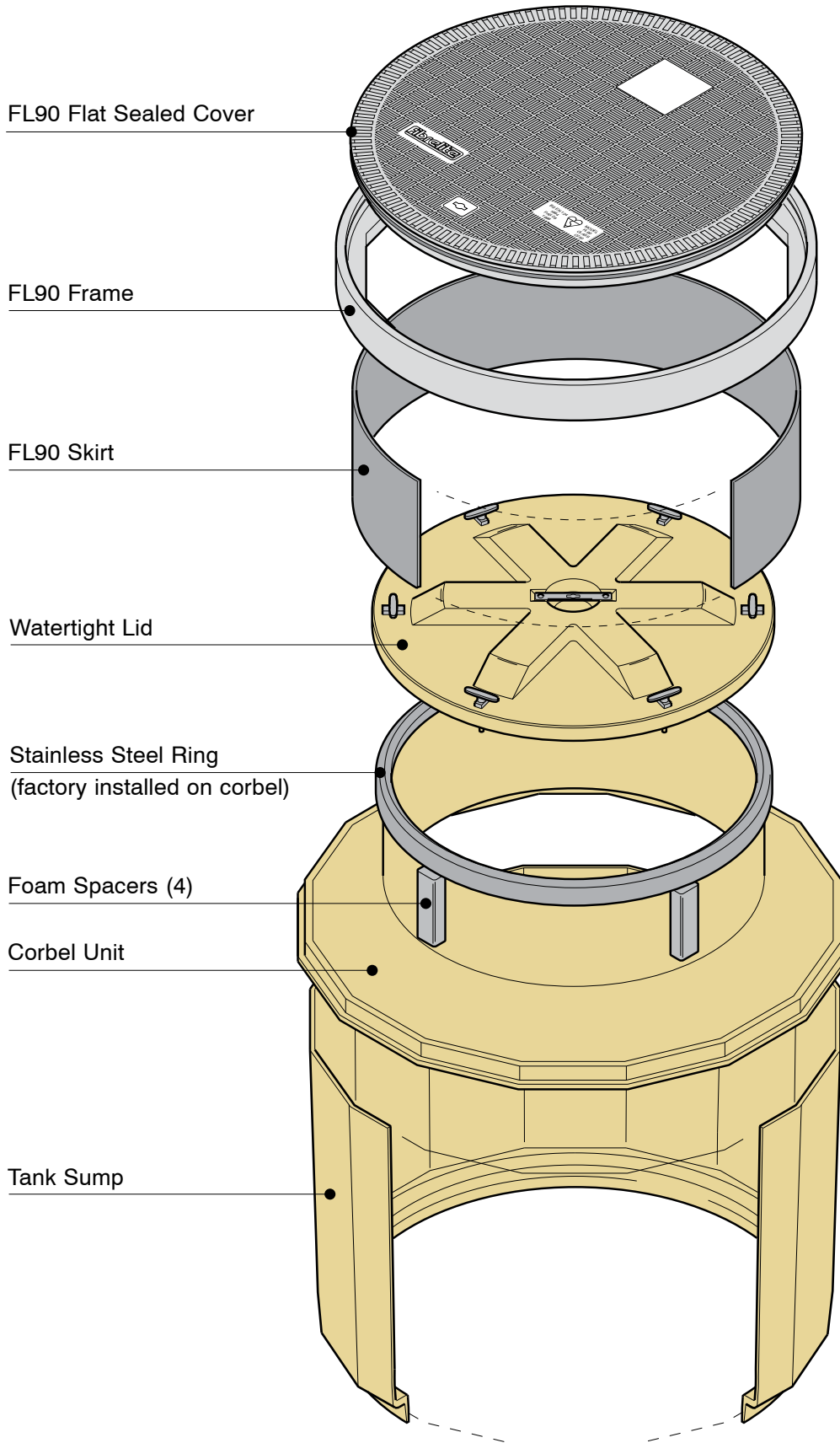


INSTALLATION INSTRUCTIONS

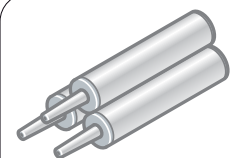
S8CR & S14CR WT Tank Sump Systems

FIBRELITE 
PART OF OPW A DOWDER COMPANY

**S8CR-WT, S8CR-390-WT, S8CRD-390-WT, S8CR-3100-WT,
S8CRD-3100-WT, S14CR-WT, S14CR-390-WT &
S14CR-3100-WT Tank Sump Systems**



**RK-5000 Epoxy
Resin Kit**



**40FC
Soudaflex
(x 3)**



**S/CR/FGK
Fiberglassing Kit**

INSTALLATION INSTRUCTIONS

(Inspecting Parts and Achieving Correct Sump Height)

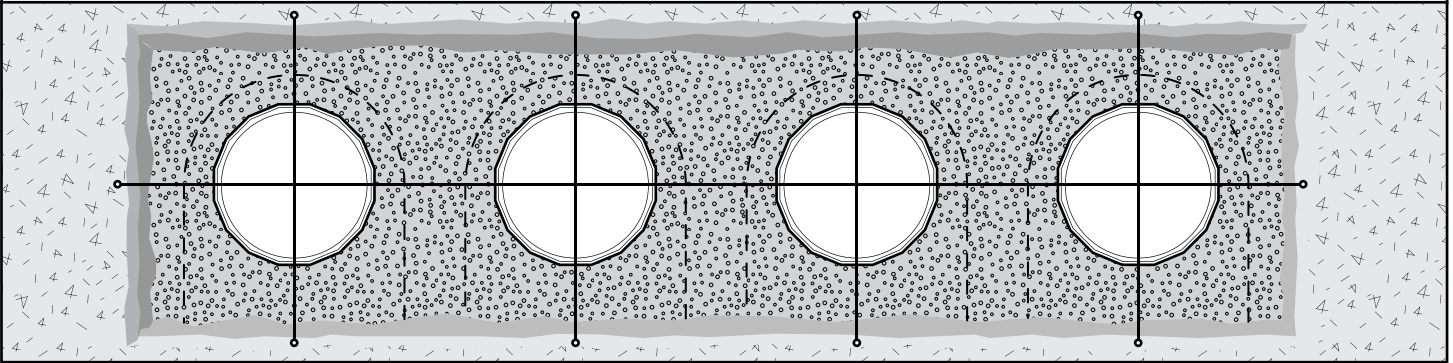
FIBRELITE
PART OF OPW A DOW COMPANY

DO NOT STORE SUMPS ON THEIR SIDES PRIOR TO INSTALLATION

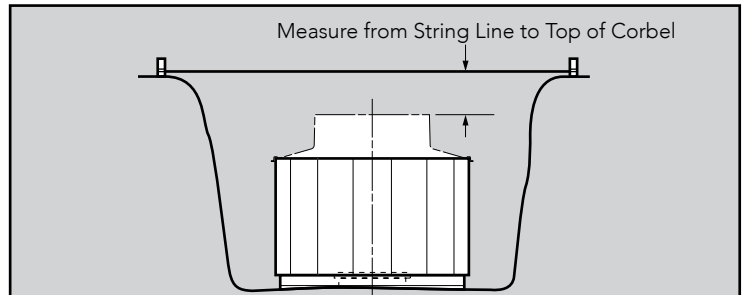
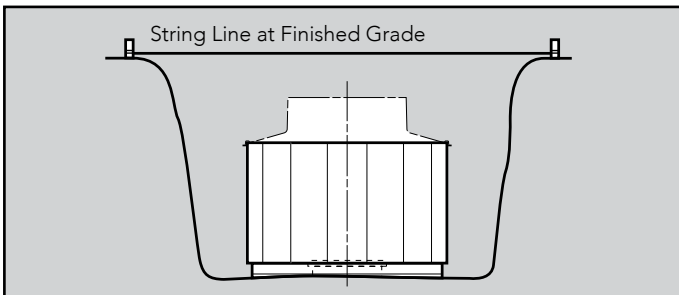
STOP Failure to follow this instruction may cause the sumps to deform and become "out of round." When installed onto the tank collar, the out-of-round sump base may be difficult to connect to the round tank sump corbel. Store sumps on either round end to prevent this from happening.

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.

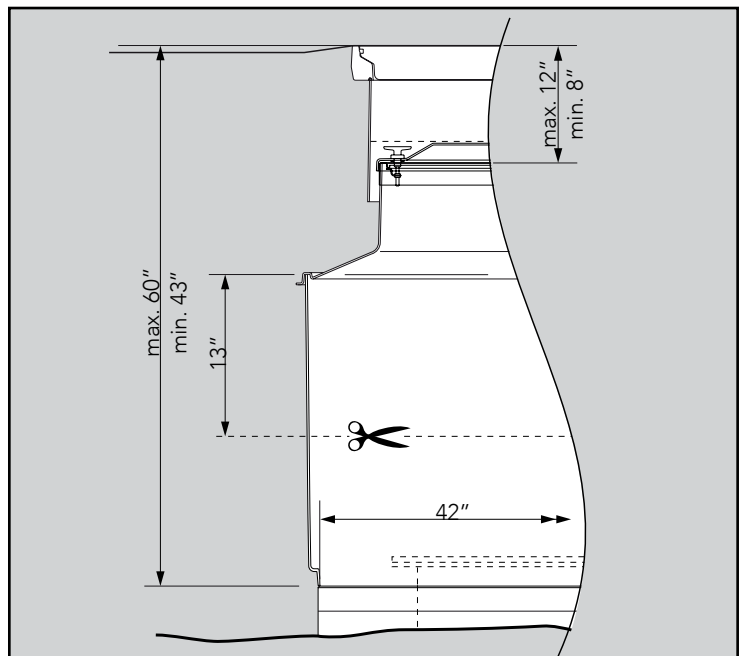


3 Place the sump base onto each of the tank collars and place the corbels onto the sump bases ("dry fit" the sump bases and corbels at this stage). Use a marker to mark each sump to reflect the tank it is installed on. Measure the distance from grade level to the top of the sump corbel for each sump and note the measurement in a log or on the side of the sump. Compare each measurement 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. Do not trim more than 13" from sump base – contact distributor for shorter base if required.
More than 12"	Install 12" extension to sump base – contact distributor and order S8-EXT12 extension. Follow "Bonding the Extension" instructions.



