark until the marked line is correct and level. The sump and corbel will not seal properly if the cut is jagged or uneven.



- 6** Use an appropriate cutting tool and blade such as a diamond blade cutter (as shown in the drawing) to ensure that the sump is cut evenly.

A jagged or uneven cut made with a reciprocating saw will be difficult to seal when the corbel is installed.



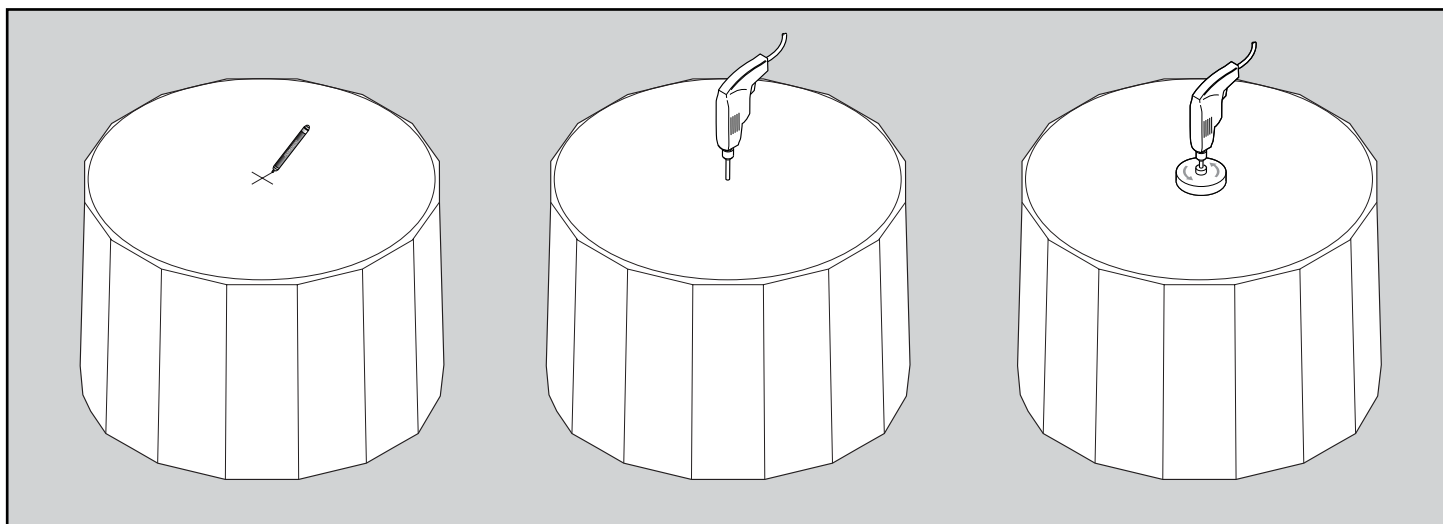
# INSTALLATION INSTRUCTIONS

(Preparing Sump Base for Installation)

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Once the sump base has been measured and trimmed as required to fit beneath the manhole cover, it should be installed on the tank riser using an appropriate sump mounting flange. Follow the instructions provided with the sump mounting flange when cutting the bottom penetrations into the tank sump base.

## 7 Cut the bottom penetrations in solid bottom sump.

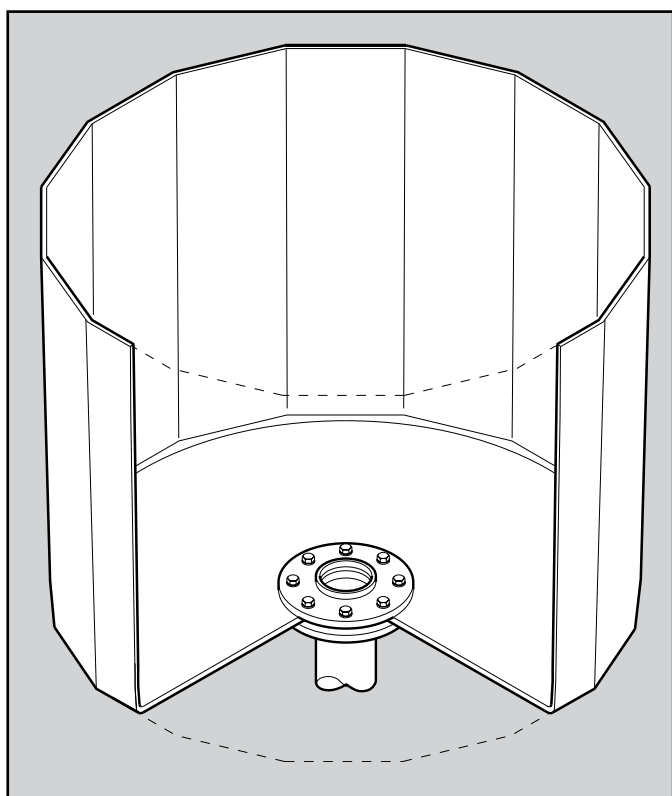


Mark the center point of the penetration

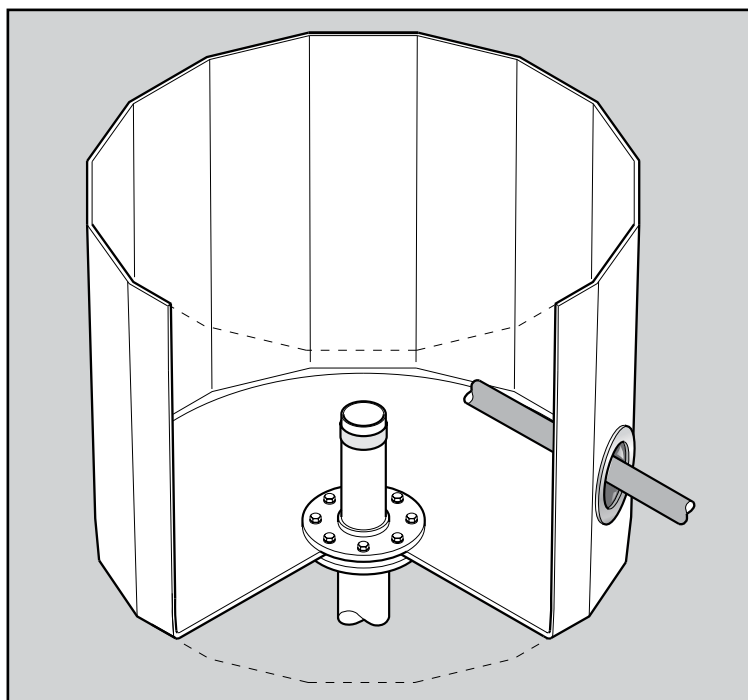
Pre-drill

Drill with hole-saw

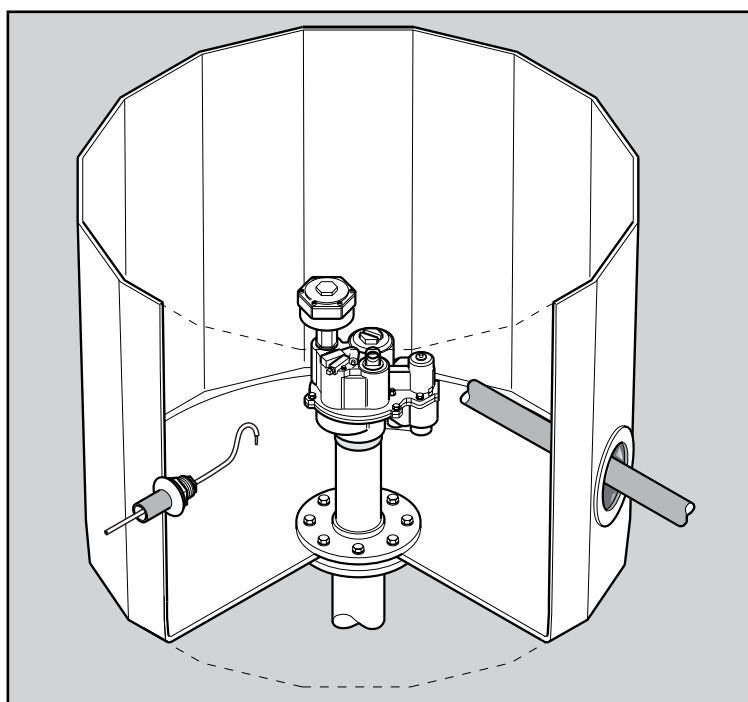
## 8 Install mounting flange for 4" riser.



- 9** Install risers and piping. See **pages 6 & 7** for complete penetration fitting installation instructions.



- 10** Install turbine and conduits. See **page 8** for complete conduit fitting installation instructions.

