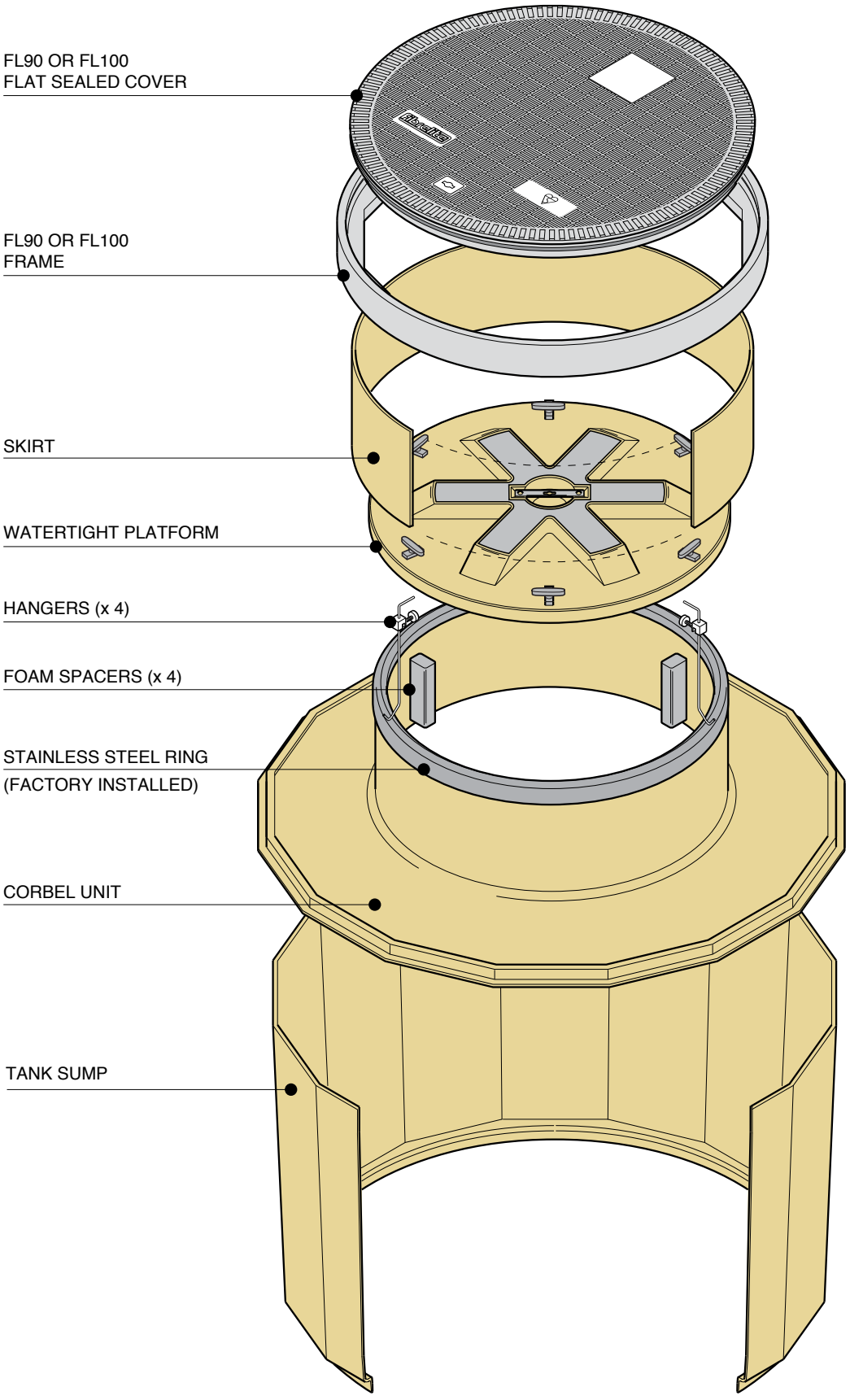
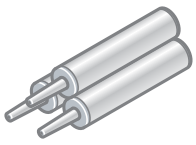


S-CR-ERK EPOXY
RESIN KIT

S-CR-FGK
FIBERGLASSING KIT



40FC SEALANT
TUBES (x 5)

INSTALLATION INSTRUCTIONS
(Sump Installation)

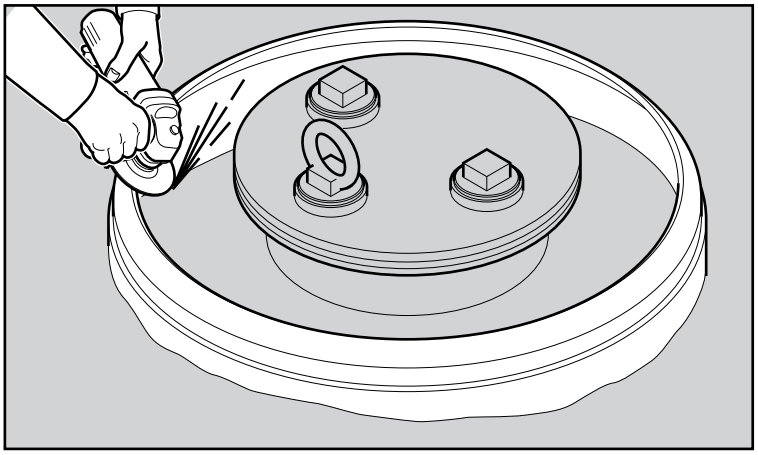
FIBRELITE
PART OF OPW A DOVER COMPANY

NB: - Correct preparation is essential!
Failure to correctly prepare the surface prior to bonding may result in a “WEAK” joint and subsequent failure.

1

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. (or sand paper can be used by hand)

STOP 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 vapours may be present in the tank pit, use only explosion-proof or air-powered tools or sand the collar by hand.

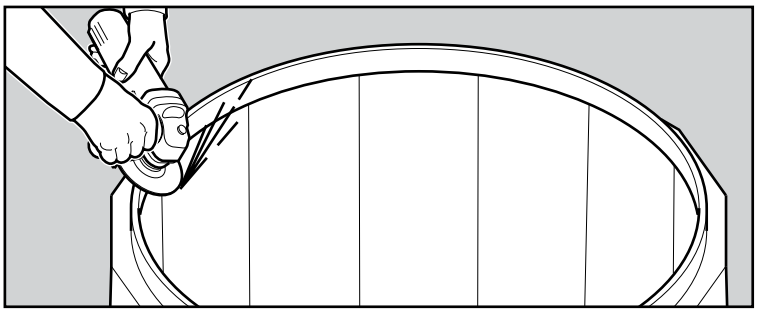


2

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

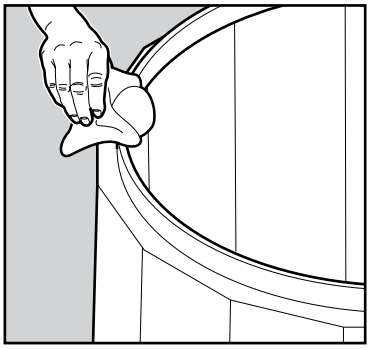
Sand both the internal and external sides of the collar.

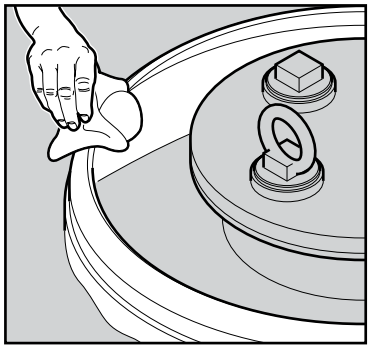
This can also be sanded by hand.



3

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

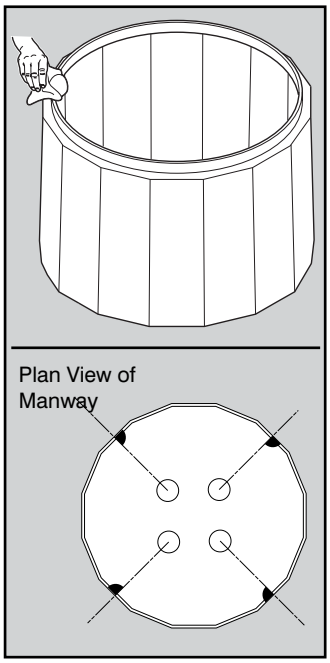




4

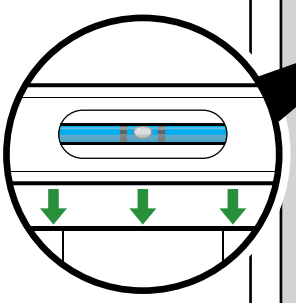
Immediately after cleaning, install the tank sump onto the tank collar.

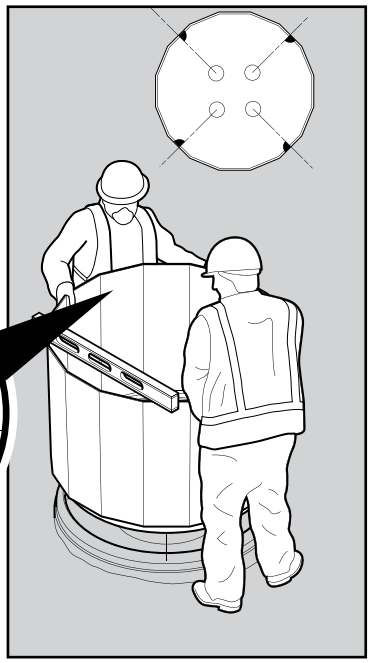
NB:
When installing the sump and immediately prior to bonding it is critical to ensure that the sump facets align perpendicular to the pipework exit points. This will ensure that the pipe entry seals are not unduly stressed.