INSTALLATION INSTRUCTIONS

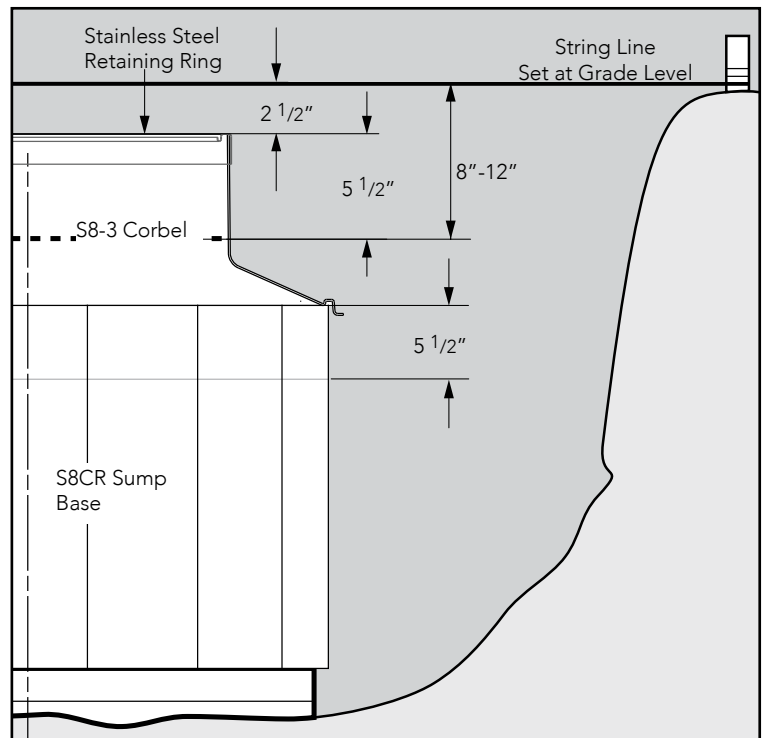
(Trimming Sump Base to Achieve Correct Sump Height)

FIBRELITE 
PART OF OPW A DOW COMPANY

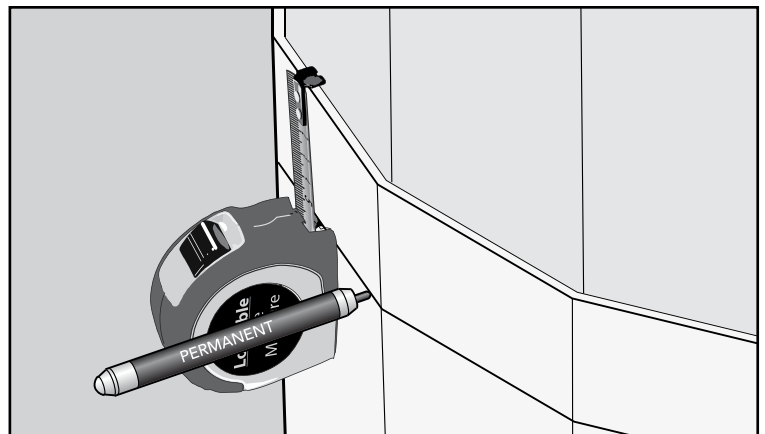
- 5** As shown in the drawing to the right, the top of the tank sump corbel must be approximately 8" to 12" below finished grade. In the example shown in the drawing, the top of the sump corbel is only 2 1/2" below grade level. As a result, the sump base will need to be trimmed down by at least 5 1/2".



Note: Never trim the corbel with the factory-installed stainless steel retaining ring. Never trim more than 13" down from the top of the sump base. (contact Fibrelite technical service with any questions).

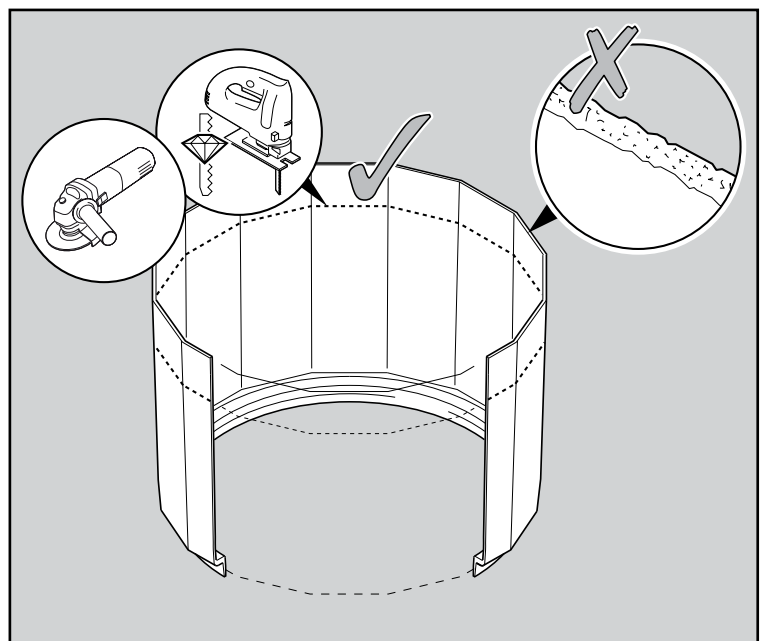


- 6** As shown in the drawing to the right, mark the trim line on the sump base using an indelible marker - make sure to mark a level line on the tank sump for cutting (use a locked tape measure as shown). If the line is not level, re-measure and re-mark until the marked line is correct and level. The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



- 7** 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 tank collar and sump base for fibreglassing)

FIBRELITE 
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NB: - Correct preparation is essential!

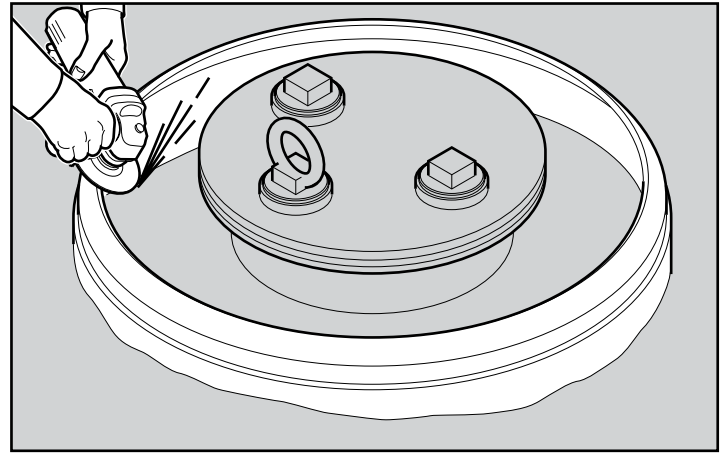
Failure to correctly prepare the surface prior to bonding may result in a “WEAK” joint and subsequent failure.

8

The surface of the tank collar must be prepared properly prior to bonding – use an angle grinder to expose the fiberglass surface to ensure good bonding. If grinding is not possible, sand by hand - use heavy grit sandpaper to ensure that the fiberglass surface is properly exposed.



Do not grind the tank collar with an electric grinder unless all appropriate safety procedures for open tank pits have been followed. If there is any risk that gasoline vapors may be present in the tank pit, use only explosion-proof or air-powered tools or sand the collar by hand.

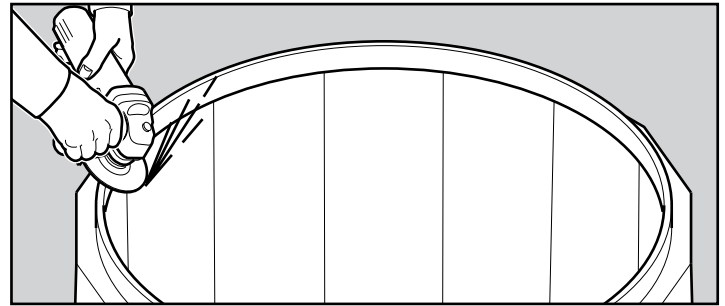


9

The surface of the tank sump collar must also be properly prepared prior to bonding.

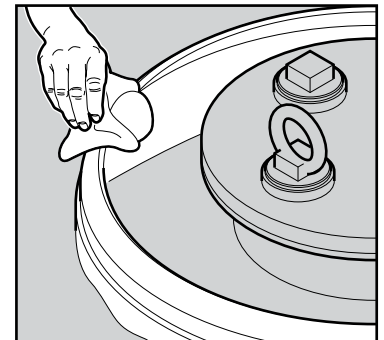
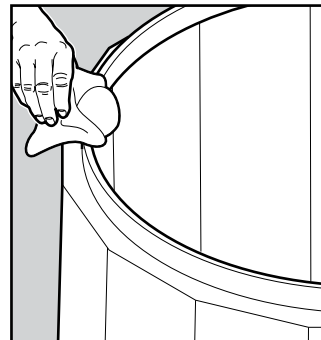
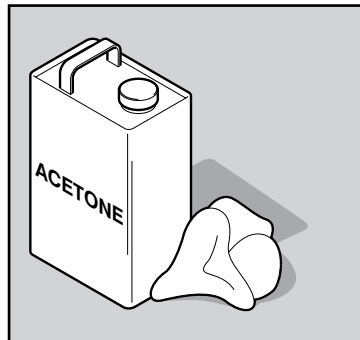
Sand both the internal and external sides of the collar.

If grinding is not possible, sand by hand - use heavy grit sandpaper to ensure that the fiberglass surface is properly exposed



10

All abraded surfaces must be wiped clean with acetone (or equivalent replacement) immediately prior to bonding to ensure that no dust or dirt is present on the surfaces.

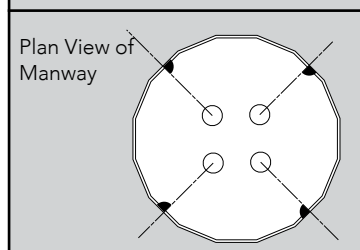
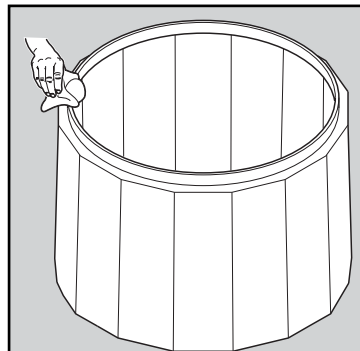


11

Immediately after cleaning, install the tank sump onto the tank collar.