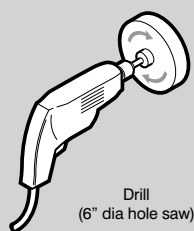


# INSTALLATION INSTRUCTIONS

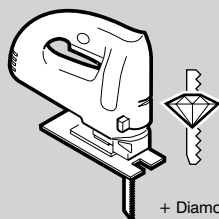
( Installing Penetration Fittings )

# FIBRELITE

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Drill  
(6" dia hole saw)



Jigsaw  
+ Diamond tipped blades



Gloves



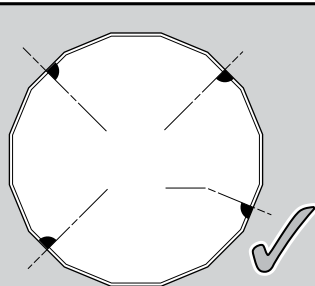
Safety Goggles



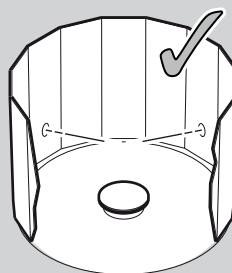
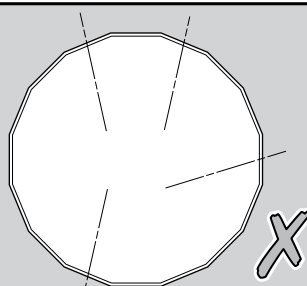
Face Mask

11

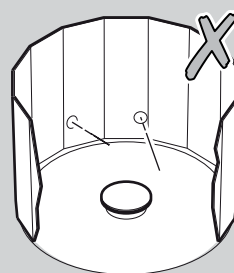
**WARNING** Care must be taken to position the pipework and conduit so it exits the sump at 90° angle to the sump wall. Otherwise undue stress will be placed on the sump wall and entry boot, which may lead to leaks in the future.



Position pipeway at 90° angles to the sump wall.



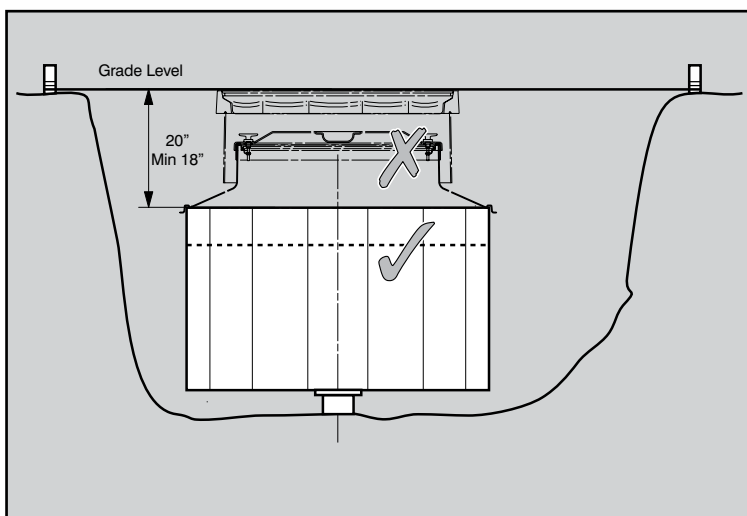
Ensure pipe entry boot is positioned away from the joints.



12

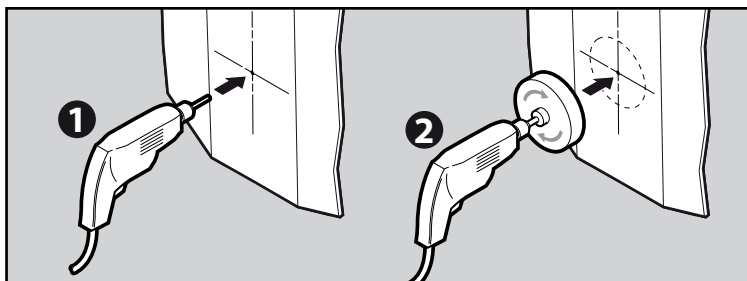
Prior to installing pipework, install a string line at grade level and determine if the sump base will first need to be trimmed.

All height adjustments must be made to the sump base and not to the corbel. To allow sufficient clearance for the corbel and watertight lid under the manhole cover, the top of the sump base must be at least 18" and ideally 20" below grade. Refer to the measurement chart located on page 2 for more detailed instructions.



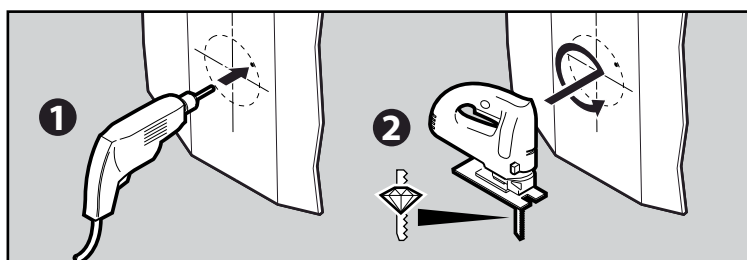
13

Mark a center point in the center of a sump panel. Drill a pilot hole to ensure the hole saw can be positioned and used safely.



14

For holes larger than 6" diameter, we recommend using a jigsaw to cut the hole. Drill a pilot hole prior to inserting the jigsaw blade. As fiberglass will blunt normal blades very quickly, always use a diamond tipped blade.



**NOTE :** When backfilling ensure the pipework is not disturbed.  
**WARNING :** Do not backfill until the sump has been vacuum tested.

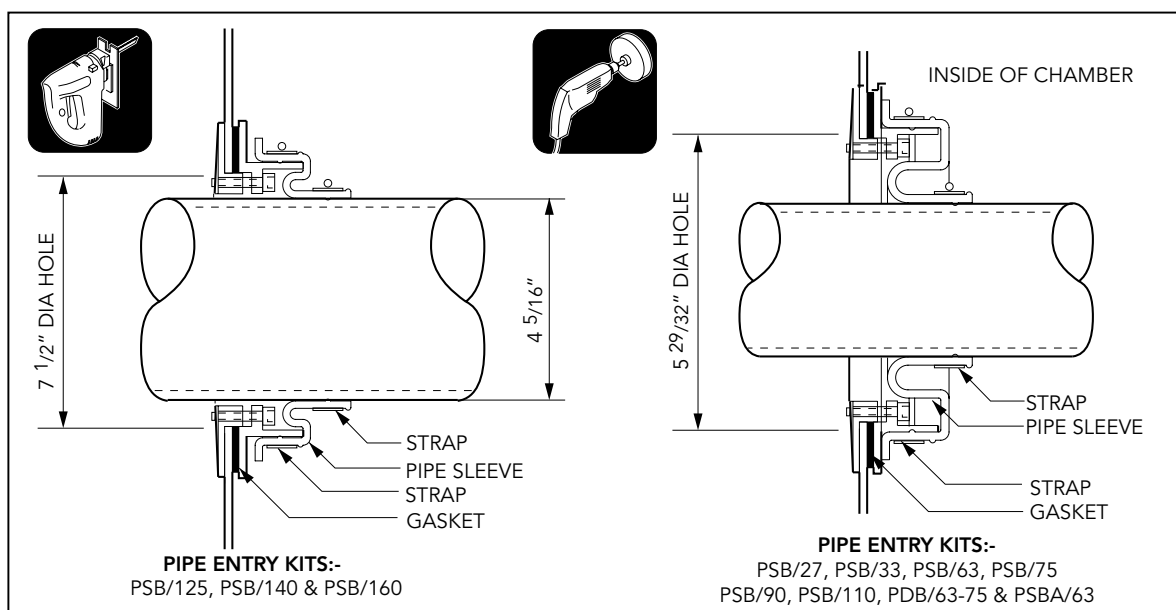
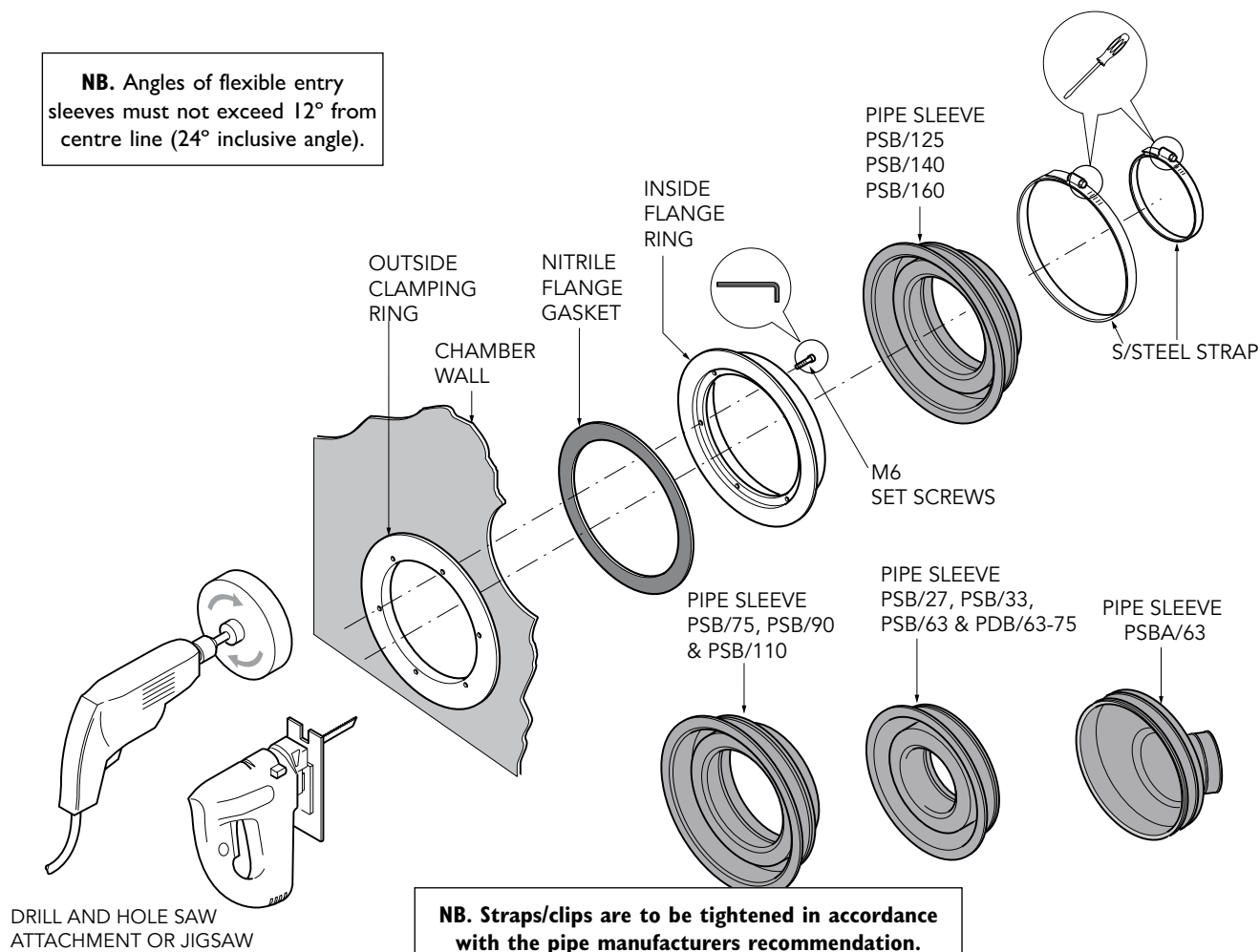
# INSTALLATION INSTRUCTIONS