5

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

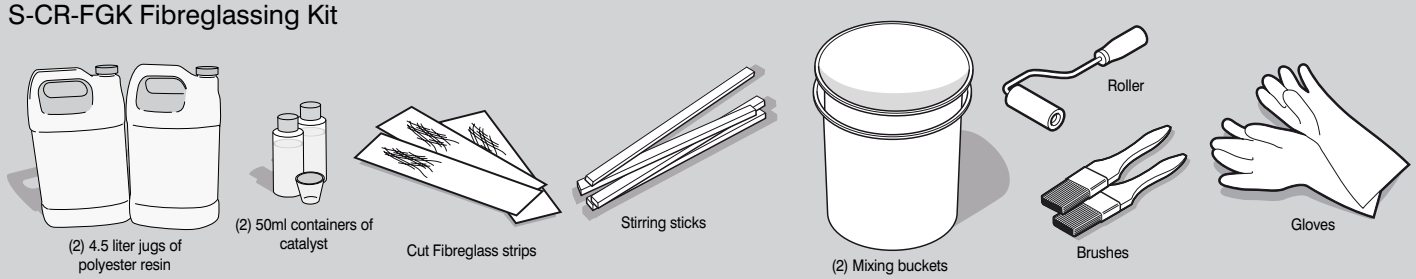




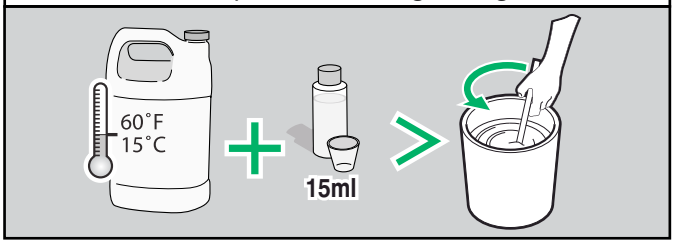
INSTALLATION INSTRUCTIONS
(Laminating the Sump to the Tank Collar)

FIBRELITE
PART OF OPW A DOVER COMPANY

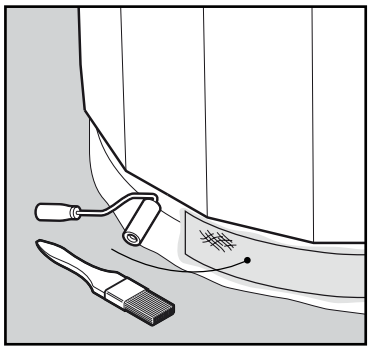
S-CR-FGK Fibreglassing Kit



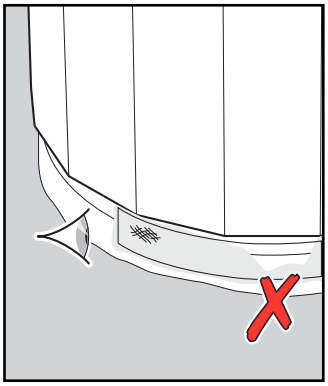
6 At 15°C, mix 1 quarter resin with 15ml catalyst and stir well. Note: Detailed tank collar fibreglass instructions are packed in fibreglassing kit.



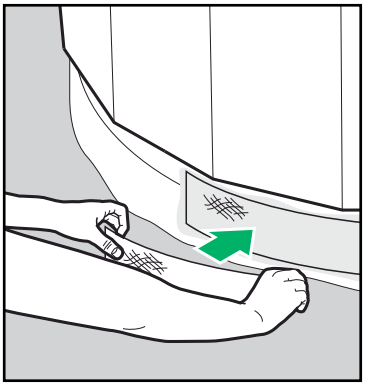
7 Brush resin onto the joint surface, apply a strip of fibreglass over the joint and apply resin over strip using a roller brush.



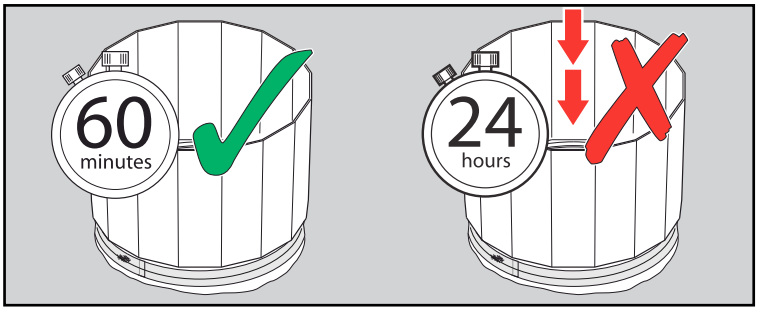
8 Ensure the resin covers the fibreglass strip, do not leave any dry areas.



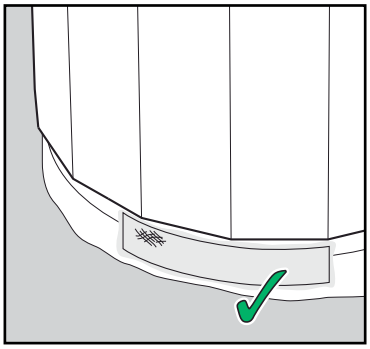
9 Apply a second and third layer of fibreglass as per the previous two steps.

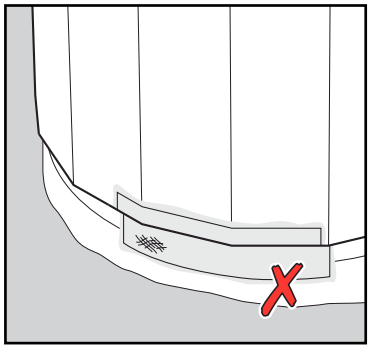


10 Leave to dry for a minimum of 1 hour, ensure the resin has hardened before applying resin to the internal joint. The fibreglass strips must overlap at the joints by a minimum of 50mm and each layer must be staggered. Allow 24 hours before exerting pressure to the sump.



11 **Warning – do NOT cut fibreglass strips too large. If the base of the sump is laminated too high, it may distort the shape of the sump when it dries.**



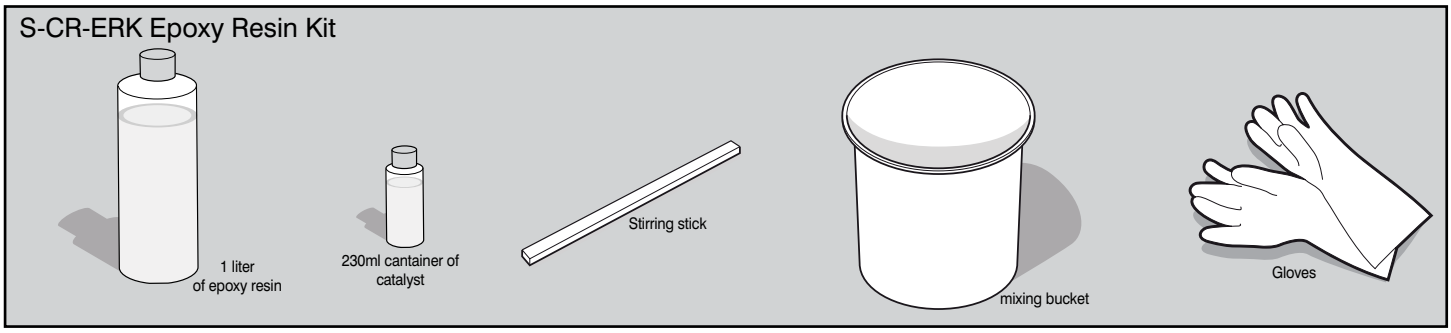


SPECIAL NOTES: Fibreglassing the Tank Collar Joint: Fibrelite recommends fibreglassing the outside of the tank collar joint with 3 layers of glass as an added precaution against water intrusion (especially in high water areas).

INSTALLATION INSTRUCTIONS
(Laminating and Bonding)

FIBRELITE
PART OF OPW A DOVER COMPANY

S-CR-ERK Epoxy Resin Kit

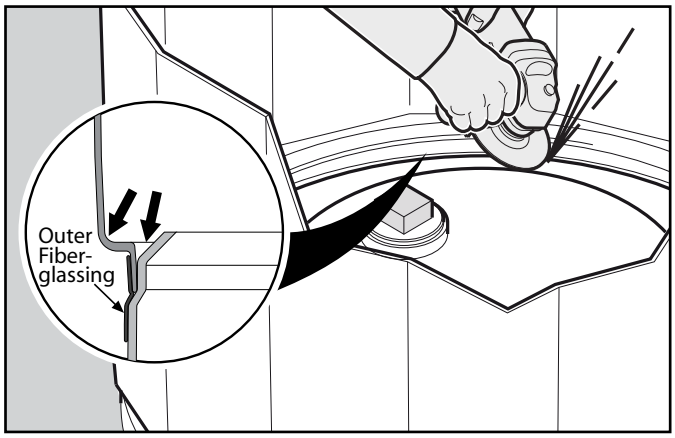


12

In addition to fibreglassing 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 Fibrelite part # S-CR-ERK Epoxy Resin Kit and follow detailed instructions packed with kit.

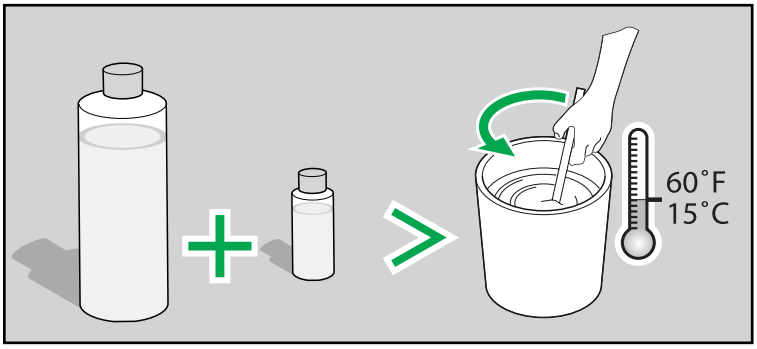
13

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



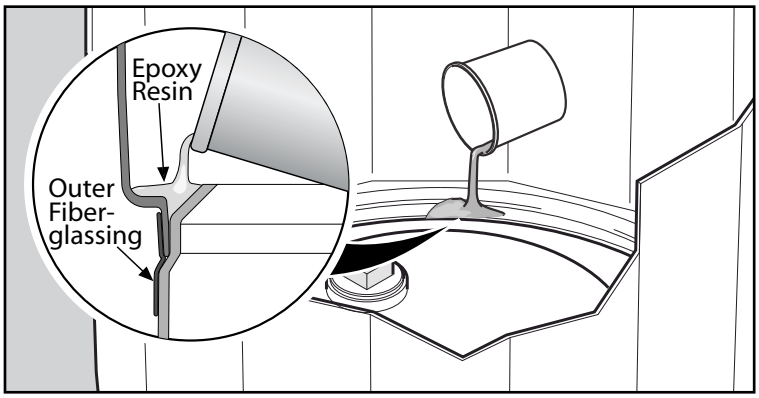
14

Prepare epoxy resin by mixing 1 liter of epoxy resin and 230 ml catalyst in mixing bucket. Keep material above 15°C until immediately prior to use.