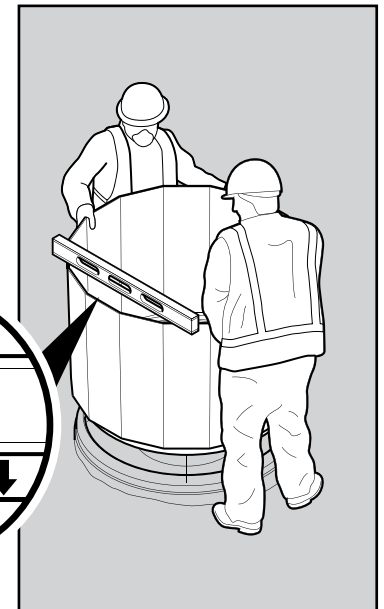
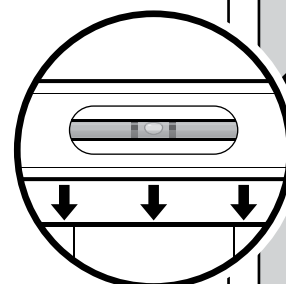
11a

Note: Prior to fibreglassing the sump to the tank collar, dry fit it onto the collar and position so that the sump facets align perpendicular with the pipework exit/entry points.



12

Use a level to properly set the tank sump in place – make sure the sump will be level to finished grade.

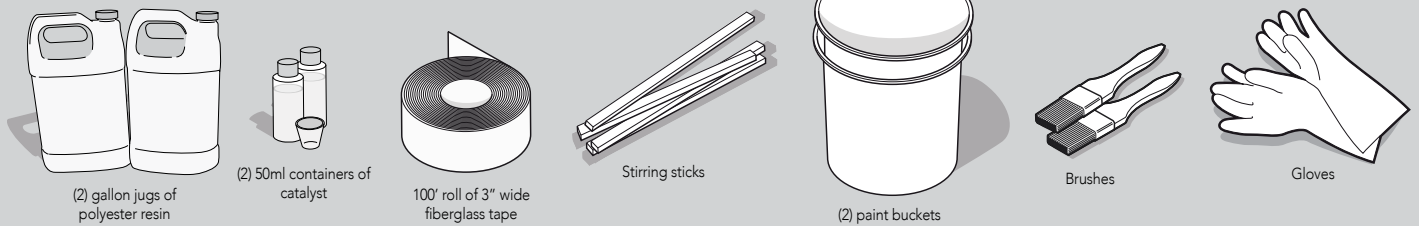


INSTALLATION INSTRUCTIONS

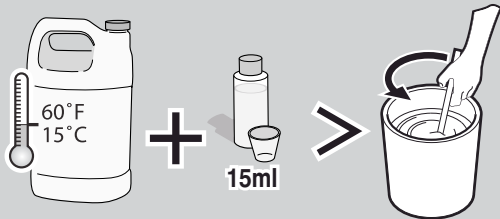
(Fiberglassing the sump base to the tank collar)

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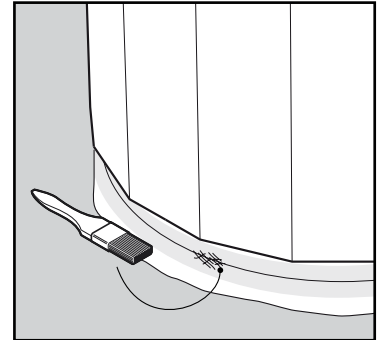
S/CR/FGK Fiberglassing Kit



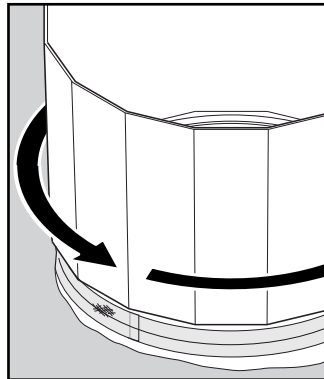
- 13** At 60°F, mix 1 quart resin with 15ml catalyst and stir well. Note: Detailed tank collar fiberglass instructions are packed in fiberglassing kit.



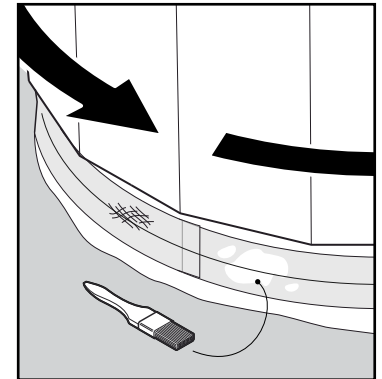
- 14** Using brush, paint resin onto sanded surfaces at the tank collar joint. Apply resin around circumference of the tank collar.



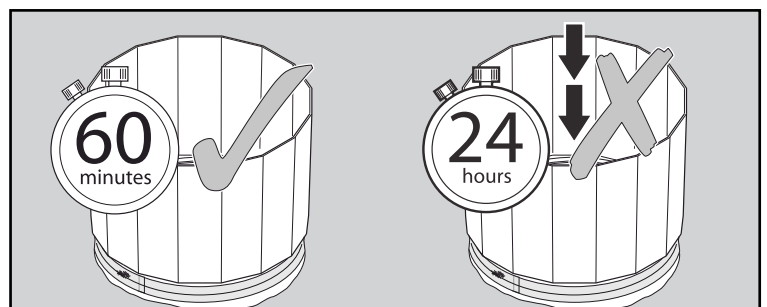
- 15** Apply a layer of fiberglass tape by centering it on the tank collar joint and unrolling it completely around the sump keeping it centered over the joint (this will require 2 people). Cut the tape once the first layer is applied."



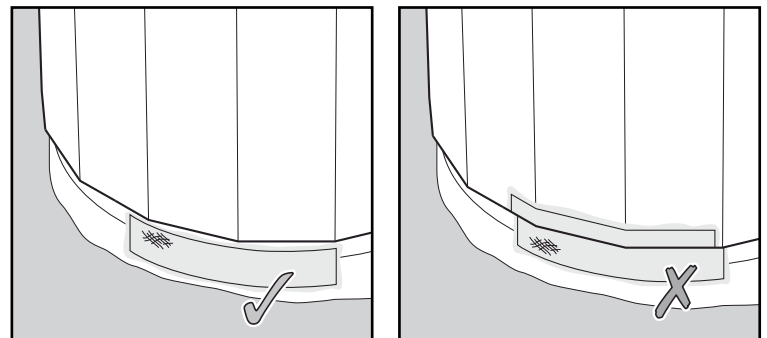
- 16** Apply a second and third layer of fiberglass tape by repeating steps 14 and 15 ensuring that all joints are staggered and overlap by a minimum of 2. Paint a final layer of resin onto the third layer of fiberglass and use the brush to flatten out any bubbles or air pockets.



- 17** 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.



- 18** Apply fiberglass tape only at the tank collar to tank sump joint. Fiberglassing on the sump body may cause distortion after the resin has dried.



SPECIAL NOTES: Fiberglassing the Tank Collar Joint: Fibrelite recommends fiberglassing the outside of the tank collar joint with 3 layers of glass as an added precaution against water intrusion (especially in high water areas).

INSTALLATION INSTRUCTIONS

(Pouring the inner tank collar joint)

FIBRELITE 
PART OF OPW A DOVER COMPANY

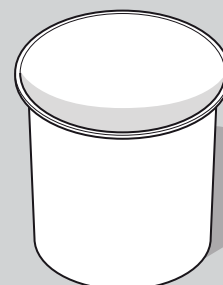
RK-5000 Epoxy Resin Kit



Part A



Part B



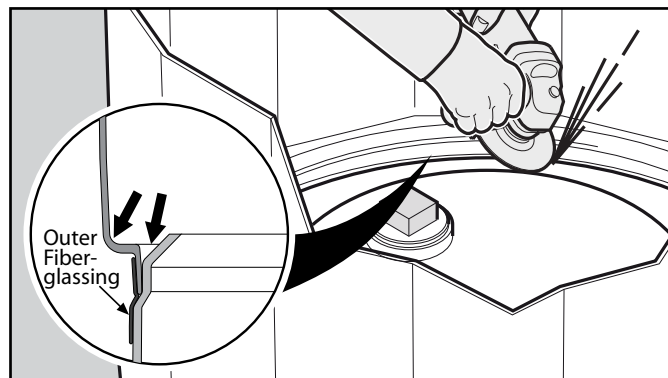
Bucket

19

In addition to fiberglassing the outside tank collar joint, the inner tank collar joint should be filled with an epoxy resin to ensure that the joint will be watertight. Use part # RK-5000 Epoxy Resin Kit and follow detailed instructions packed with kit.

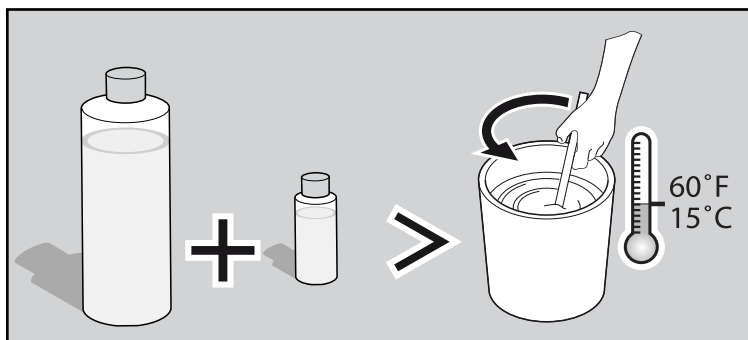
20

Prepare the inner tank collar joint and tank sump mating surfaces by sanding or grinding – surfaces previously sanded should be cleaned with acetone.



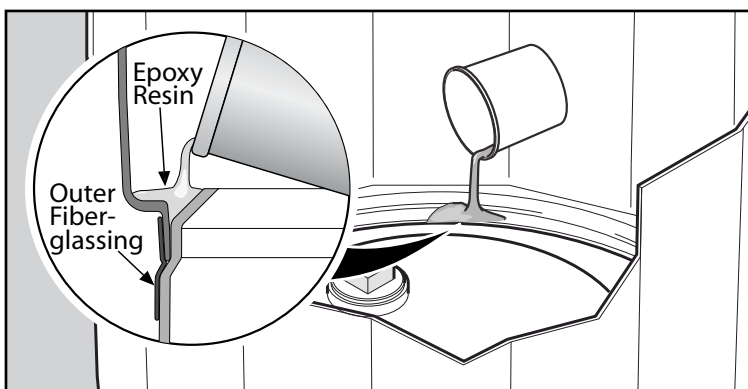
21

Prepare epoxy resin by thoroughly mixing Part A and Part B in the mixing bucket. Keep material above 60°F until immediately prior to use.



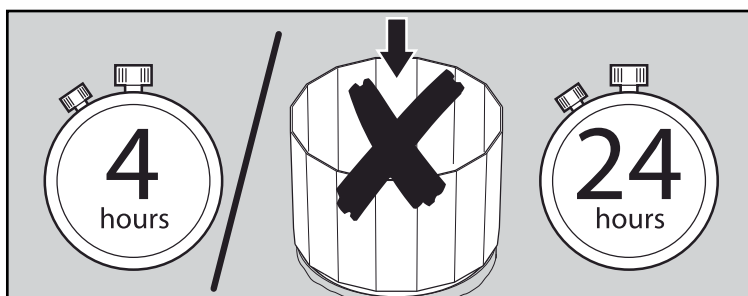
22

Apply epoxy resin filler by pouring the epoxy into the joint between the tank collar and the tank sump."