( Pipe seal kits fitting instructions)

# FIBRELITE

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**NB.** Angles of flexible entry sleeves must not exceed 12° from centre line (24° inclusive angle).



**NB.** Where appropriate, it is recommended that a drill piloted hole saw be used to cut the pipe/cable seal entry hole in the chamber.

The exit position of the pipework through the chamber wall must be as close as possible to 90°. The pipe kit should be fitted so that the pipework is centrally positioned to the seal. When backfilling ensure that the pipework is not disturbed from this central position.

# INSTALLATION INSTRUCTIONS

( Conduit entry seal kit installation guide )

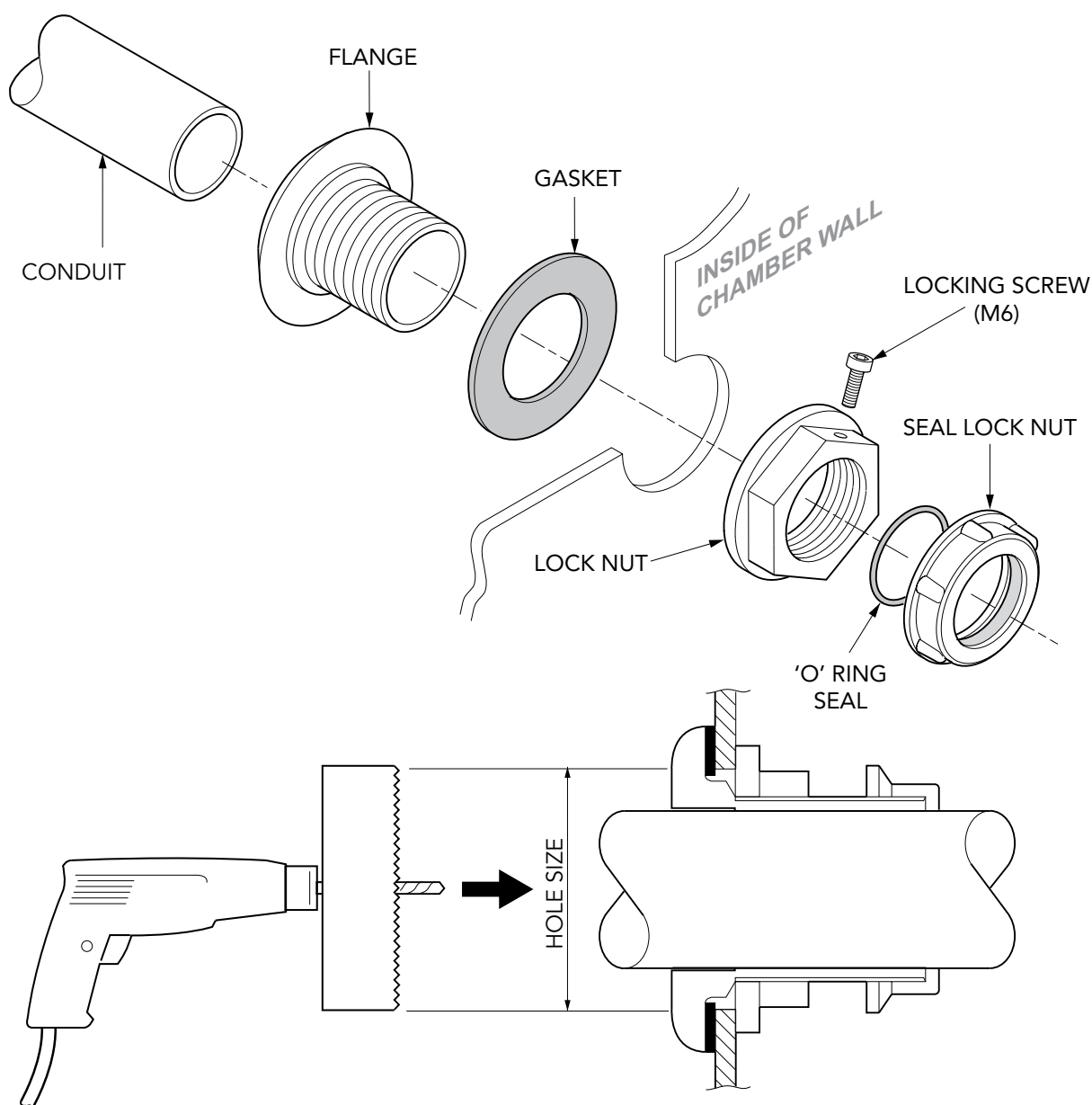
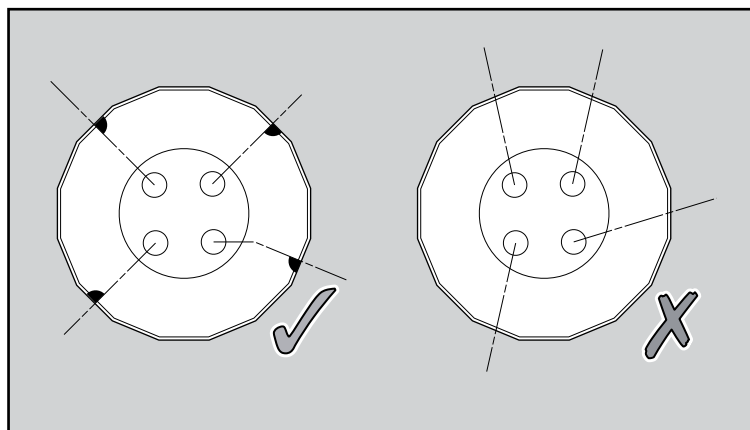
## 15 PEC KITS

Refer to pipe entry boot instructions on positioning of the hole.

Conduit must be installed at 90° angle to the side wall.

Use Fibrelite entry seal kit model PEC/32 to fit UPP + NUPI 32mm conduit.

PEC/27, PEC/33, PEC/50 to fit metal conduit sizes 3/4", 1" and 1 1/2" respectively.



**NB:** Use the correct size drill piloted hole saw for each entry kit. The cable entry seal must be fitted perpendicular to the chamber wall and the conduit must enter the entry kit perfectly aligned. When backfilling ensure the conduit is not disturbed.