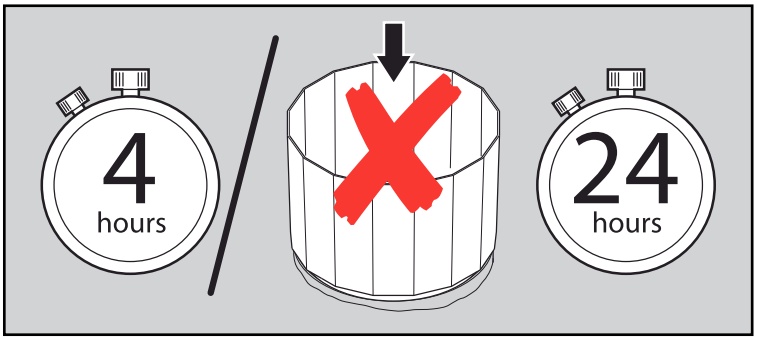
15

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



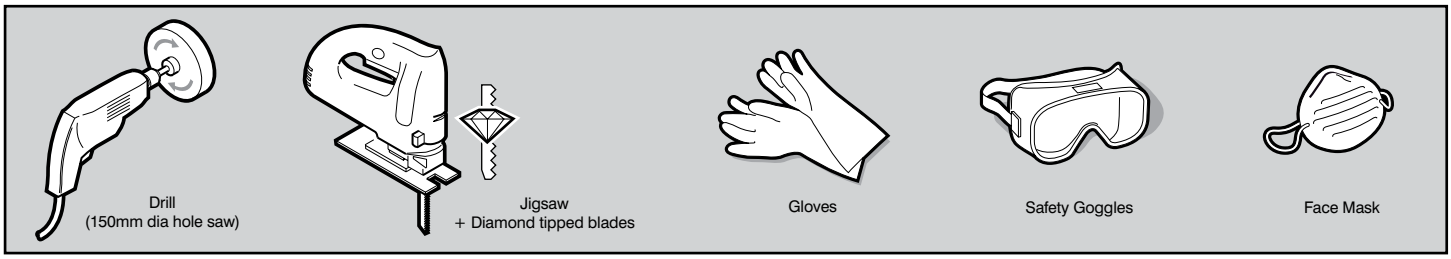
16

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.

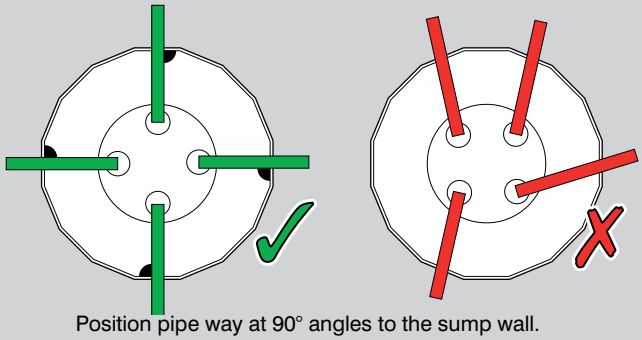


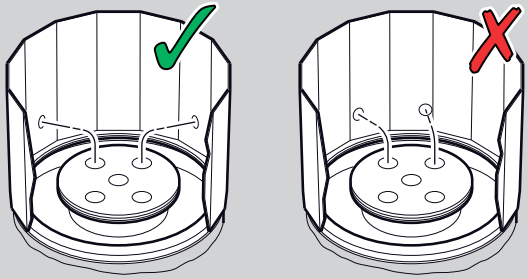
INSTALLATION INSTRUCTIONS
(Pipework and Entry Seal Kits)

FIBRELITE
PART OF OPW A DOVER COMPANY



17 **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 pipe way at 90° angles to the sump wall.


Ensure pipe entry boot is positioned away from the joints.

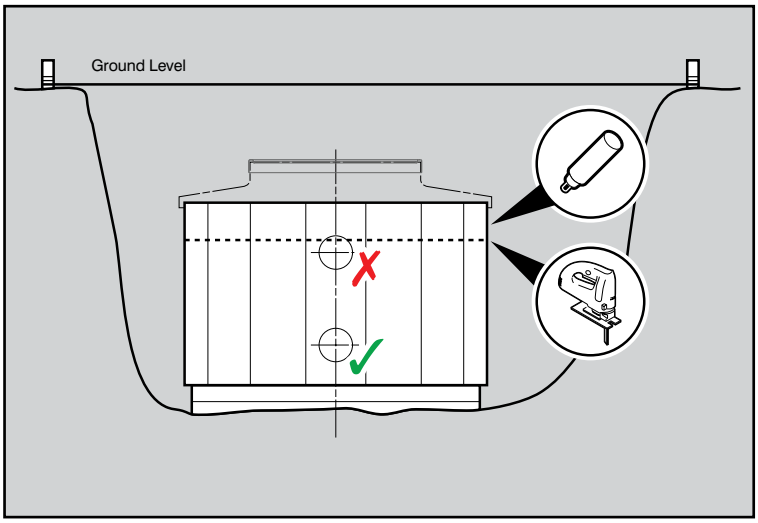
18 Before installing pipework, fix a string line at ground level across the sump to check if material needs to be cut off the sump. If so, mark the sump with a line along the cut mark.

Check to ensure you have the necessary minimum clearance required from the top of the sump to the centre line of the pipework/pipe entry kits.

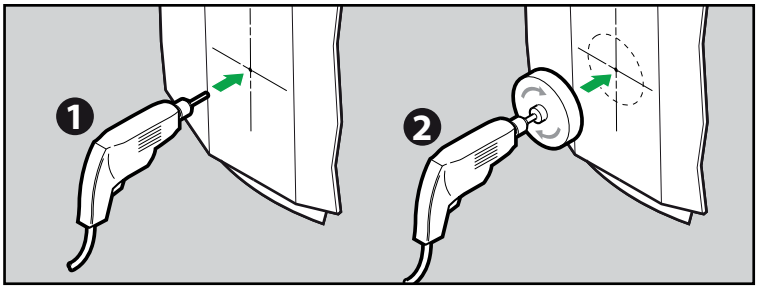
Standard Entry Kit = 145mm
Large Entry Kit = 170mm

For shallow burials, it may be necessary to cut less material off the sump, and cut the remainder off the corbel and skirt to allow pipe entry boots to be fitted. **PLAN THIS CAREFULLY.**

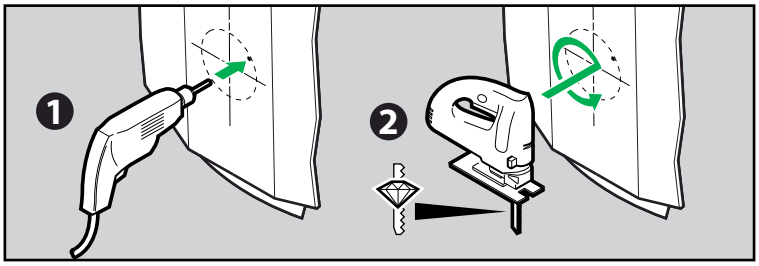
Refer to measurement chart on page 9.



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



20 For larger holes (190mm) we recommend that the hole is marked and jigsaw is used to cut the hole. Firstly, drill a hole through the wall, so the jigsaw can be inserted and used easily and safely. *(Fibreglass will blunt normal blades very quickly, we recommend diamond tipped blades or blades to cut ceramics).*