23

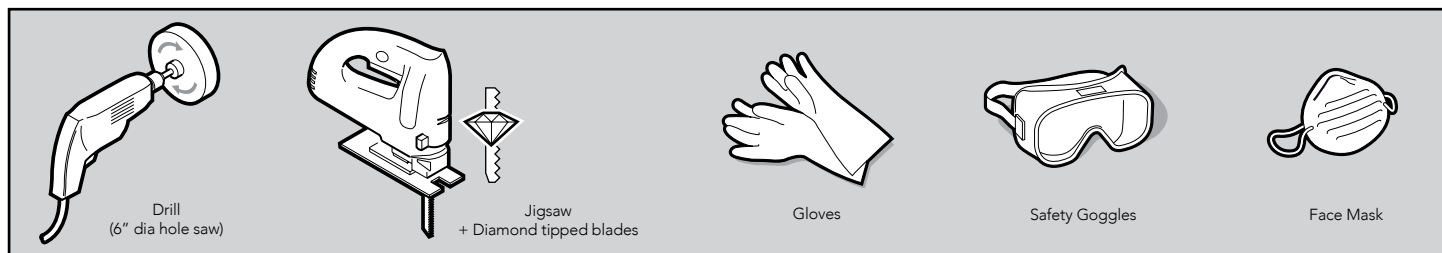
Allow approximately 4 hours for the resin to cure before proceeding with any other work on the tank sump. Allow 24 hours before putting any stress on the sump.



INSTALLATION INSTRUCTIONS

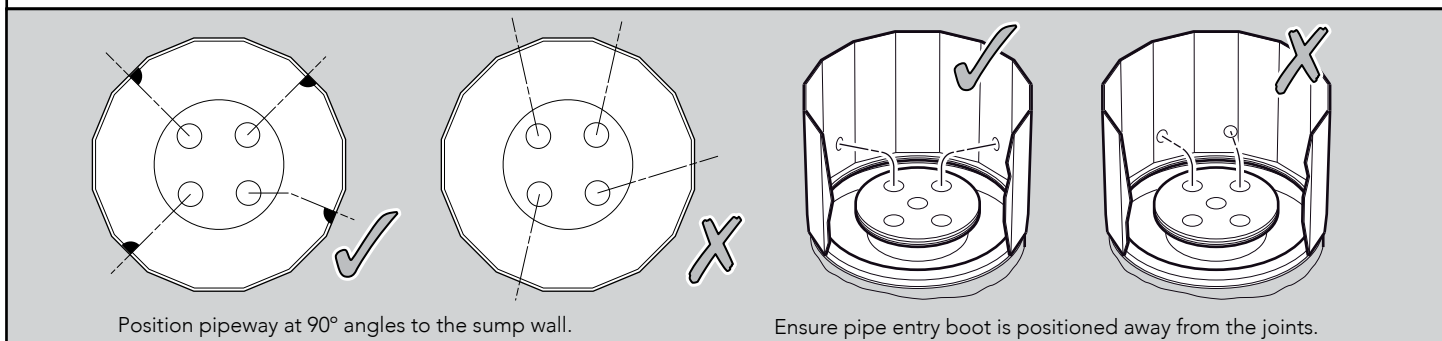
(Installing Penetration Fittings)

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24

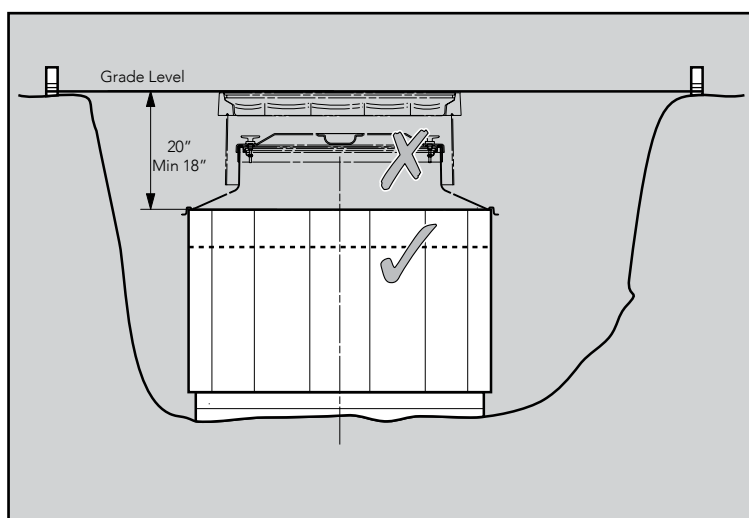
WARNING Care must be taken to position the pipework and conduit so it exits the sump at 90° angle to the sump wall. Otherwise undue stress will be placed on the sump wall and entry boot, which may lead to leaks in the future.



25

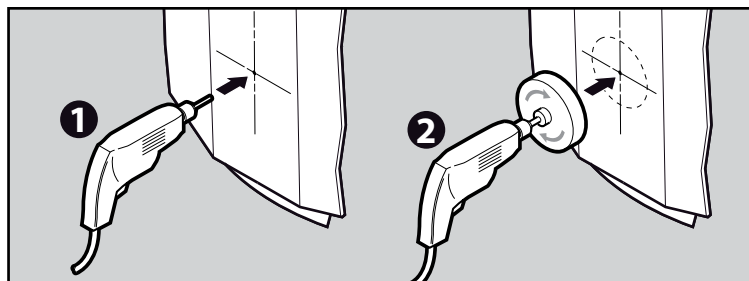
Prior to installing pipework, install a string line at grade level and determine if the sump base will first need to be trimmed.

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.



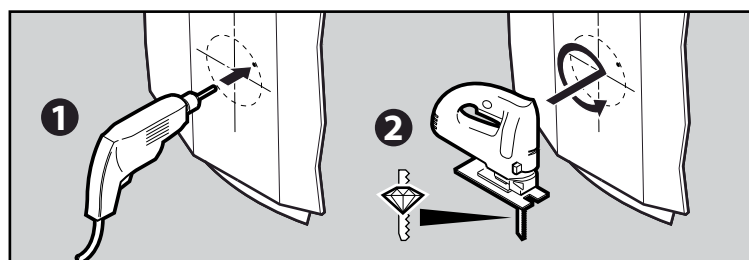
26

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.



27

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.



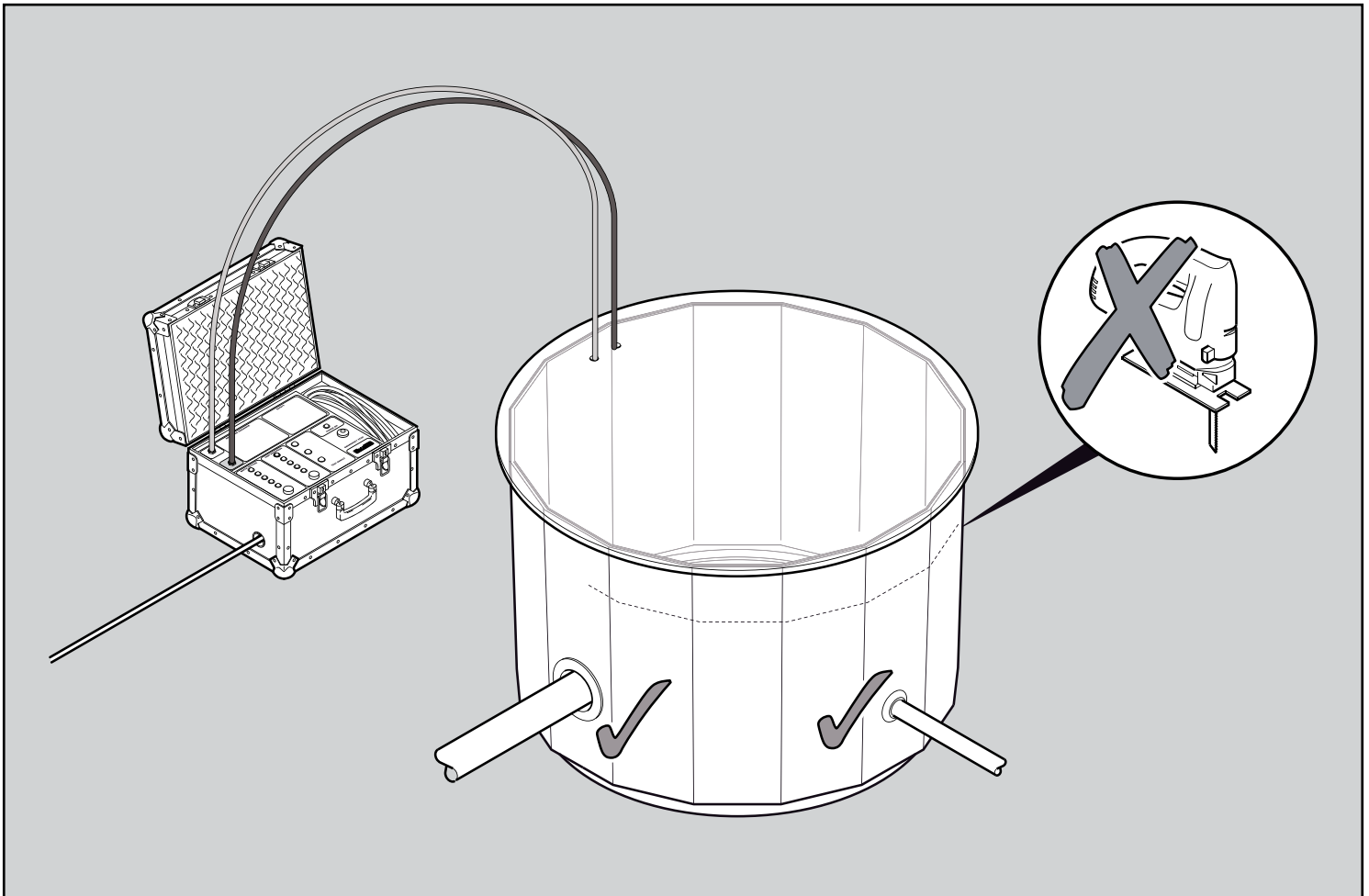
NOTE : When backfilling ensure the pipework is not disturbed.
WARNING : Do not backfill until the sump has been vacuum tested.

INSTALLATION INSTRUCTIONS

(Sump Testing)

- 28** 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.