ENTRY KIT	HOLE SIZE
PEC-27	Ø2"
PEC-32	Ø2"
PEC-33	Ø2 3/8"
PEC-50	Ø2 7/8"

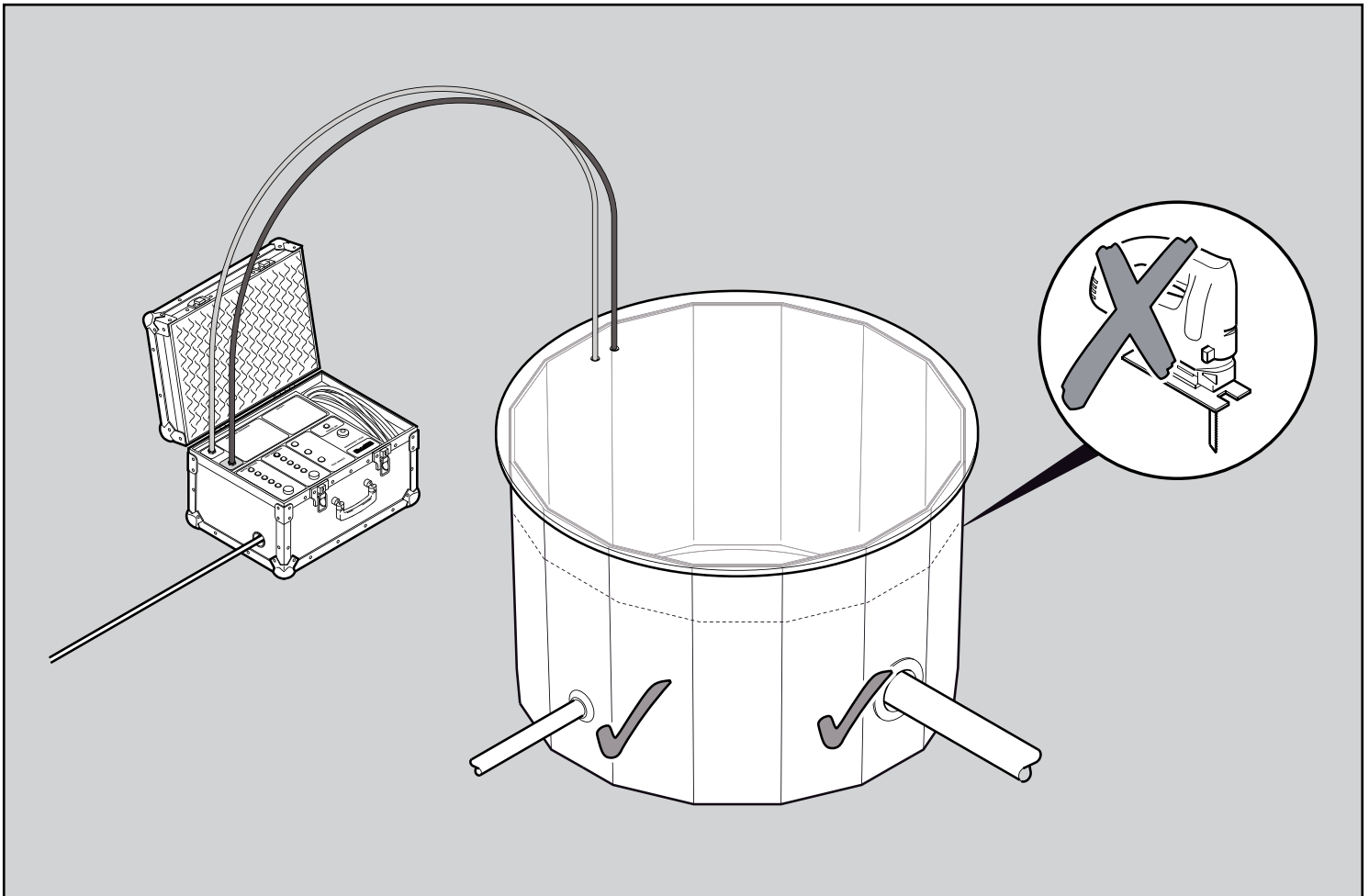


## INSTALLATION INSTRUCTIONS

### (Sump Testing)

- 16** After all piping and conduit penetration fittings have been installed into the sump base, the sump may be tested using either vacuum or hydrostatic testing.

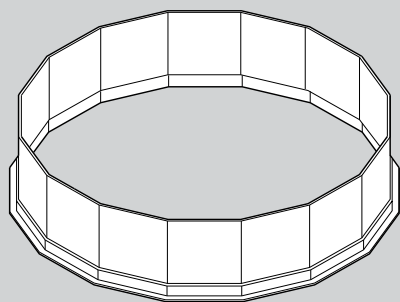
Refer to Fibrelite's "Sherlock Vacuum Testing Procedures" or "Hydrostatic Testing Procedures" for more details on testing.



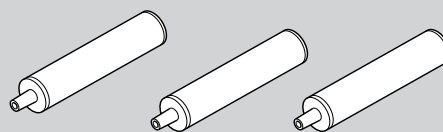
# INSTALLATION INSTRUCTIONS

(Bonding the extension to the sump base)

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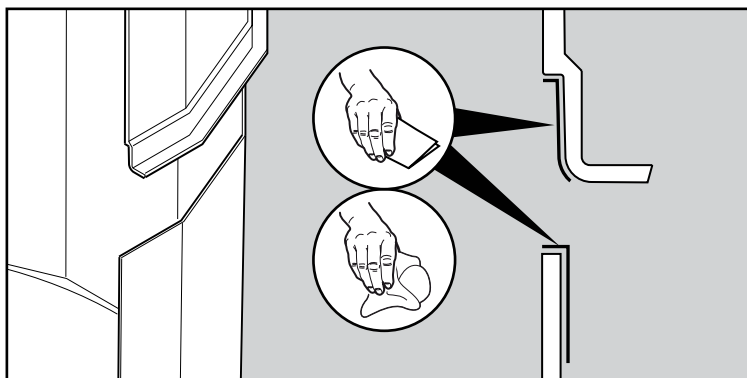
S8/EX12 extension



3 tubes of 40FC Sealant

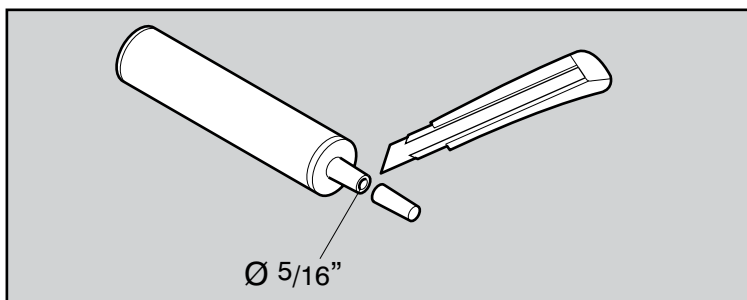
**17**

Prepare the mating surfaces of the tank sump base and the downward facing groove on the extension (as shown at right). Use heavy grit sandpaper to ensure that the fiberglass surface is exposed. After sanding, clean both surfaces using acetone (or equivalent solvent).



**18**

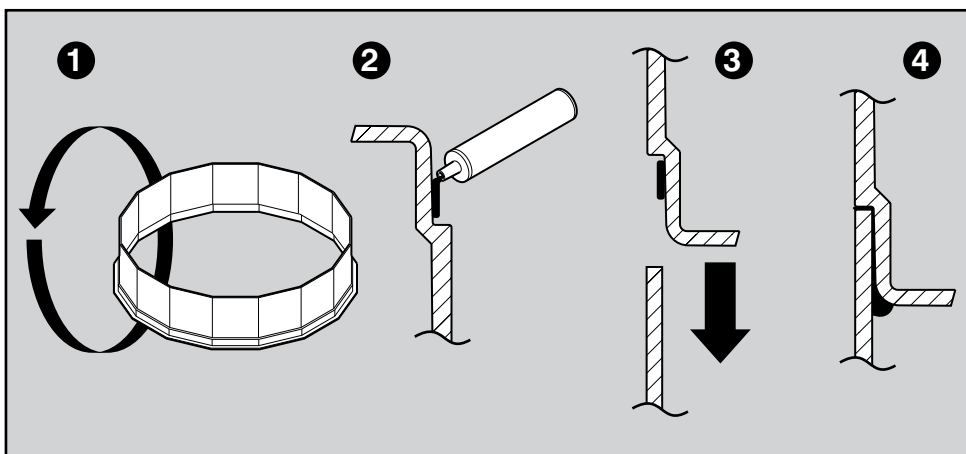
Cut nozzle of the adhesive sealant tube to approximately  $\text{Ø } 5/16''$ .



**19**

To permanently fix the extension, invert the extension and apply a bead of adhesive sealant to the vertical wall of the extension recess.

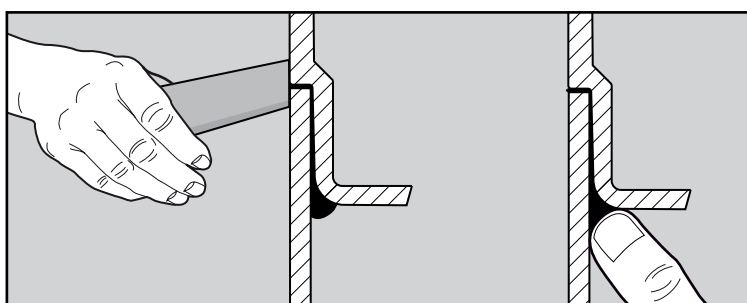
Position the extensions(s) onto the chamber, ensure the extension is horizontal and press down uniformly.