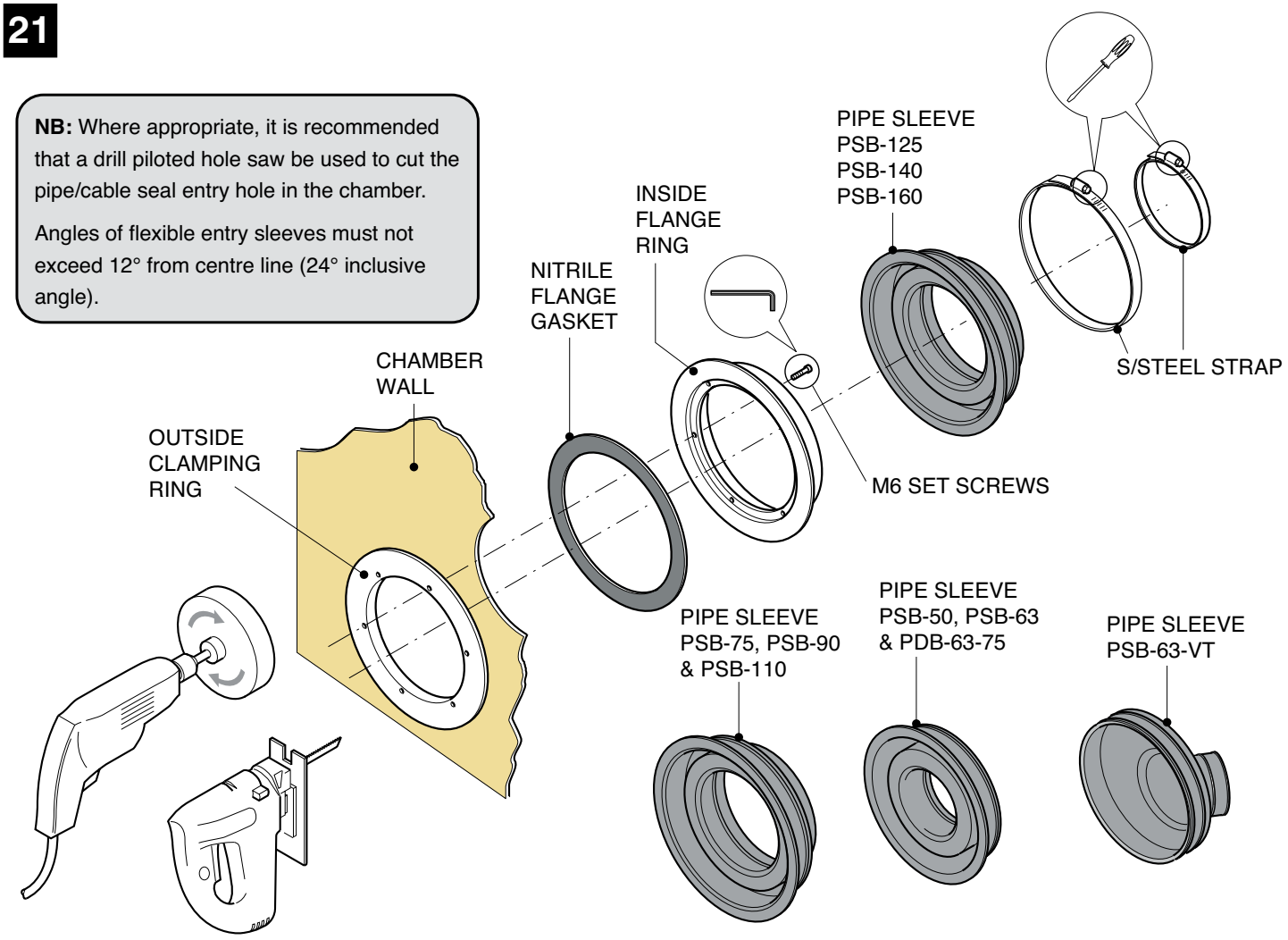


NOTE : When backfilling ensure the pipework is not disturbed.
WARNING : Do not backfill until the sump has been vacuum tested.

21

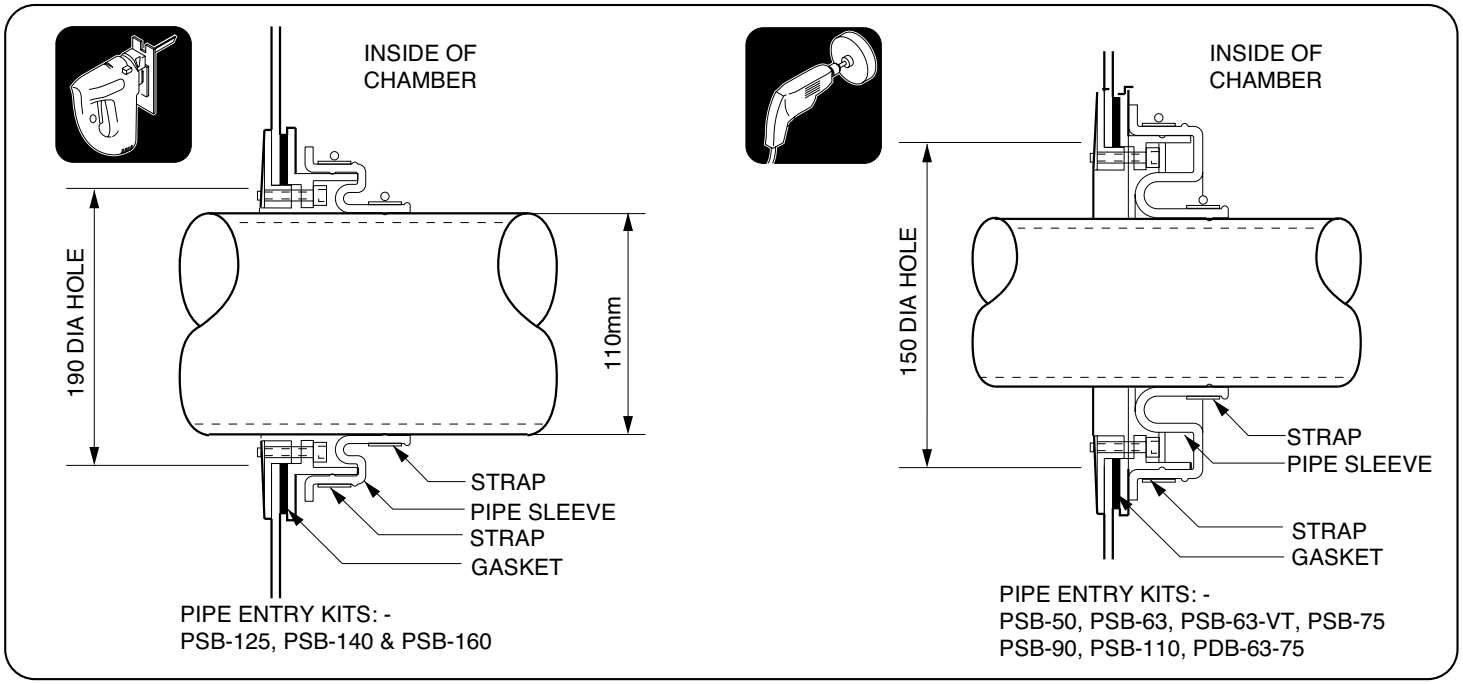
NB: Where appropriate, it is recommended that a drill piloted hole saw be used to cut the pipe/cable seal entry hole in the chamber.

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



DRILL AND HOLE SAW
ATTACHMENT OR JIGSAW

NB: Straps/clips are to be tightened in accordance with the pipe manufacturers recommendation



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.

22a

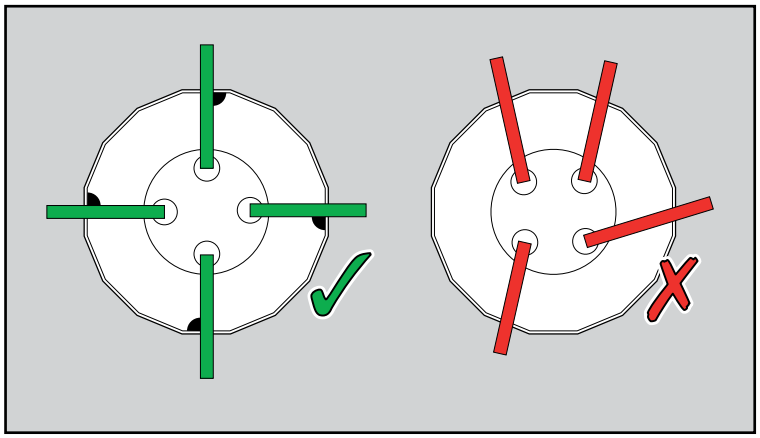
PEC KITS

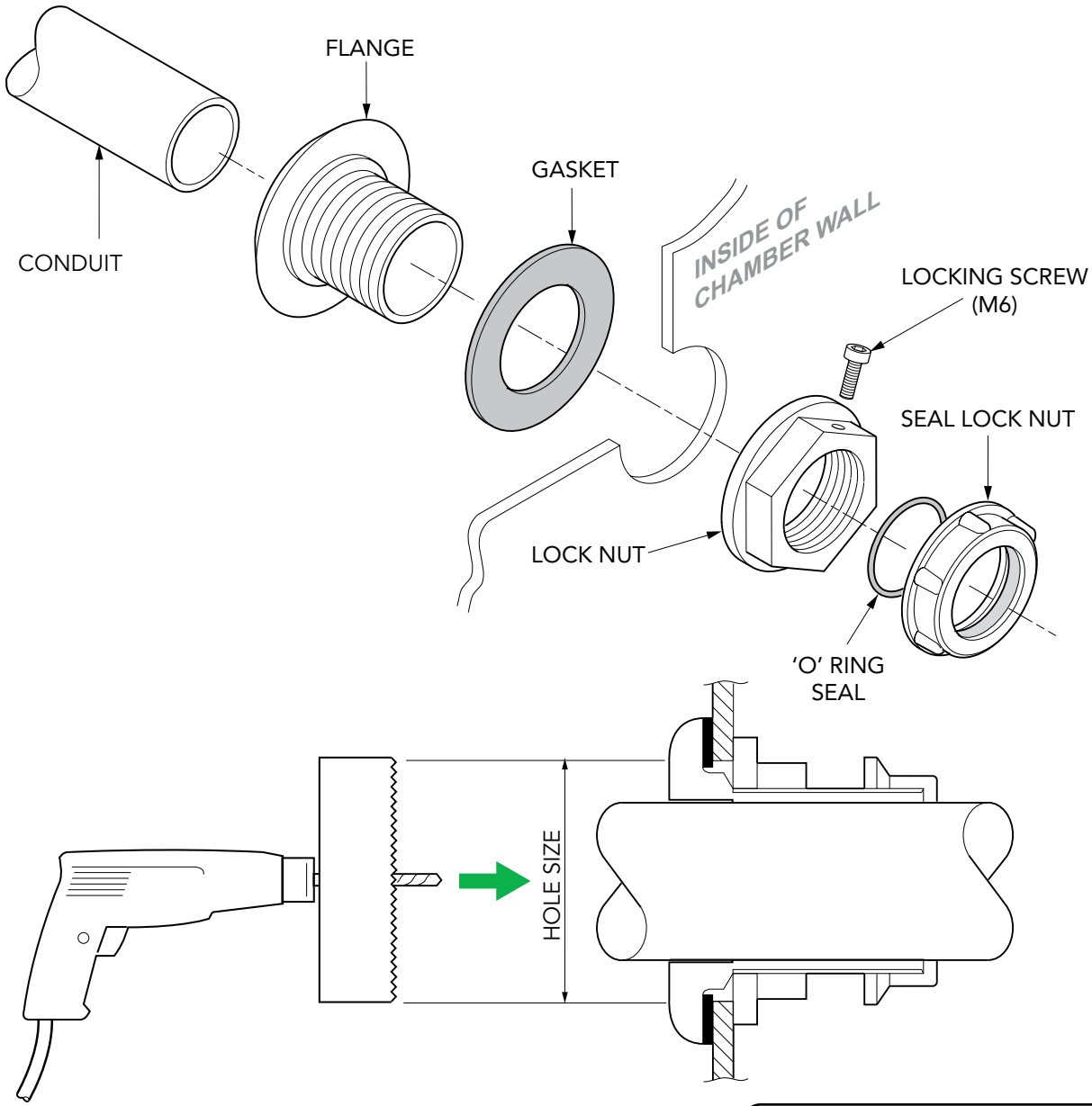
Refer to pipe entry boot instructions on positioning of the hole.