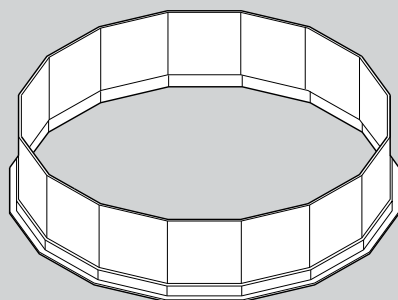
Refer to Fibrelite's "Sherlock Vacuum Testing Procedures" or "Hydrostatic Testing Procedures" for more details on testing.



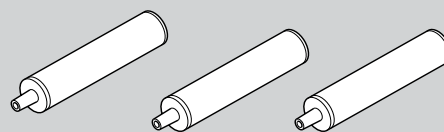
INSTALLATION INSTRUCTIONS

(Bonding the Extension to the Sump Base - Required Only for Deep Burial)

FIBRELITE 
PART OF OPW A DOW COMPANY



S8/EX12 extension

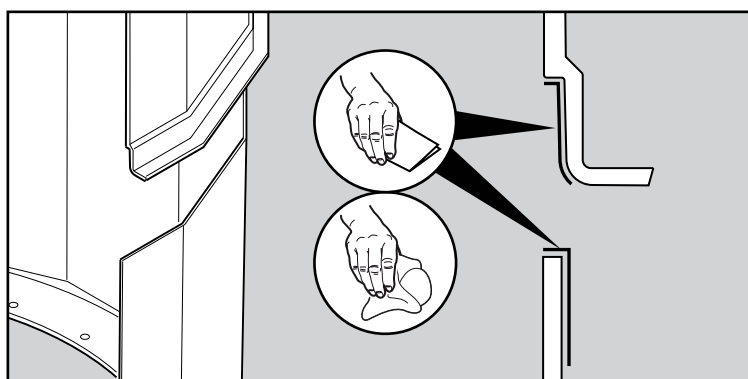


3 tubes of Sealant

29

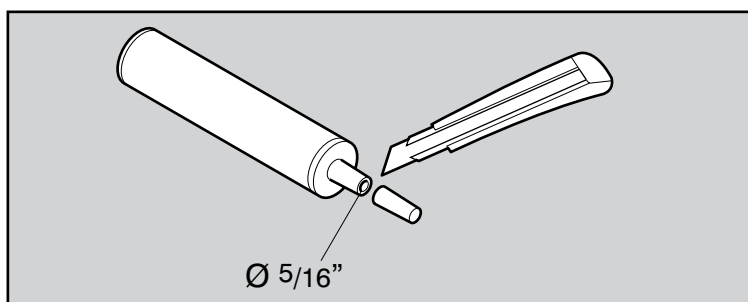
NOTE: If the burial depth of the tank requires the use of a sump extension, contact your distributor and order the appropriate extension.

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).



30

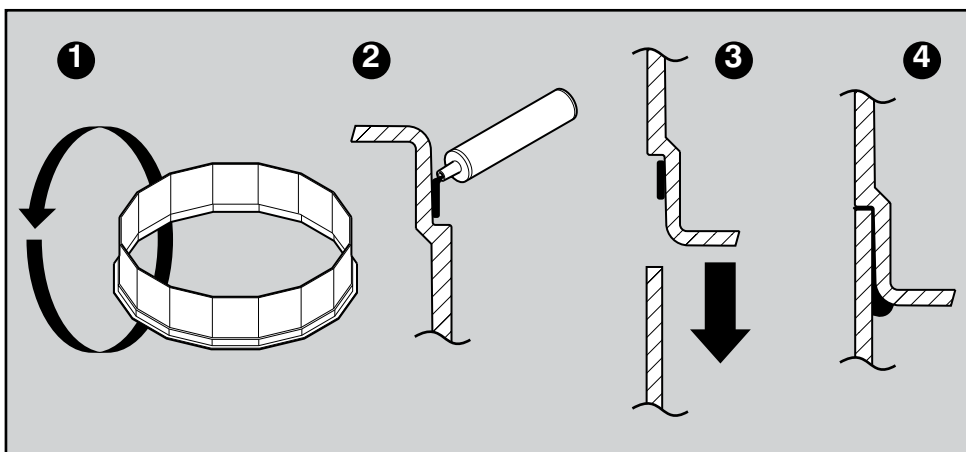
Cut nozzle of the adhesive sealant tube to approximately $\text{Ø } 5/16''$.



31

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

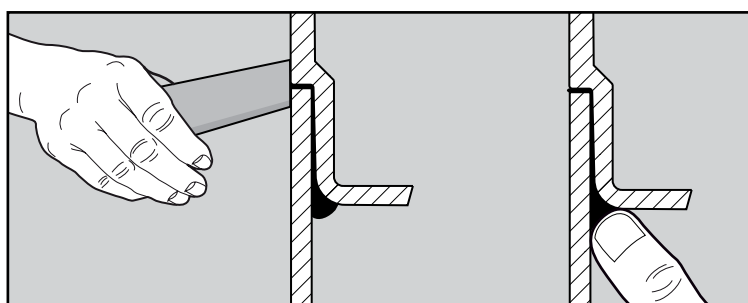
Position the extensions(s) onto the chamber, ensure the extension is horizontal and press down uniformly.



32

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

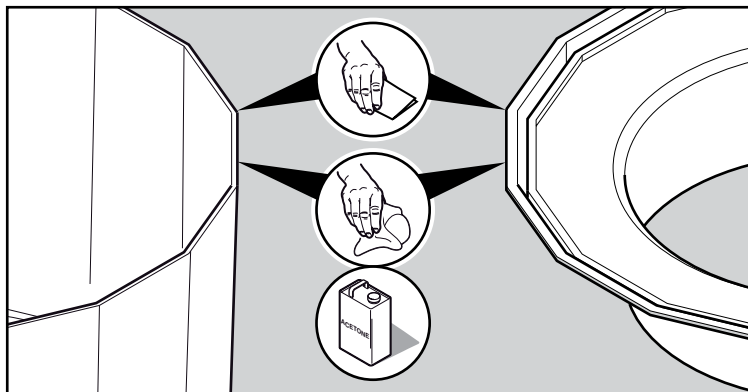
(Bonding the corbel to the sump base or extension)

FIBRELITE

PART OF OPW A DOWER COMPANY

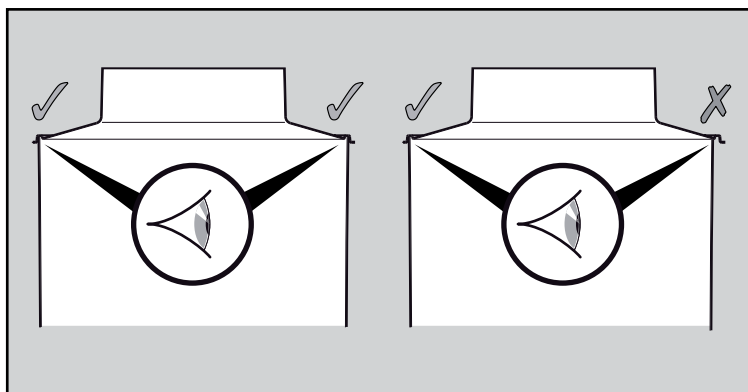
- 33** Prepare the mating surfaces of the tank sump base (or extension) and the downward facing groove on the corbel (as shown at right).

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

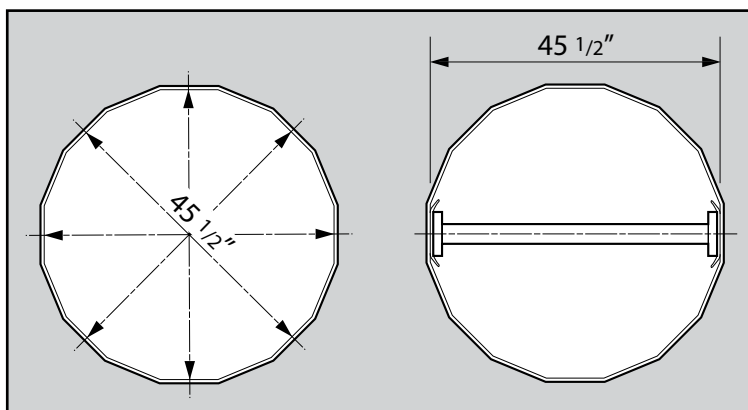


- 34** Dry fit the corbel on the sump to ensure it fits - push corbel groove onto sump wall,

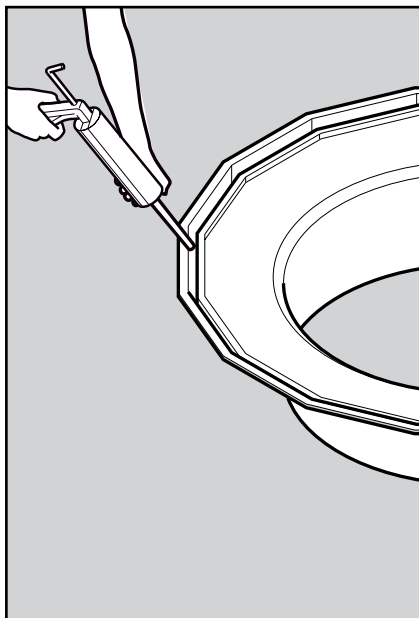
If the corbel does not fit properly onto the sump wall, measure the inside diameter of the sump walls (as shown to the right). The measurement should be between 45 1/2" and 46" (+/- 1/4"). If the measurement is not within these specifications, the sump may have become out-of-round due to improper storage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



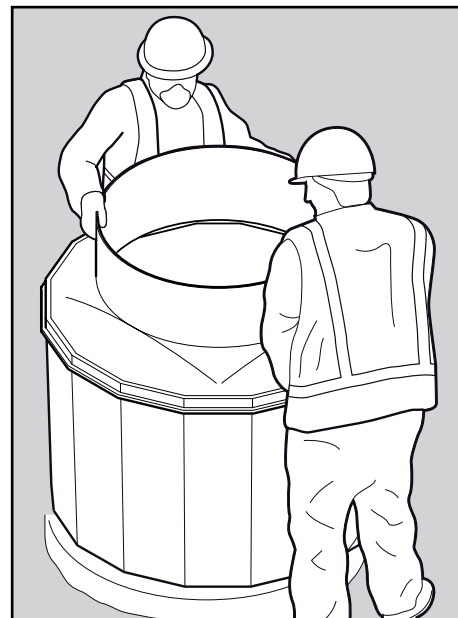
- 35** To fix an out-of-round sump base, first find the shortest distance between any 2 sump walls. Using a wooden 2x4 cut to 45 1/2" length, install the 2x4 at an angle into the sump and use it to brace out the sump walls to the correct size. Repeat this process on all sump walls to return the sump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