**20**

Remove excessive adhesive sealant from the internal joint with a scraper and smooth off.

Apply a bead of adhesive sealant (same nozzle size) to the external horizontal joint and smooth off.



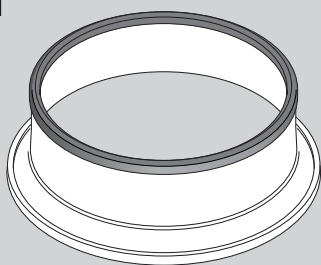
# INSTALLATION INSTRUCTIONS

(Bonding the corbel to the sump base or extension)

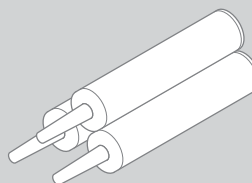
# FIBRELITE

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## Items Required



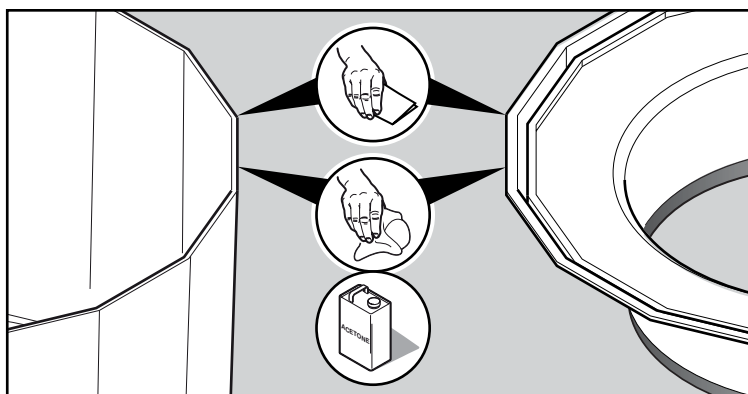
Corbel (w/ring)



40FC Sealant x 3

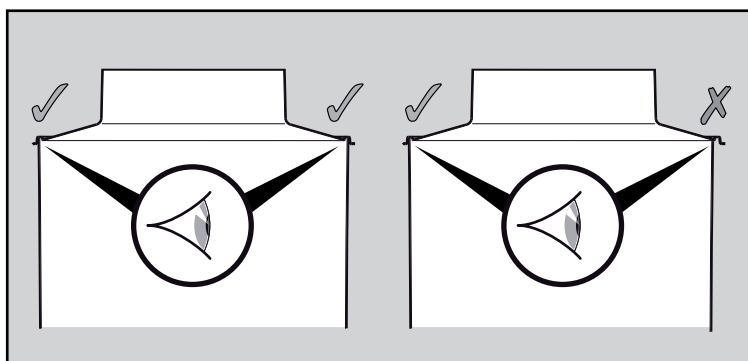
- 21** Prepare the mating surfaces of the tank sump base (or extension) and the downward facing groove on the corbel (as shown at right).

Use heavy grit sandpaper to ensure that the fiberglass surface is exposed. After sanding, clean both surfaces using acetone (or equivalent solvent).

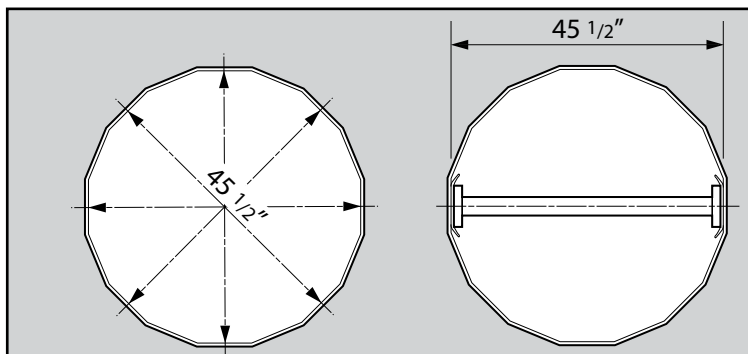


- 22** Dry fit the corbel on the sump to ensure it fits - push corbel groove onto sump wall,

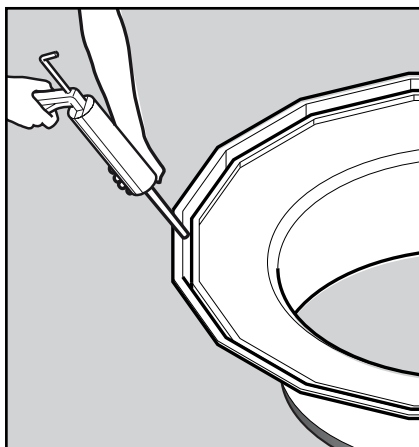
If the corbel does not fit properly onto the sump wall, measure the inside diameter of the sump walls (as shown to the right). The measurement should be between 45 1/2" and 46" (+/- 1/4"). If the measurement is not within these specifications, the sump may have become out-of-round due to improper storage or installation.



- 23** To fix an out-of-round sump base, first find the shortest distance between any 2 sump walls. Using a wooden 2x4 cut to 45 1/2" length, install the 2x4 at an angle into the sump and use it to brace out the sump walls to the correct size. Repeat this process on all sump walls to return the sump to its correct size.



- 24** Apply 2 tubes of 40FC Sealant into the groove of the corbel. 40FC Sealant should fill half the groove.



- 25** Place the corbel on the sump using 2 people and push it into position.

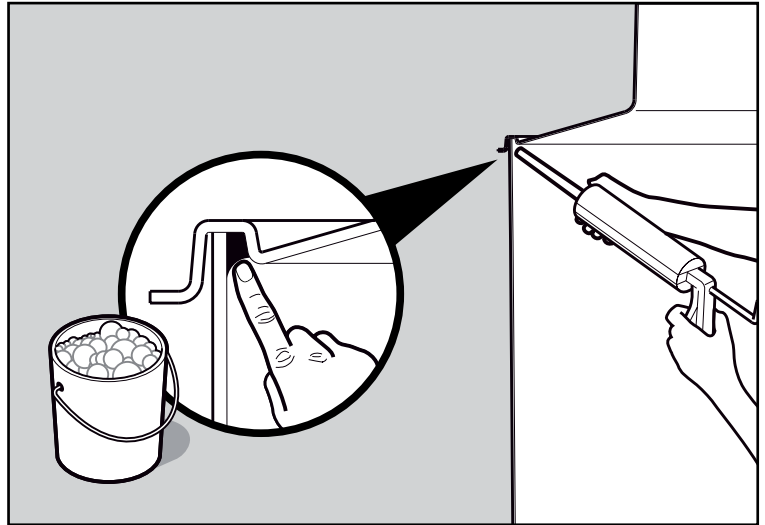


## INSTALLATION INSTRUCTIONS

(Bonding the Corbel)

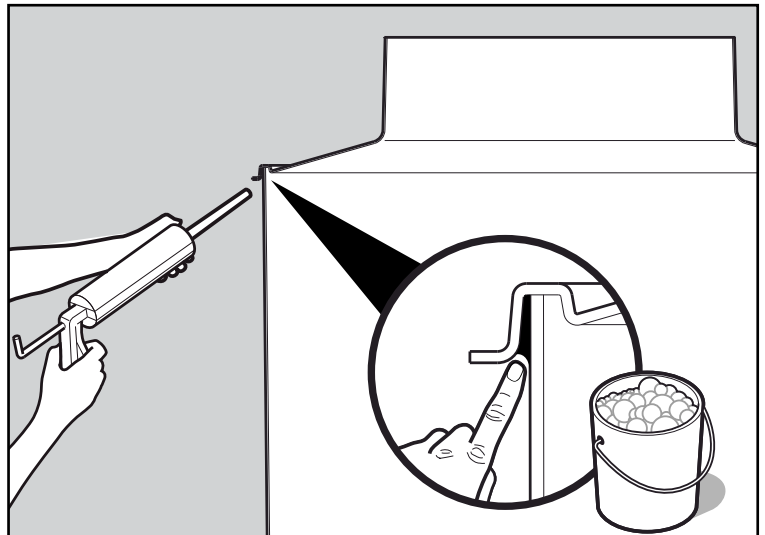
**FIBRELITE**   
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- 26** Seal around the inside edge of the corbel joint from inside the sump. Smooth off the sealant with soapy water.



- 27** Seal around the outside joint and smooth off sealant with soapy water.

**Note:** If also fiberglassing the outside corbel joint as set forth in steps 41 to 46 , clean off any residual sealant on the flat surface of either the corbel lip or the top of the sump base.