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 ¾", 1" and 1½" respectively.



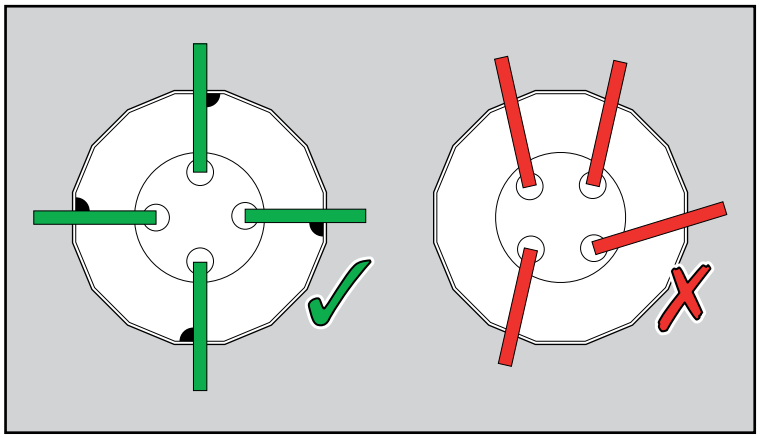


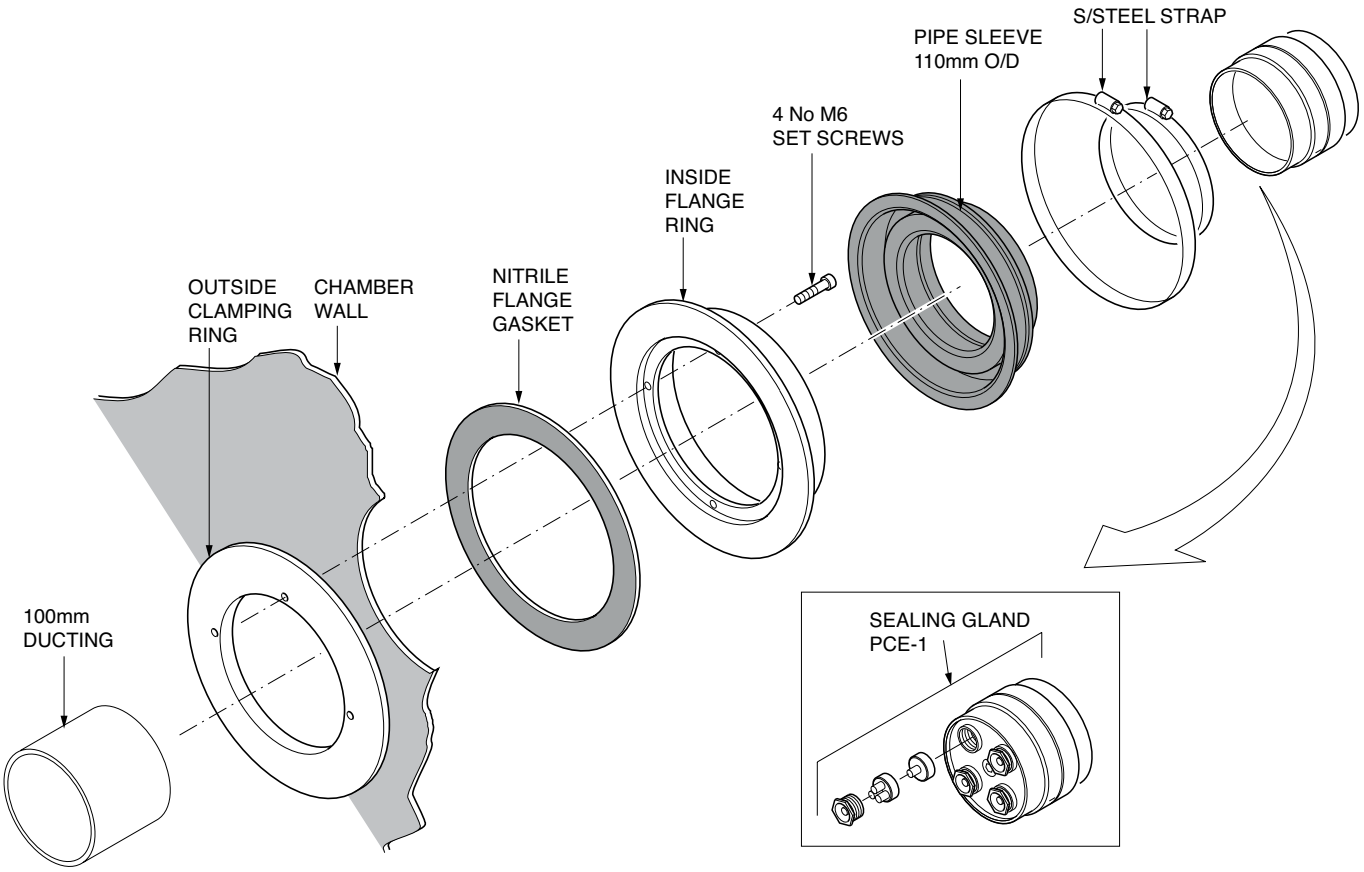
NB: Use the correct size drill piloted hole saw for each entry kit. The cable entry seal must be fitted perpendicular to the sump wall and the conduit must enter the entry kit perfectly aligned. When backfilling ensure the conduit is not disturbed.

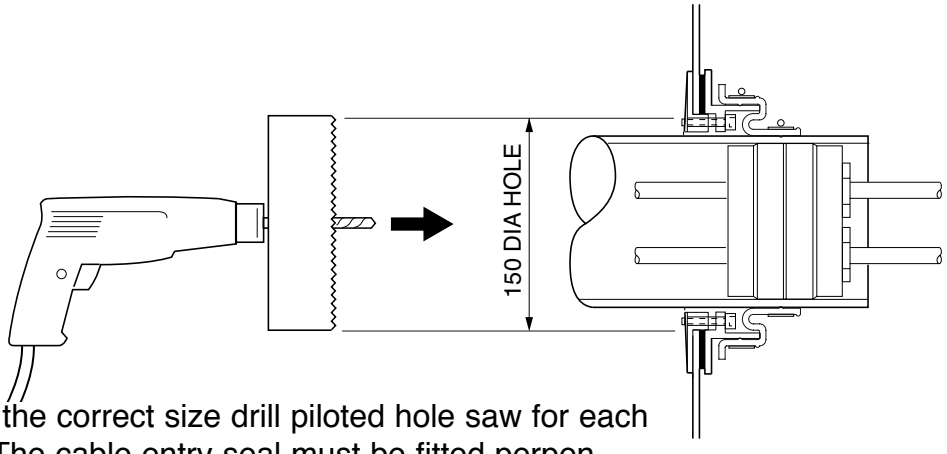
ENTRY KIT	HOLE SIZE
PEC-27	Ø51mm
PEC-32	Ø51mm
PEC-33	Ø60mm
PEC-50	Ø73mm