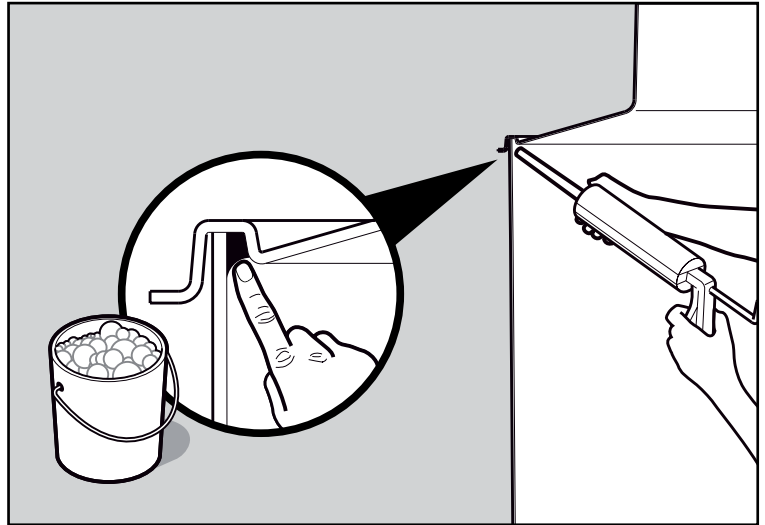
- 36** Apply 2 tubes of sealant in the groove of the corbel. Sealant should fill half the groove.



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

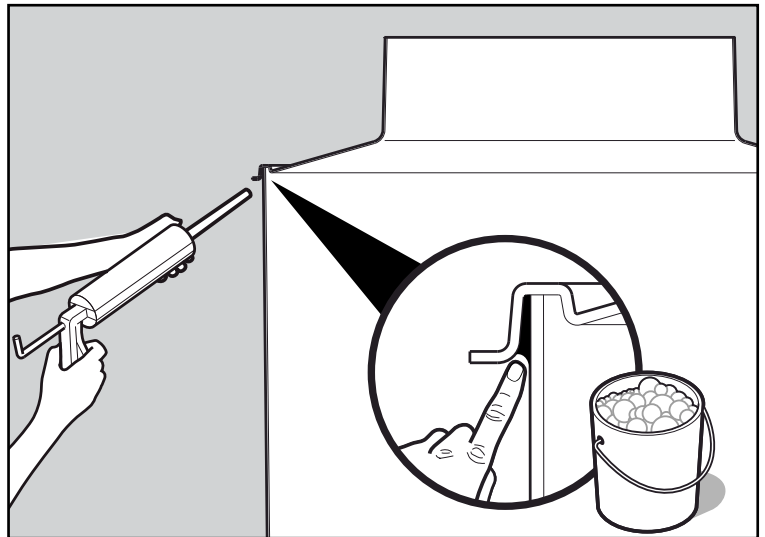


- 38** Seal around the inside edge of the corbel joint from inside the sump. Smooth off the sealant with soapy water.



- 39** 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.

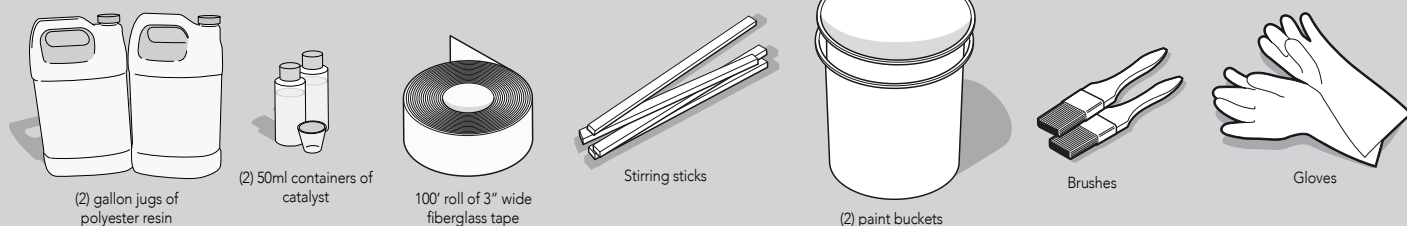


INSTALLATION INSTRUCTIONS

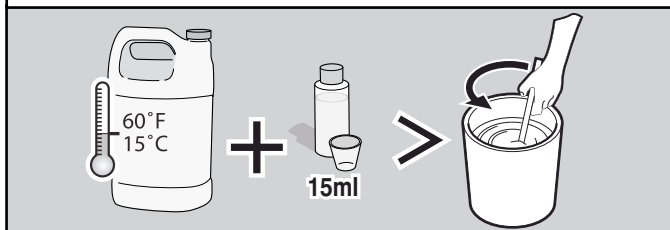
(Fiberglassing the corbel to the sump base)

FIBRELITE 
PART OF OPW A DOWDER COMPANY

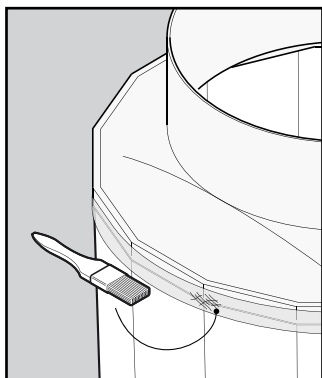
S/CR/FGK Fiberglassing Kit



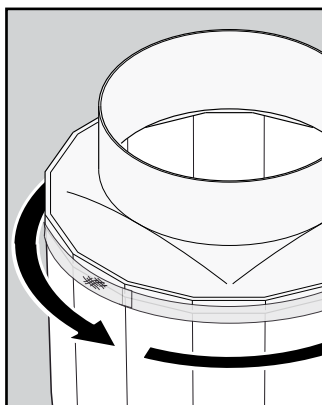
- 40** At 60°F, mix 1 quart resin with 15ml catalyst and stir well.



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

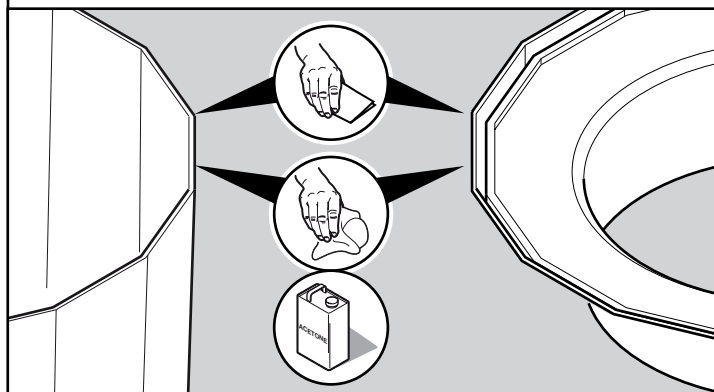


- 43** Apply a layer of fiberglass tape by centering it on the corbel to sump base joint and unrolling it completely around the sump keeping it centered over the joint (this will require 2 people). Cut the tape once the first layer is applied."

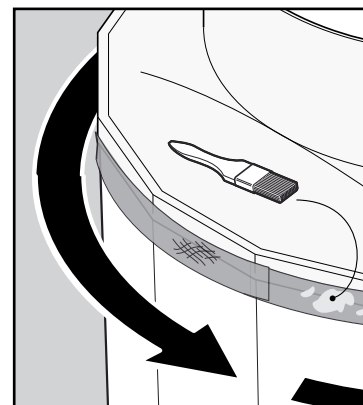


- 41** Prepare the mating surfaces of the tank sump base (or extension) and the downward facing groove on the corbel (as shown at right).

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

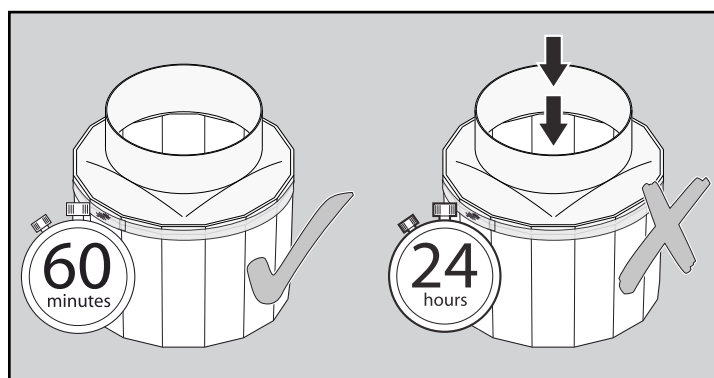


- 44** Apply a second and third layer of fiberglass tape by repeating the previous 2 steps ensuring that all joints are staggered and overlap by a minimum of 2". Paint a final layer of resin onto the third layer of fiberglass and use the brush to flatten out any bubbles or air pockets.

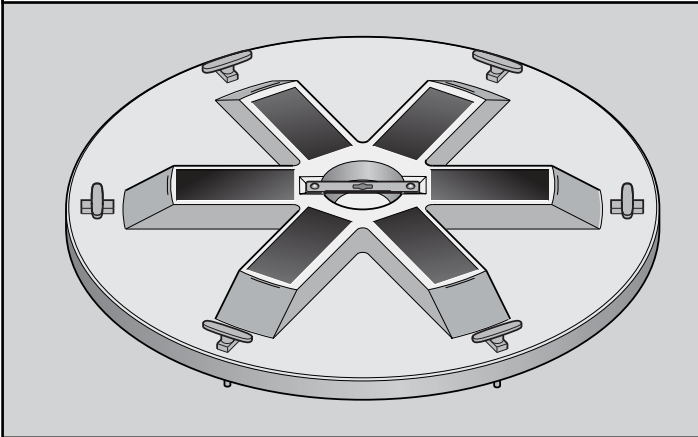


- 45** Allow approximately one hour for the resin to cure before proceeding with any other work on the tank sump. Allow 24 hours before putting any stress on the sump or performing any testing.