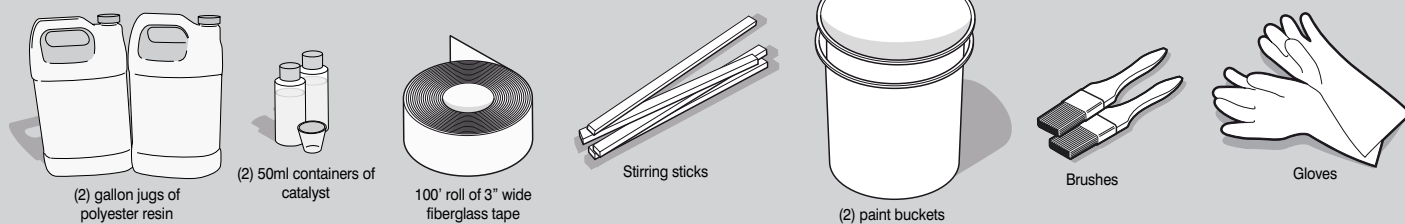
# INSTALLATION INSTRUCTIONS

(Optional – Fiberglassing the corbel to the sump base)

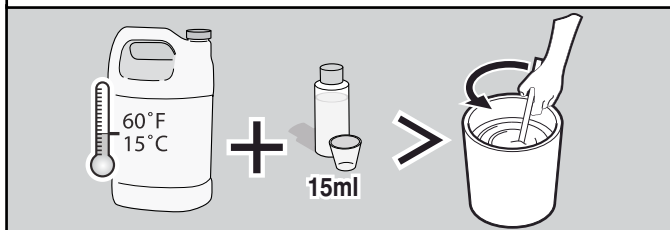
# FIBRELITE

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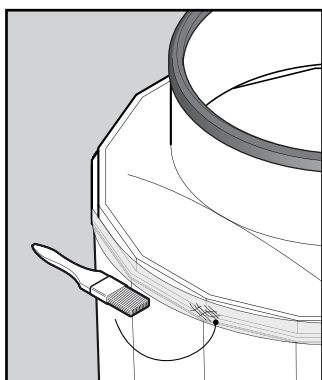
## S/CR/FGK Fiberglassing Kit



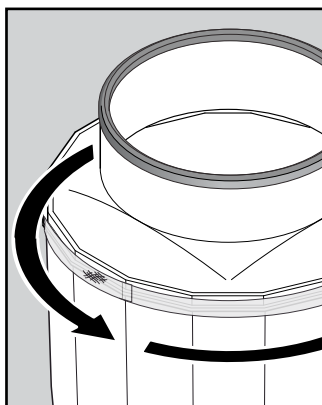
- 28** At 60°F, mix 1 quart resin with 15ml catalyst and stir well.



- 30** Using brush paint resin onto sanded surfaces at the corbel to sump base joint. Apply resin around the surface of the corbel.

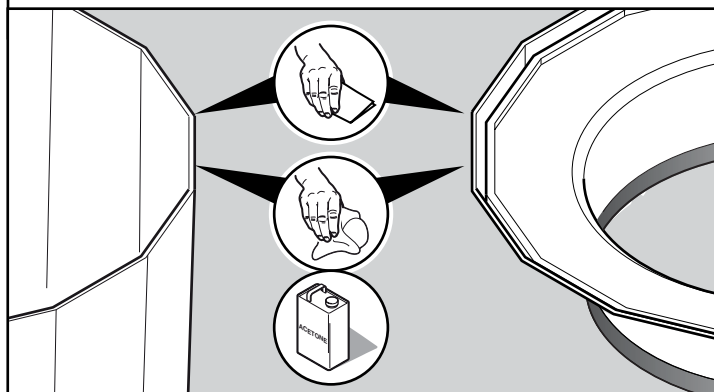


- 31** Apply a layer of fiberglass tape by centering it on the corbel to sump base joint and unrolling it completely around the sump keeping it centered over the joint (this will require 2 people). Cut the tape once the first layer is applied."

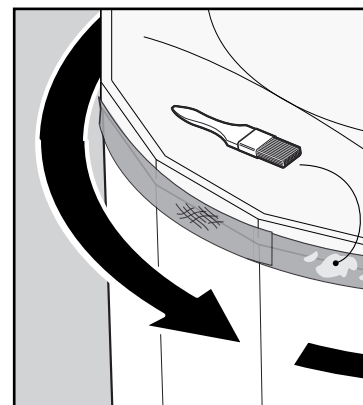


- 29** Prepare the mating surfaces of the tank sump base (or extension) and the downward facing groove on the corbel (as shown at right).

Use heavy grit sandpaper to ensure that the fiberglass surface is exposed. After sanding, clean both surfaces using acetone (or equivalent solvent).

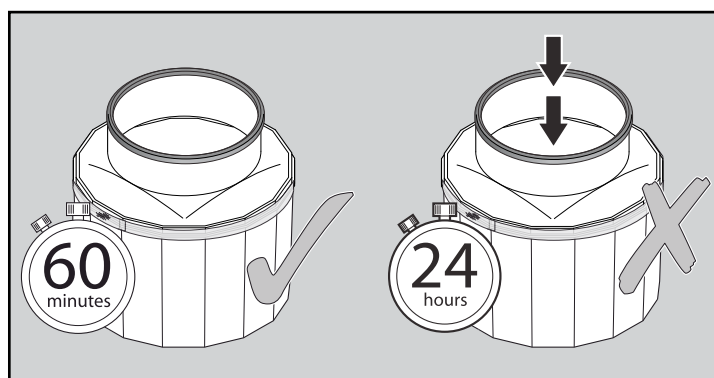


- 32** Apply a second and third layer of fiberglass tape by repeating the previous 2 steps ensuring that all joints are staggered and overlap by a minimum of 2". Paint a final layer of resin onto the third layer of fiberglass and use the brush to flatten out any bubbles or air pockets.



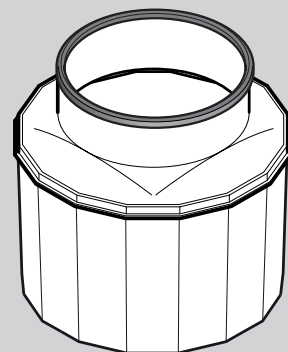
- 33** Allow approximately one hour for the resin to cure before proceeding with any other work on the tank sump. Allow 24 hours before putting any stress on the sump.

**Important:** As a final step, always seal the inside joint of the corbel using Fibrelite sealant. Follow the steps shown in the "Bonding the corbel to the sump base" instructions.



- 34** Wait a min of 12 hours before vac testing, preferably overnight to allow sealant to set before vacuum testing.

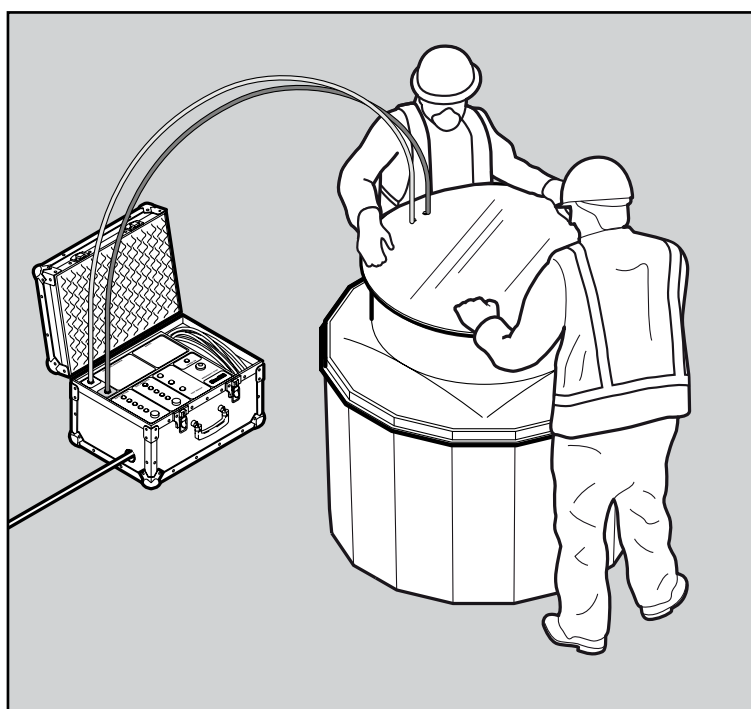
Do not disturb the sump during this time.



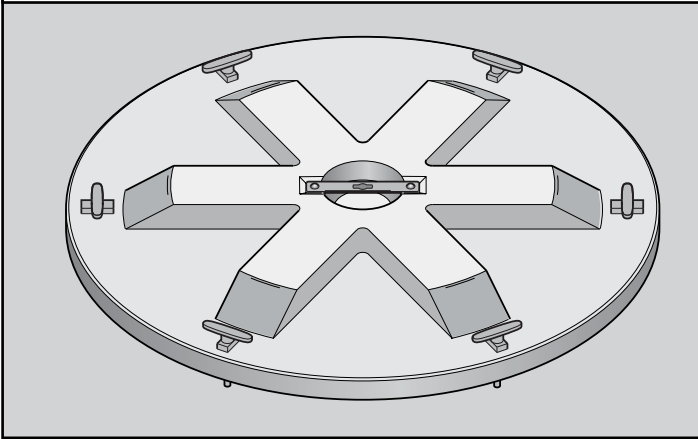
- 35** Ensure all pipework and electrical entries have been completed before vacuum testing, this is a final test for all penetrations in the sump.