22b PCE-1-KIT

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







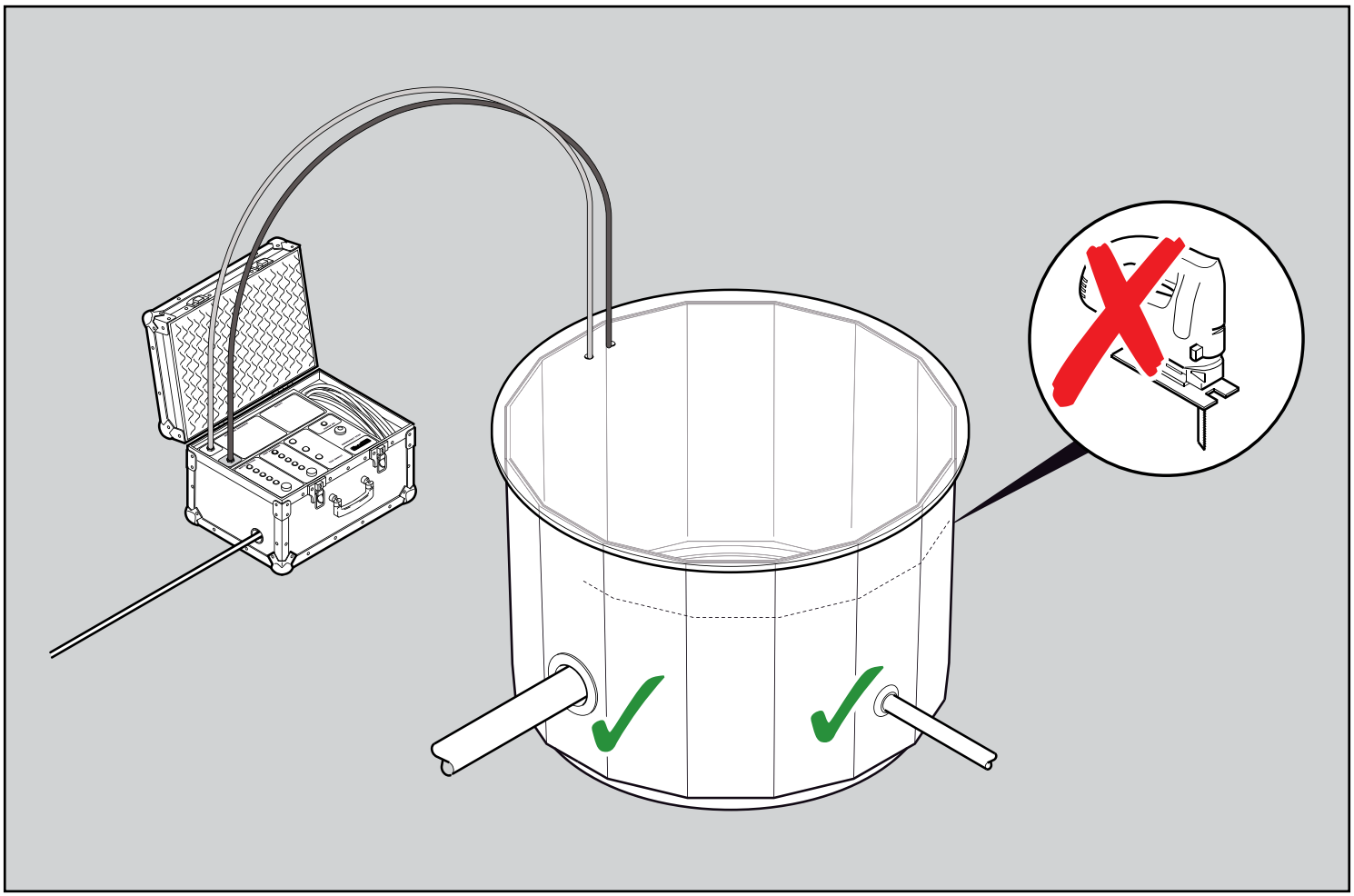
NB: Use the correct size drill piloted hole saw for each entry kit. The cable entry seal must be fitted perpendicular to the chamber wall and the conduit must enter the entry kit perfectly aligned. When backfilling ensure the conduit is not disturbed.

23 After penetrations have been fitted, ensure all connections on the manway lid are sealed.

Perform vacuum test.

Refer to Vacuum test instructions.

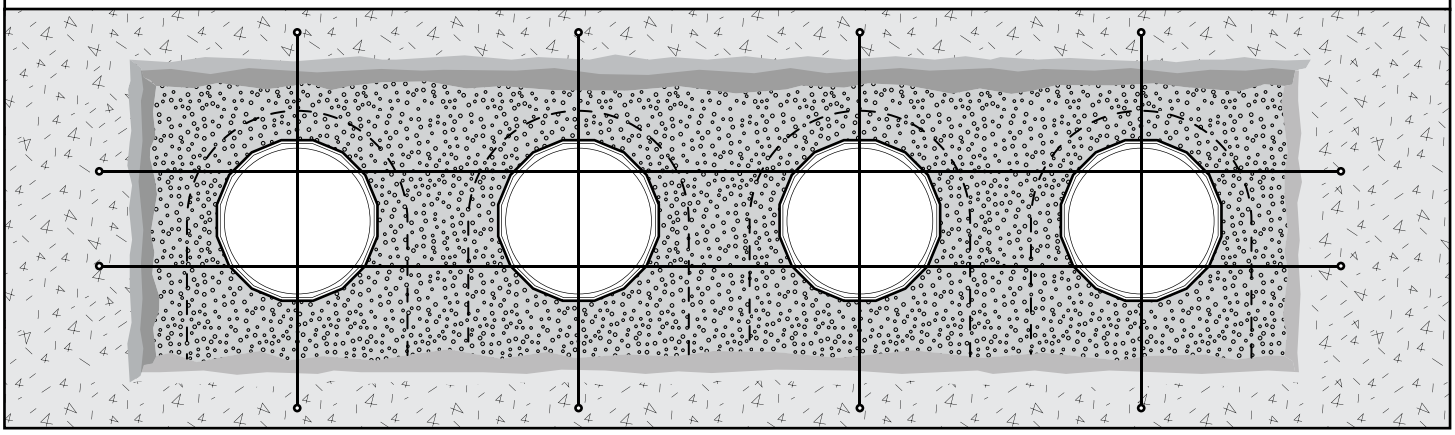
Do not backfill around sump or cut material off the sump until the test has passed successfully.



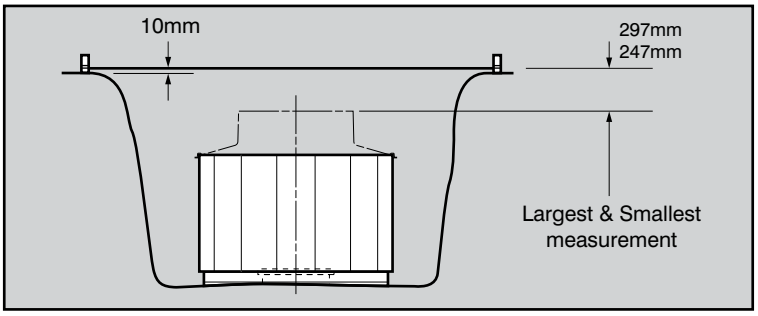
INSTALLATION INSTRUCTIONS
(Achieving the Correct Height)

FIBRELITE
PART OF OPW A DOVER COMPANY

24 Fix string lines 10mm above grade level across the sump - across length and width of the tank farm to highlight falls in grade level.

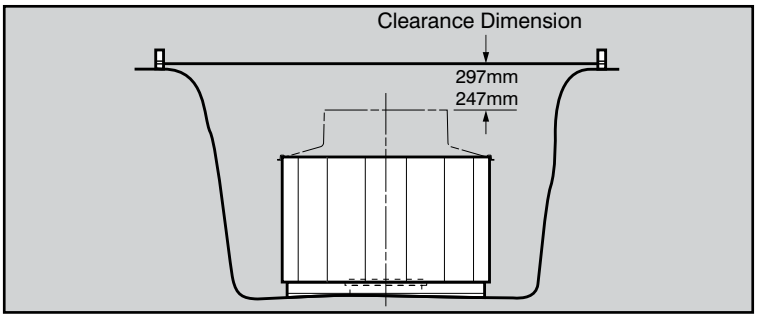


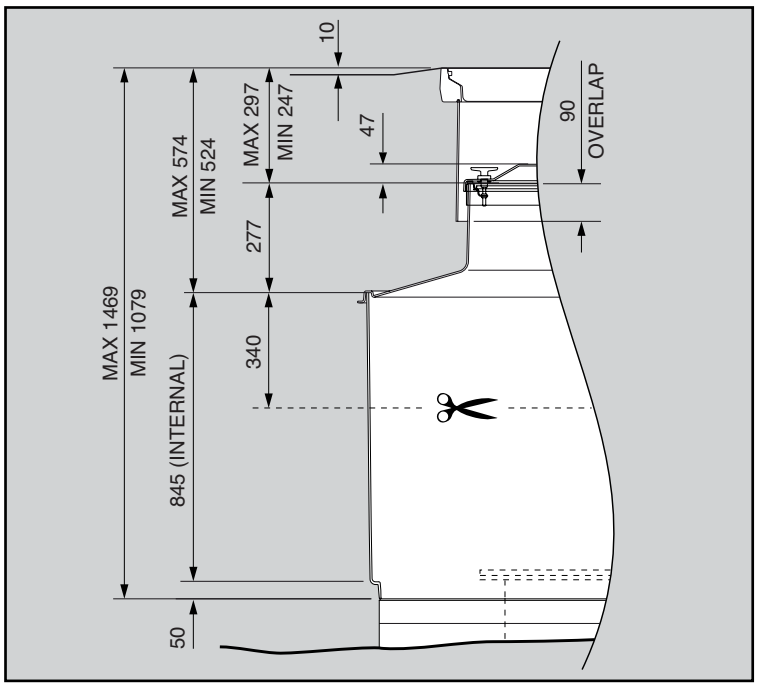
25 Place the corbel onto the sump (only 'dry fit' the corbel do not bond at this stage). Check the measurement from the top of the corbel to the string line, which is set 10mm above the general grade level. Check all sides of the sump and select the largest and smallest measurement to take account of falls across the forecourt.



26 Refer to this measurement chart;

Measurement (clearance dimension)	Action
Max. 297mm Min. 247mm	No trimming required, corbel can be bonded onto the sump. Adjust frame height using hangers.
less than 247mm	Sump base only (do not trim corbel) must be trimmed to allow for minimum 247 to 297mm 'clearance dimension'. The sump base can be trimmed by a maximum of 340mm. Trim the skirt so that the overlap between the corbel turret and skirt is between 90 and 120mm.
more than 297mm	The burial depth of the tank is greater than the maximum burial depth of the standard S8CR-390/ WT or S8CR-3100/WT system. Bond a 300mm extension onto the sump as per the next page. Then proceed as above.