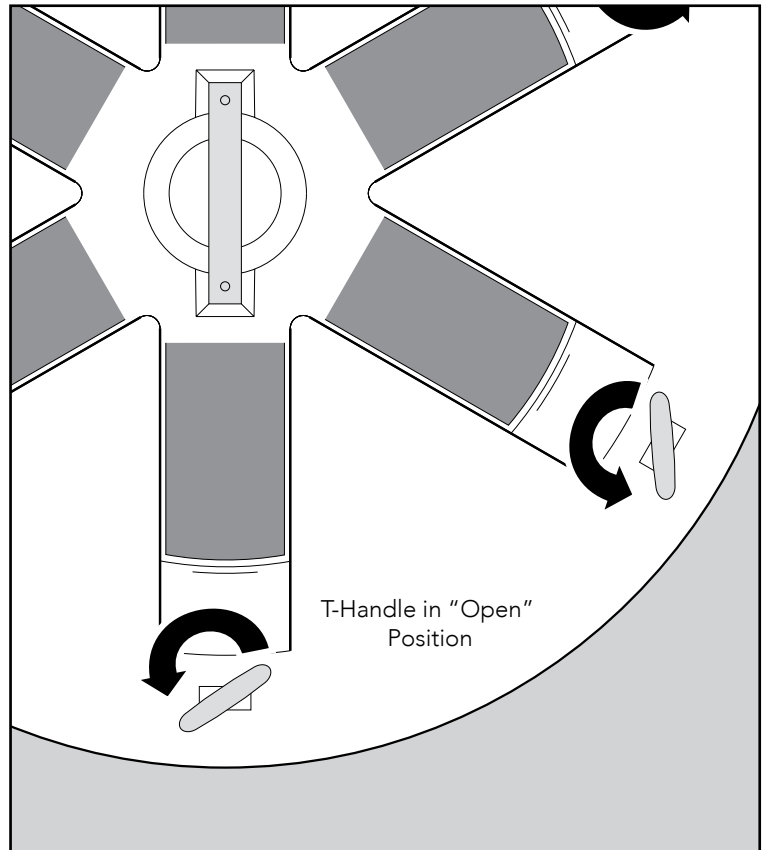
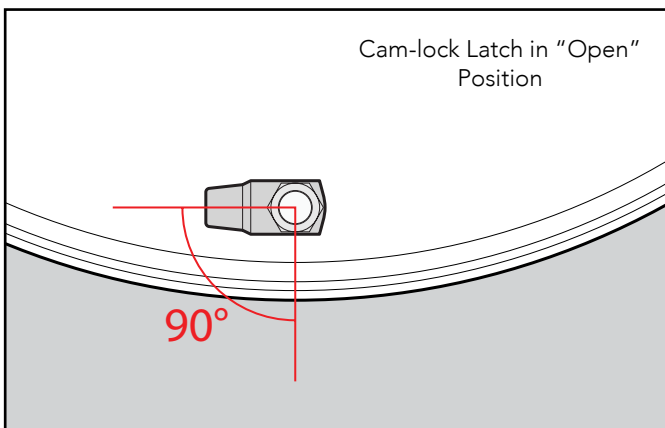
Important: As a final step, always seal the inside joint of the corbel using Fibrelite sealant. Follow the steps shown in the "Bonding the corbel to the sump base" instructions.



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.

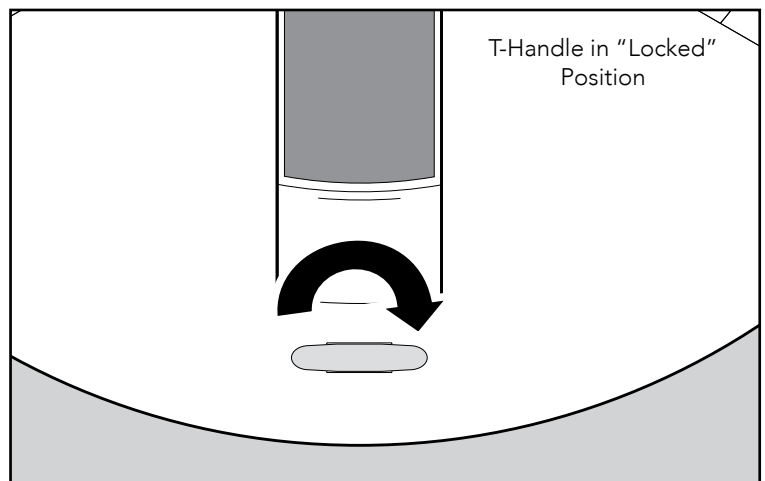


- 46** Turn all T-handles on the top of the lid fully counterclockwise to the open position (as shown in the drawing to the right) – the cam-lock latches on the underside should be 90 degrees opposed from the edge of the platform (as shown below).



- 47** 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.

If the T-handle fails to engage it may be necessary to adjust the 'cam-lock' height. See next page for adjustment instructions.



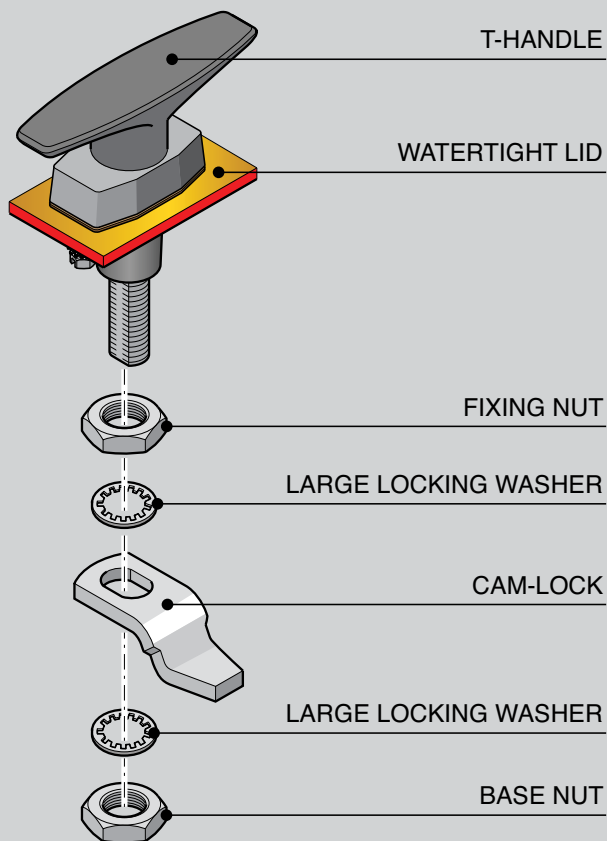
INSTALLATION INSTRUCTIONS

(Adjusting the Cam-lock Height)

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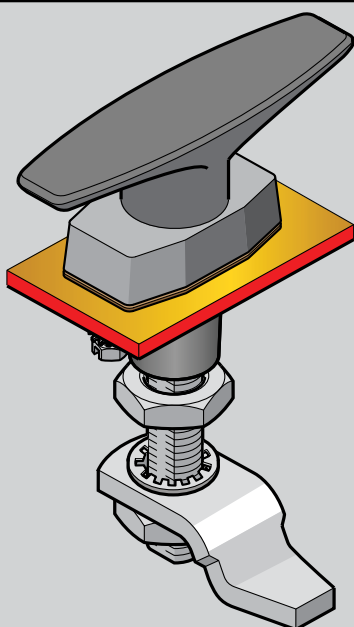
48



The T-handle mechanism consists of the above items.

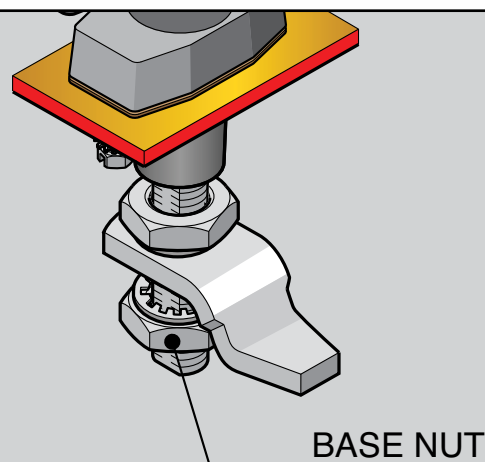
50a

Pull the cam-lock down to rest onto the base nut. Lower and tighten the fixing nut until the cam-lock is secure as per step 51.



NOTE : If the T-handle cannot be fully engaged or if the lid is not compressing the gasket tightly against the stainless steel ring contact Fibrelite technical support.

49

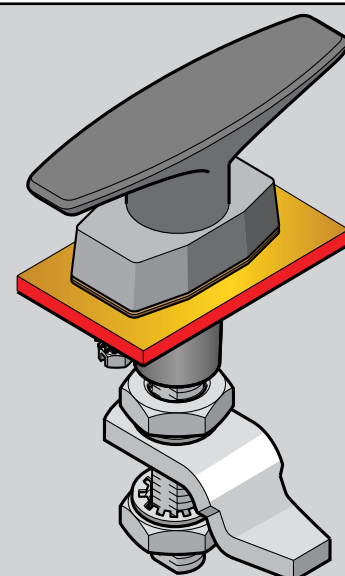


If the T-handle is not fully engaging it means the cam-lock needs to be lowered. Loosen the base nut to a lower position and go to step 50a.

If the lid is not compressing the gasket tightly against the stainless steel ring it means the cam-lock needs to be raised. Loosen the base nut and go to step 50b.

50b

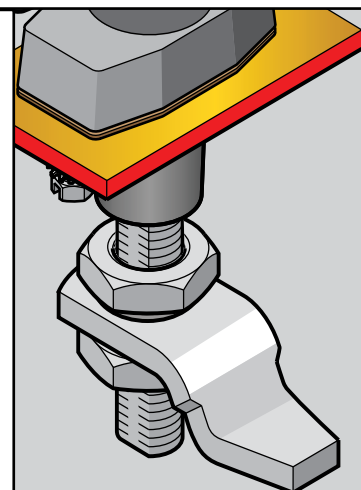
Pull the cam-lock down to rest onto the base nut and raise the fixing nut. Push the cam-lock up to the fixing nut and tighten the base nut until the cam-lock is secure as per step 51.



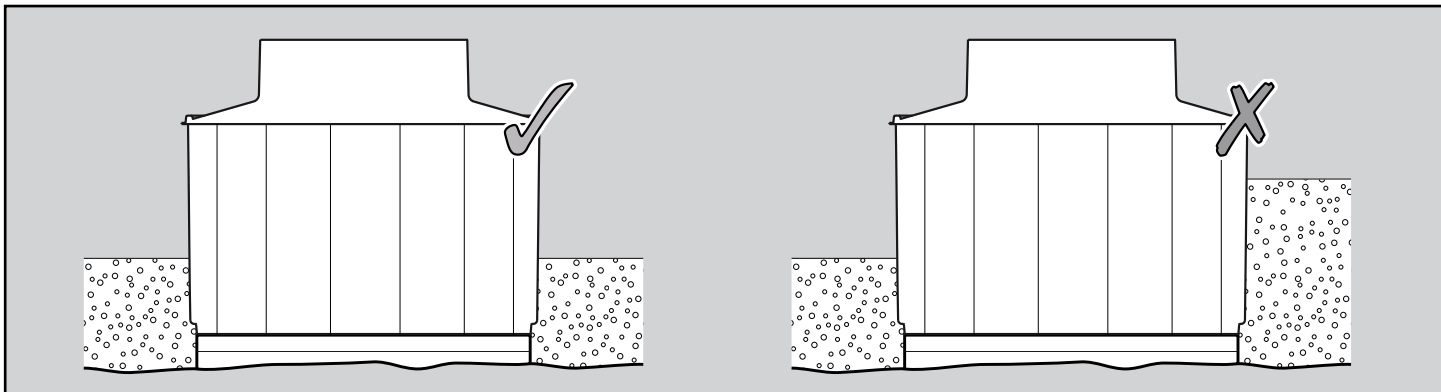
51

Once the cam-lock is secure refit the watertight spill platform as per steps 46 and 47.