**Warning:** Test the corbel at a 24" depth setting only or irreparable damage may occur.

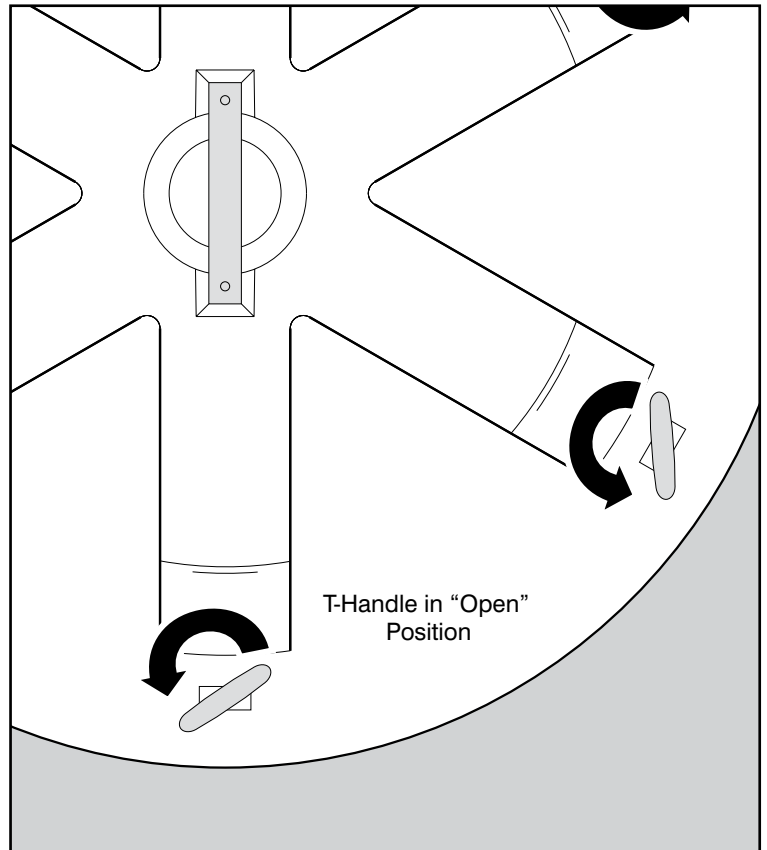
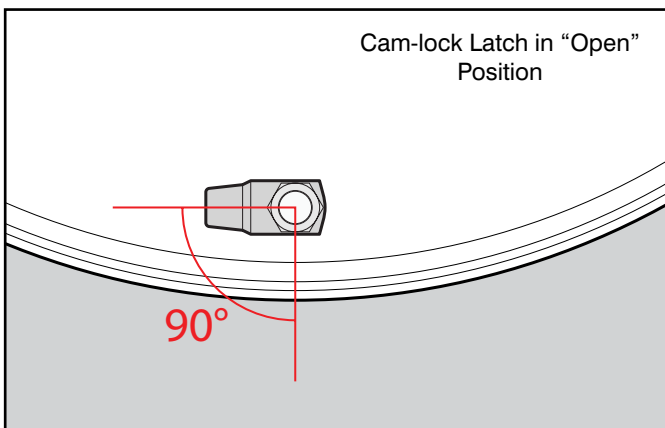
Refer to vacuum testing instructions for correct method.



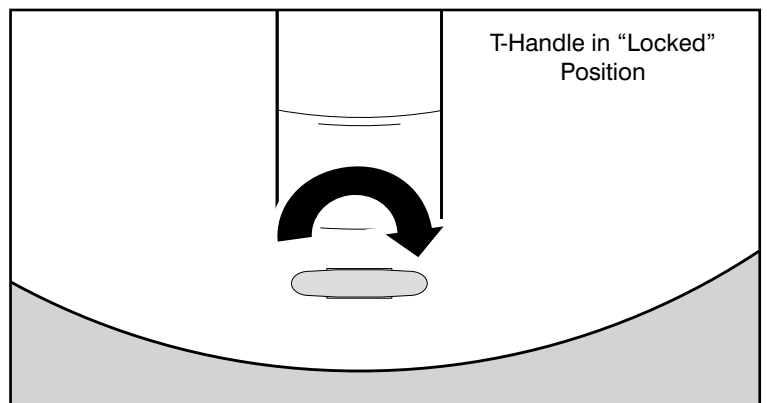
**Installation of Watertight Lids:** Once the sumps are properly installed and tested, the watertight lids should be installed to ensure that the lids fit properly onto the stainless steel retaining rings.



- 36** Turn all T-handles on the top of the lid fully counterclockwise to the open position (as shown in the drawing to the right) – the cam-lock latches on the underside should be 90 degrees opposed from the edge of the platform (as shown below).

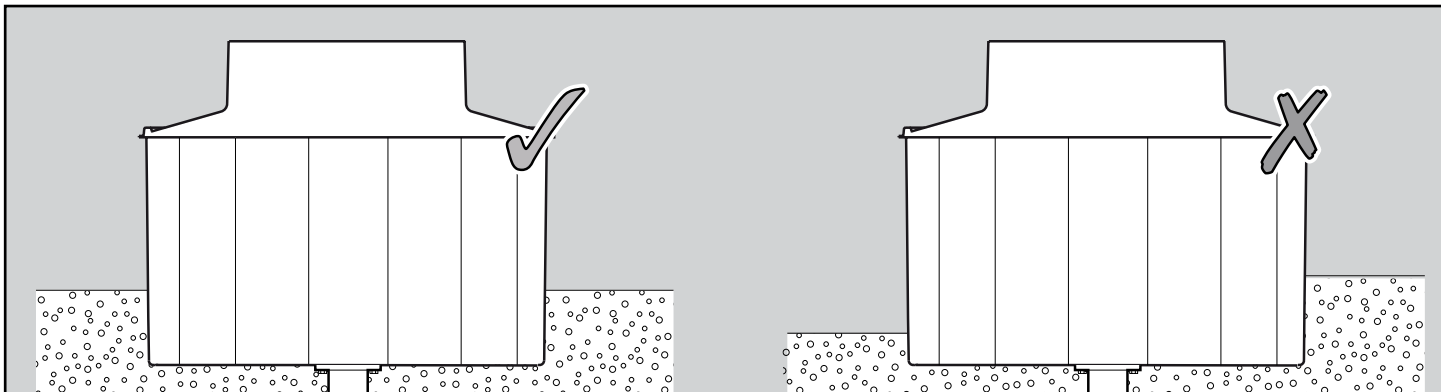


- 37** Seat the watertight lid on the stainless steel ring. Turn the T-handles fully clockwise to lock the latch beneath the stainless steel ring (T-handle should be as shown in the drawing to the right). When the T-handle is in this position, the lid should be pulled down onto the stainless steel retaining ring so that the gasket on the lid is tightly compressed between the underside of the cover and the ring.



**NOTE :** If the T-handle cannot be fully engaged or if the lid is not compressing the gasket tightly against the stainless steel ring, it may be necessary to adjust the nut at the base of the cam-lock latch.  
**If this is the case, contact Fibrelite technical support at (860) 599-6081.**

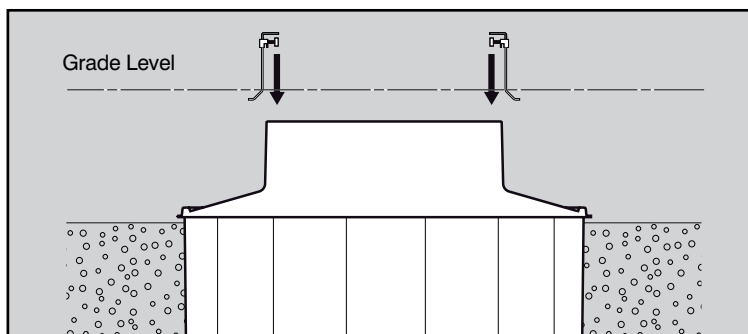
- 38** Once the sump and corbel have successfully passed vacuum or hydrostatic tightness testing, the area around the sump can be carefully backfilled with peagravel or sand. Back-fill equally around the sump in layers to prevent damage or deformation.



## (Installing the Skirt & Frame to Grade Level)

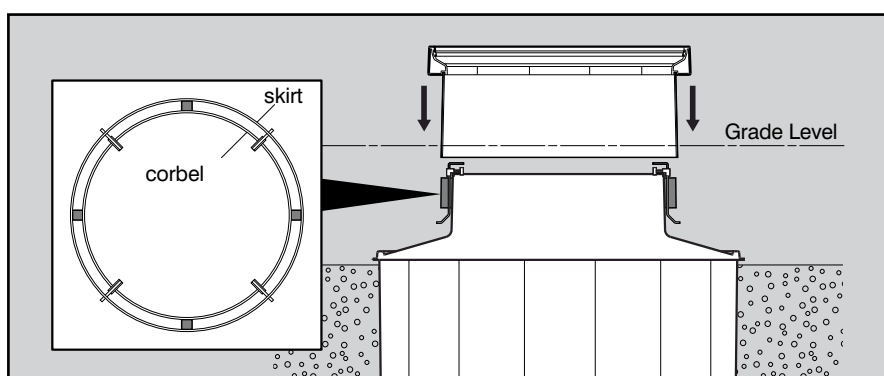
**NOTE :** This section is only relevant if installing FL90 manhole covers. Please skip if installing any other manhole cover.