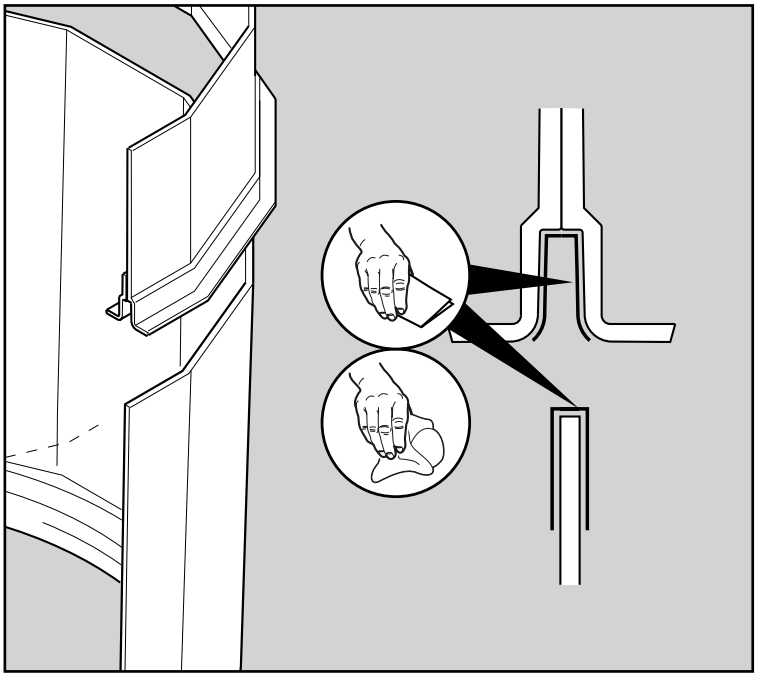




See following page for extension bonding instructions

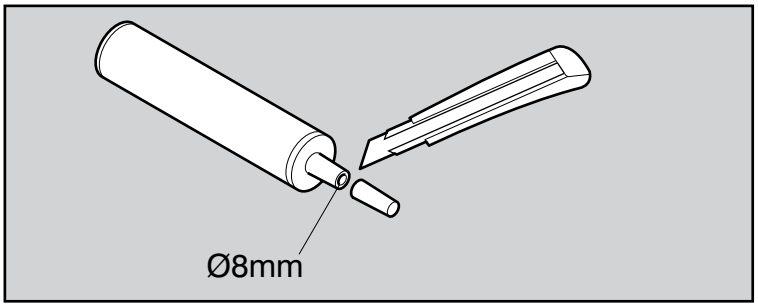
27

Abrade and wipe with a degreasing solvent the sump top edge / wall and the extension recess shoulder



28

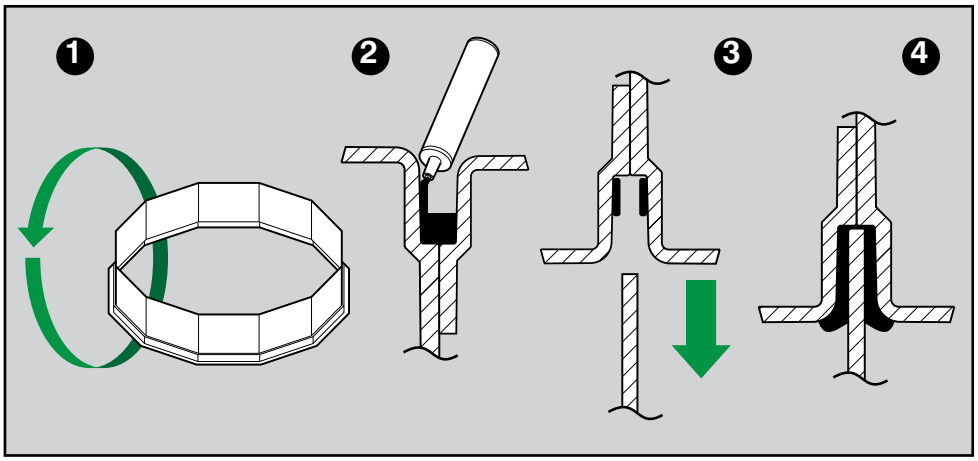
Cut nozzle of the adhesive sealant tube to approx. Ø8mm.



29

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

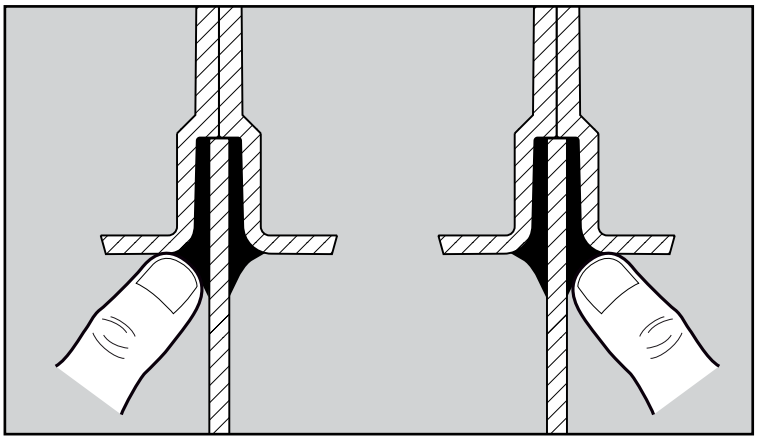
Position the extensions(s) onto the sump, ensure the extension is horizontal and press down uniformly.



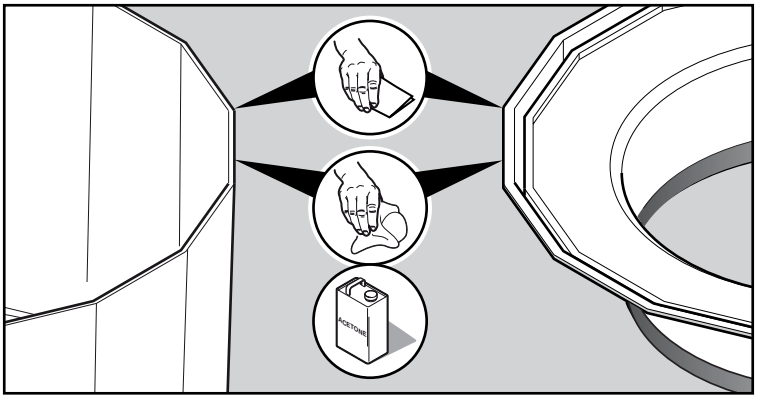
30

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

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

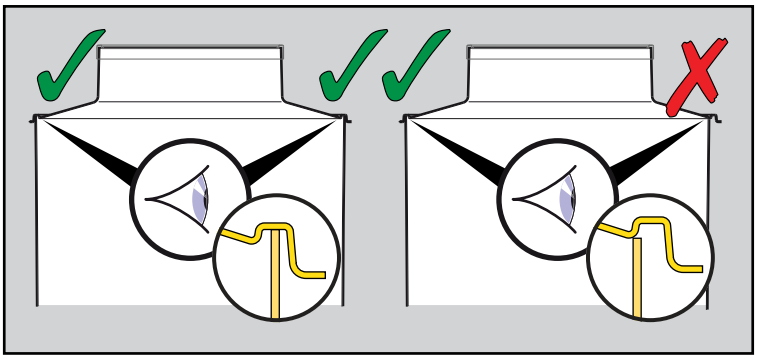


31 Abrade and wipe with a degreasing solvent the groove of the corbel and the internal and external walls of the sump to a depth of 50mm.



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

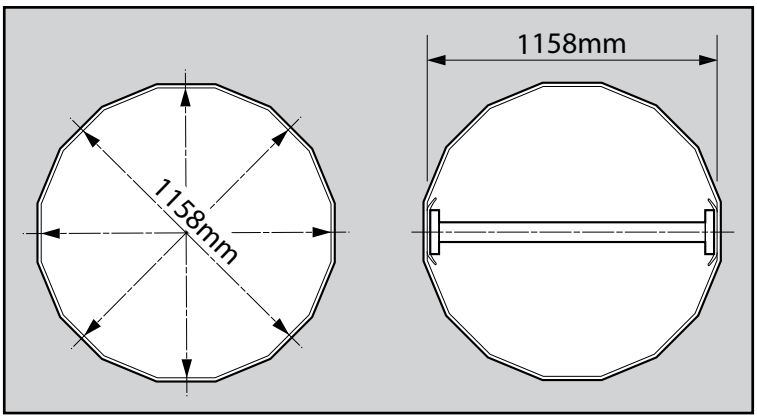
If it does not fit, pipework or lamination may have distorted the sump wall shape.



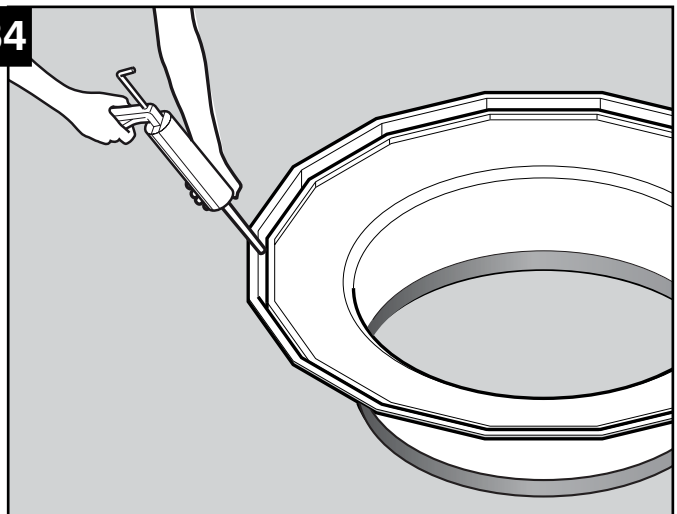
33 Measure distance between opposite walls, this should be 1158mm. If less than this you will need to brace out the sump.

Using wooden batons (1158mm ±5mm long) with timber spreader plates (150 x 150) to spread the load, brace out the sump to the correct size.

Repeat this process on all walls to get the correct shape.