Note: It may be necessary to further adjust the cam-lock height until the optimal position is located.



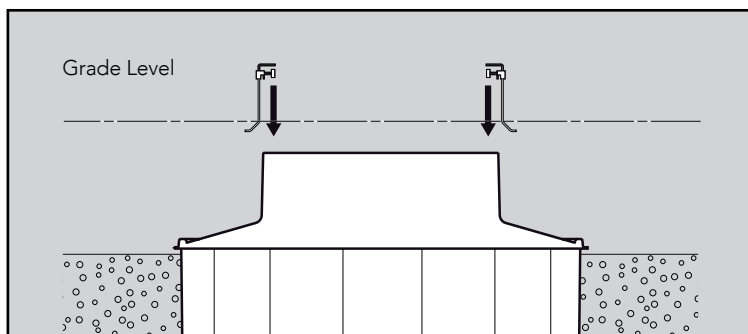
- 52** Once the sump and corbel have successfully passed vacuum or hydrostatic tightness testing, the area around the sump can be carefully backfilled with peagravel or sand. Back-fill equally around the sump in layers to prevent damage or deformation.



(Installing the Skirt & Frame to Grade Level)

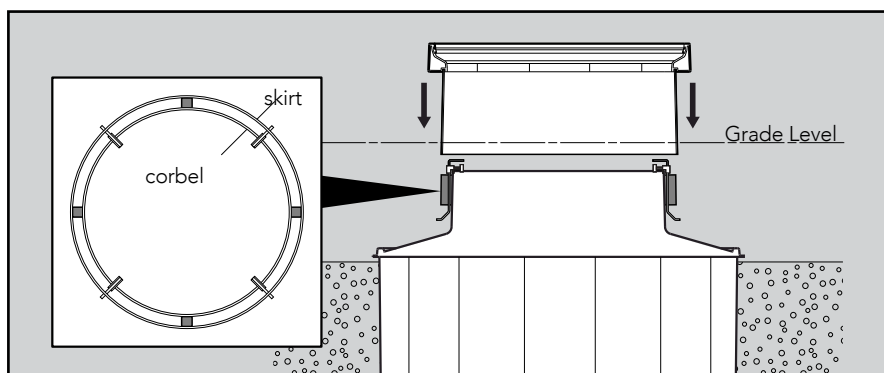
NOTE : This section is only relevant if installing FL90 manhole covers. Please skip if installing any other manhole cover.

- 53** 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.

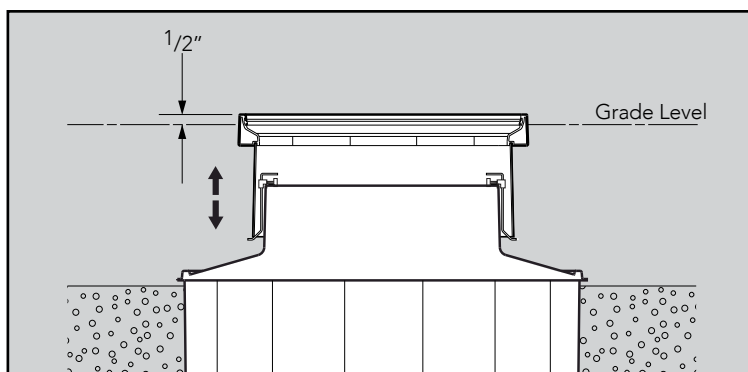


- 54** Put the skirt and frame on the hangers.

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.

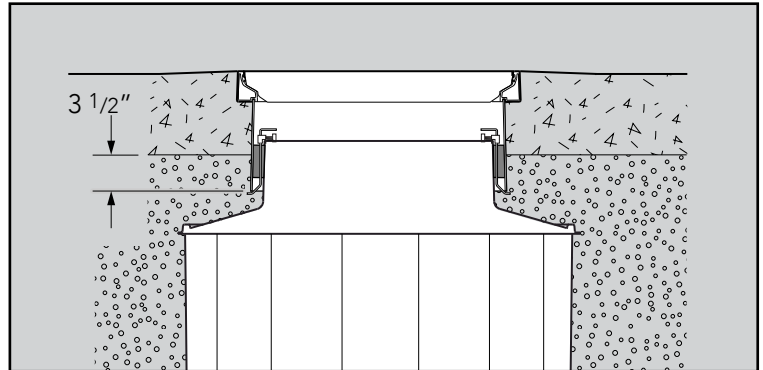


- 55** Adjust knobs to set the frame to stringline level, adjust for fall in grade. Set the frame $\frac{1}{2}$ " above grade level.



- 56** 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.



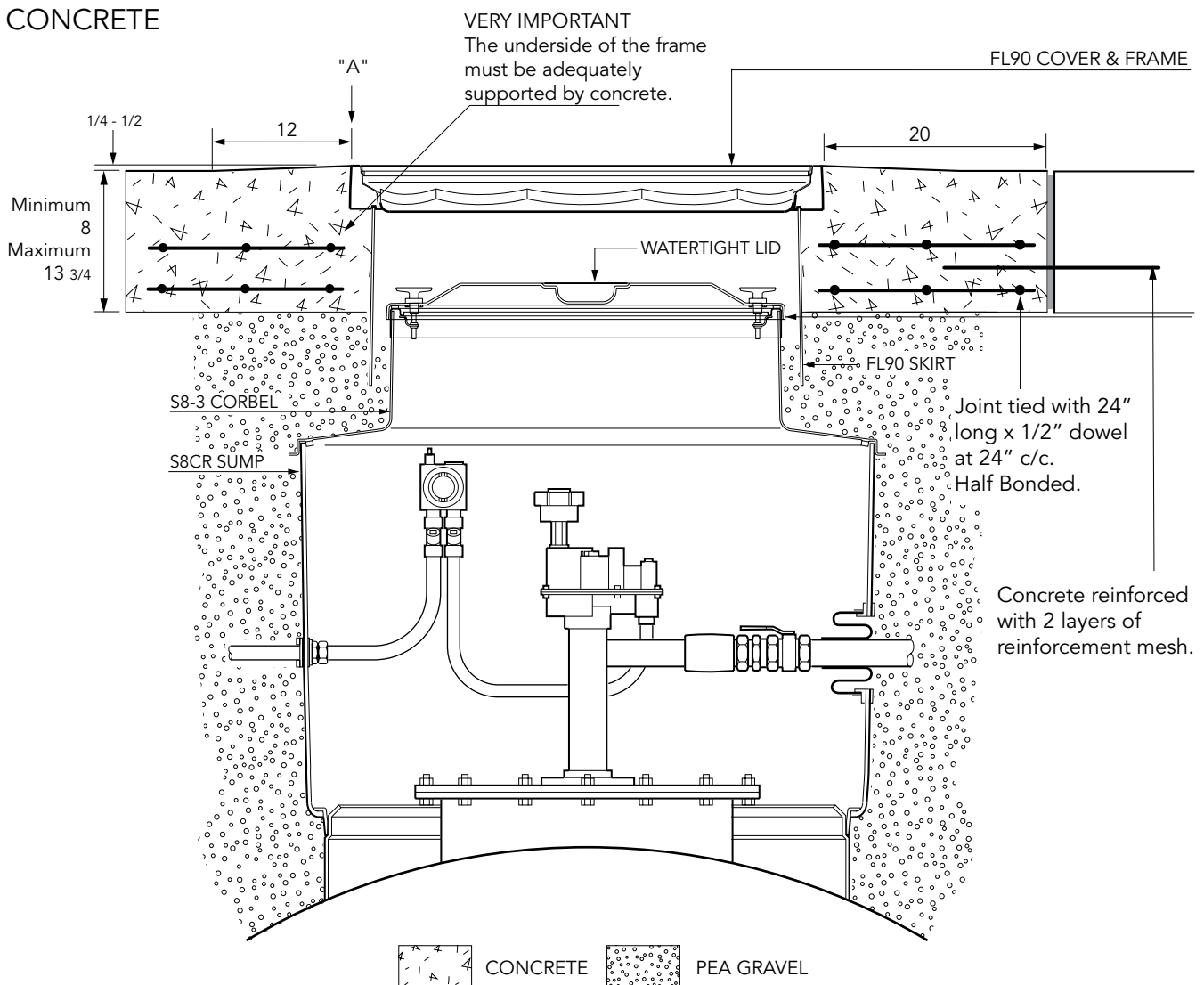
- 57** Complete backfilling to appropriate level. Frame must be supported by a minimum depth of 8" of concrete. Concrete reinforcement must be positioned as close to the frame as possible. Minimum block of 20" square around the frame. Joint must be tied as per diagram. Continuous pour preferred if possible.

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



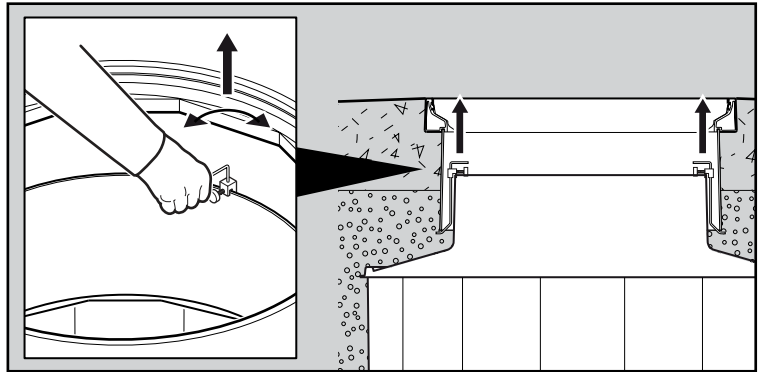
INSTALLATION INSTRUCTIONS

(Concreting)

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- 58** 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.



S8CR & S14CR WT Installation Guide

- 59** 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.