- 39** Fix a string line  $\frac{1}{2}$ " above grade level across the sump, fix 4 hangers on the corbel top with base support facing out.

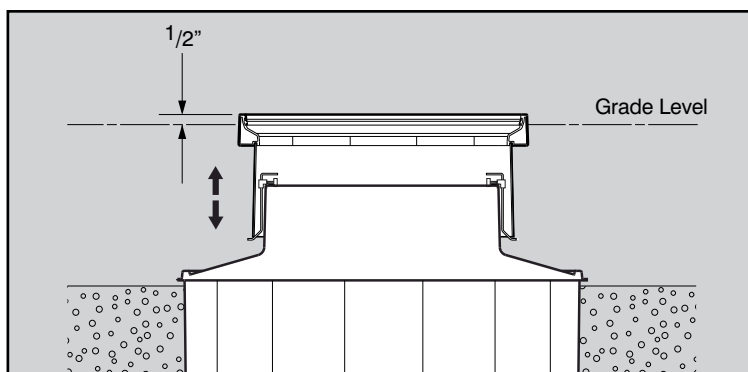


- 40** Put the skirt and frame on the hangers.

Locate the 4 foam blocks supplied between the skirt and corbel turret to centralise the skirt about the corbel. Failure to this may result in the internal lid fouling.



- 41** Adjust knobs to set the frame to stringline level, adjust for fall in grade. Set the frame  $\frac{1}{2}$ " above grade level.





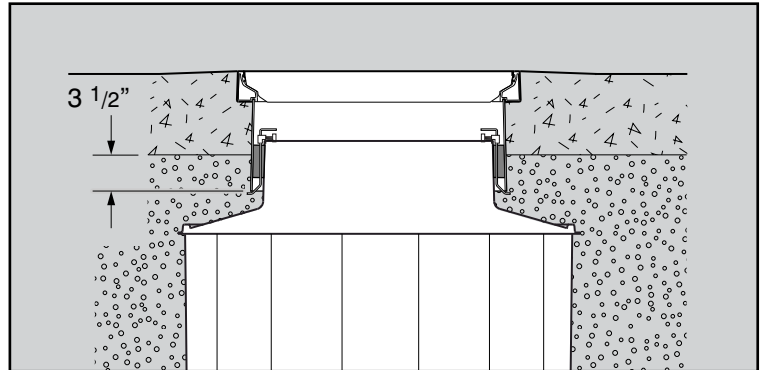
# INSTALLATION INSTRUCTIONS

( Backfilling )

**FIBRELITE**  
PART OF OPW a **DOVER** company

- 42** Ensure the void between corbel and skirt is kept free from concrete and a depth of 3 1/2" overlap minimum is maintained.

Ensure foam spacers are in position to locate the skirt centrally around the corbel.



- 43** Complete backfilling to appropriate level. Frame must be supported by a minimum depth of 8" of concrete

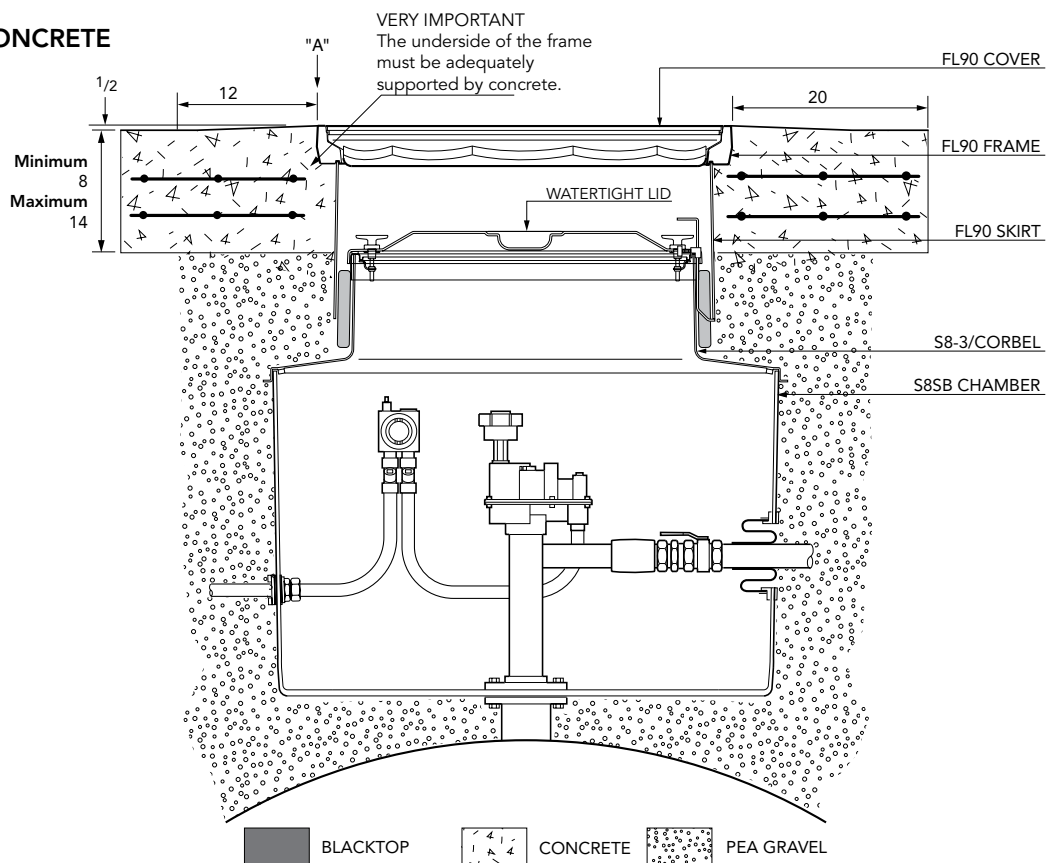
Concrete reinforcement must be positioned as close to the frame as possible. Minimum block of 20" square around the frame. Joint must be tied as per diagram. Continuous pour preferred if possible.

**VERY IMPORTANT**

To allow for drainage, Fibrelite recommends that the concrete be sloped away from the top outer edge of the frame (A) a minimum of 1/2" over a 12" distance. Do not expose the top outer edge of the frame (A) – the concrete pad must be flush with the top outer edge of the frame.

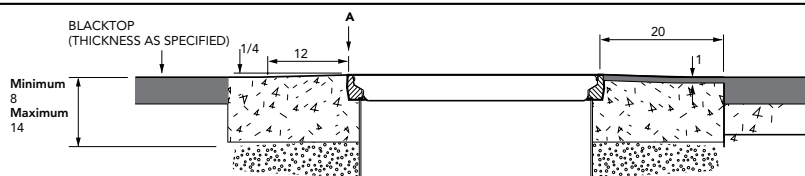
## TYPICAL INSTALLATION

### CONCRETE



## ALTERNATIVE INSTALLATION ADVICE

### BLACKTOP



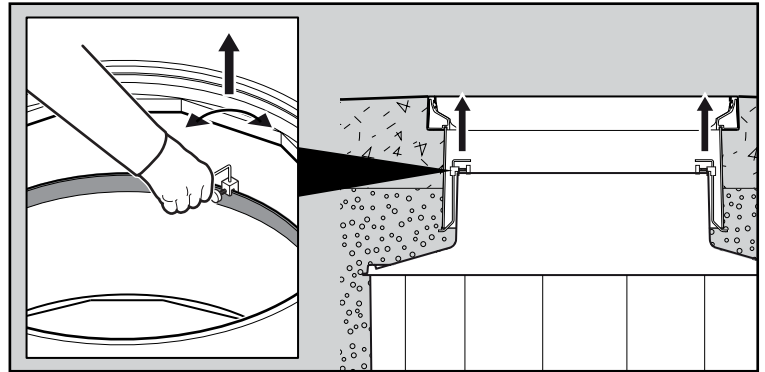
# INSTALLATION INSTRUCTIONS

( Backfilling )

**FIBRELITE**   
PART OF OPW a **DOVER** company

- 44** After minimum concrete cure time, hangers can be removed. Loosen the 'T' knob, push down on the rod, turn the rod through 90° and pull rod up to remove.

Complete other third party equipment installation inside the sump.



## (Final Testing)

- 45** Optional vacuum test on corbel.

Once completed a final test can be performed.

**Warning:** Test the corbel at 24" depth setting only or irreparable damage may occur.