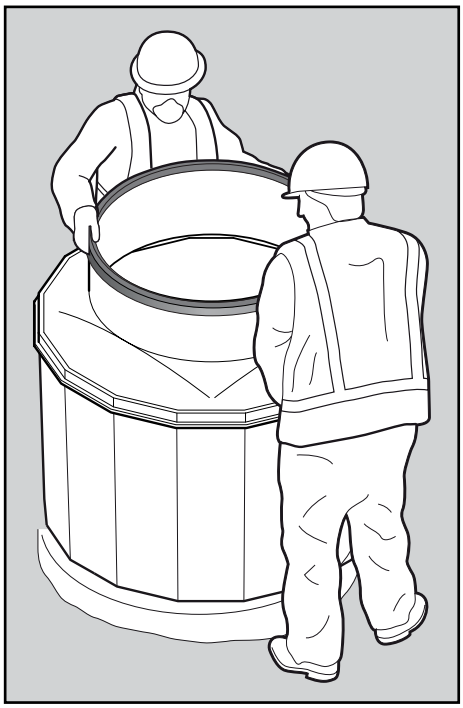


34



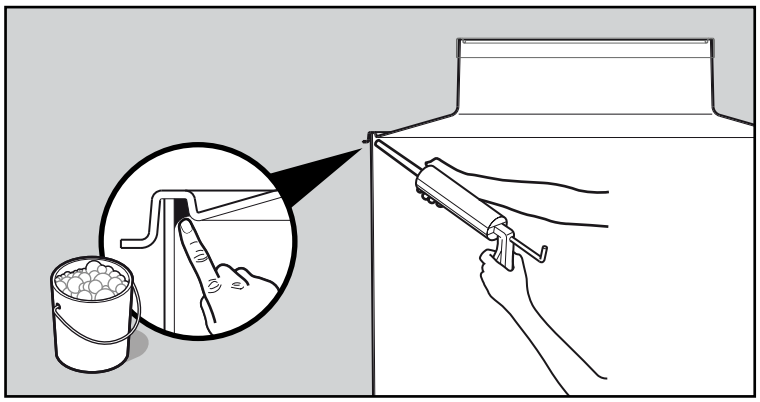
Apply 2 tubes of soudaflex 40FC sealant in the groove of the corbel. Sealant should fill 1/2 the groove.

35 Place the corbel on the sump using 2 people and push it into position.



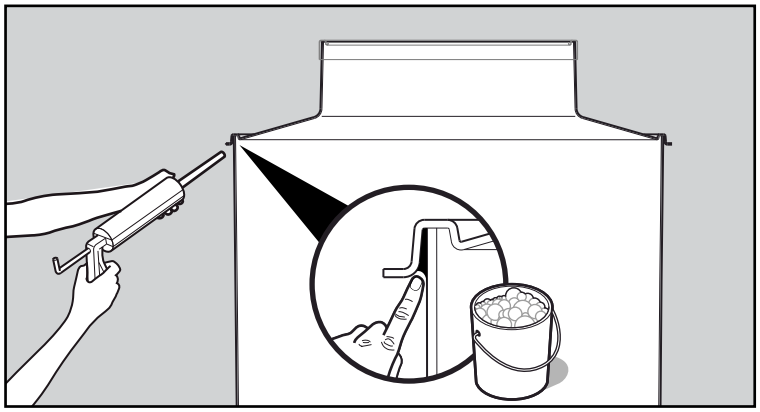
36 Seal around the inside edge of the corbel joint from inside the sump. Smooth off the sealant with soapy water.

Use 1.5 tubes of soundaflex 40FC sealant.



37 Seal around the outside joint and smooth off sealant with soapy water.

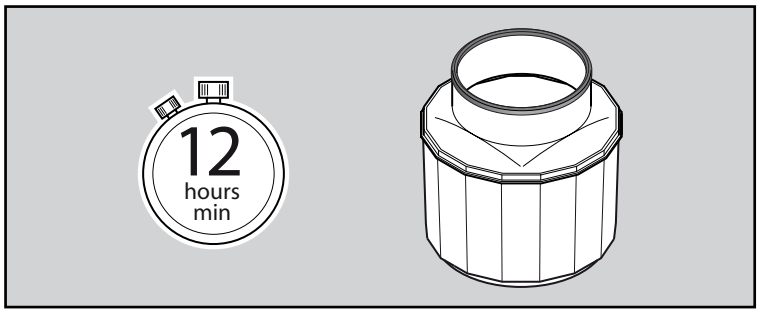
Use 1.5 tubes of 40FC sealant.



(Performing Corbel Vacuum Test)

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

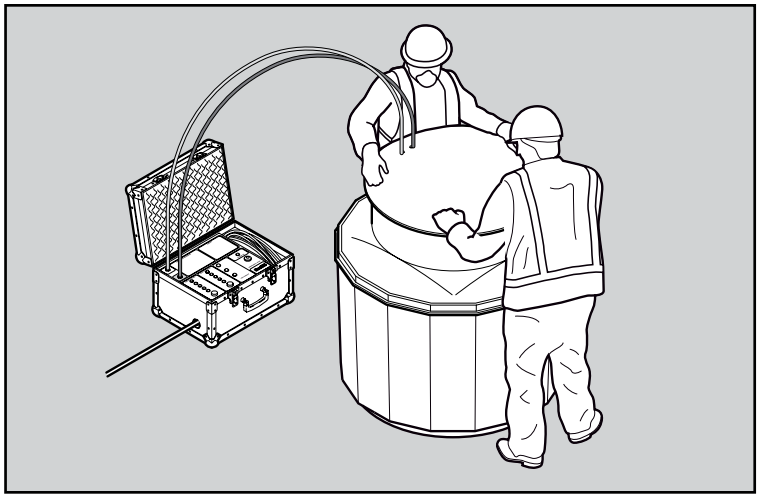
Do not disturb the sump during this time.



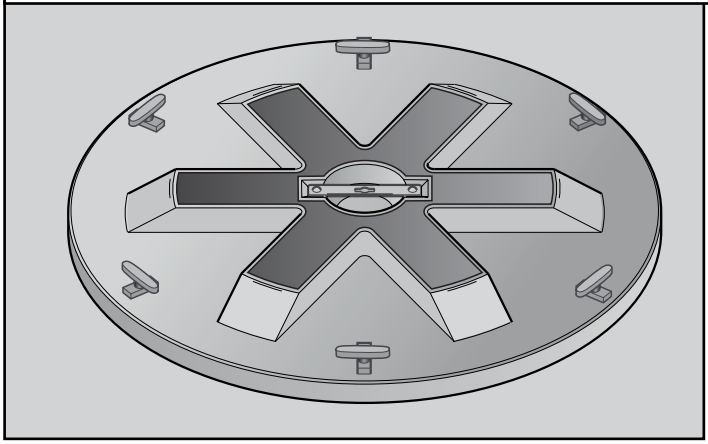
39 Ensure all pipework and electrical entries have been completed before vacuum testing, this is a final test for all penetrations in the sump.

Warning: Test the corbel at a 0.6m depth setting only or irreparable damage may occur.

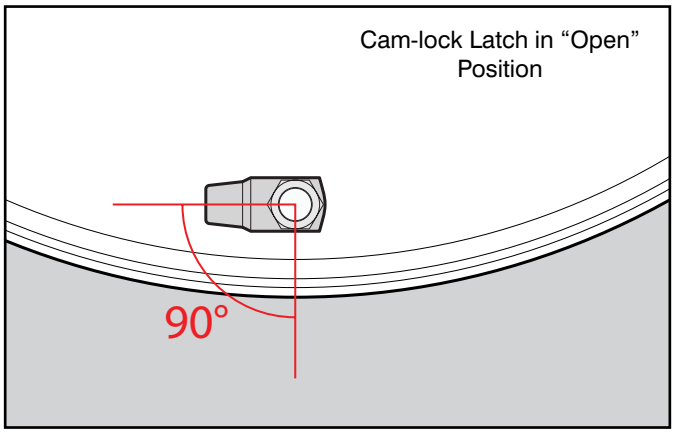
Refer to vacuum testing instructions for correct method.

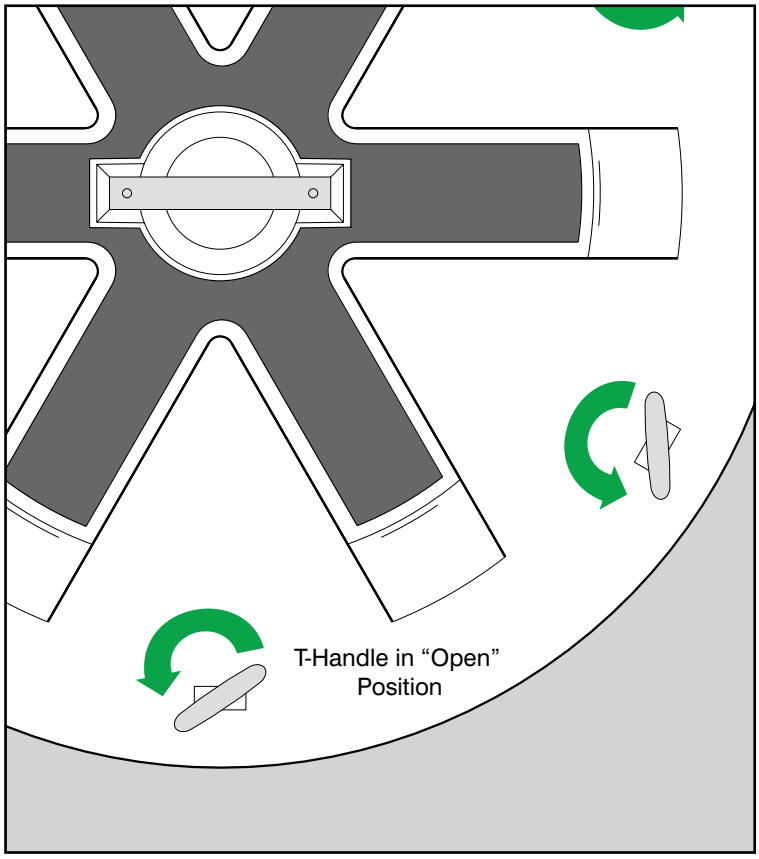


Installation of Watertight Platforms: Once the sumps are properly installed and tested, the watertight platforms should be installed to ensure that the platforms fit properly onto the stainless steel retaining rings.



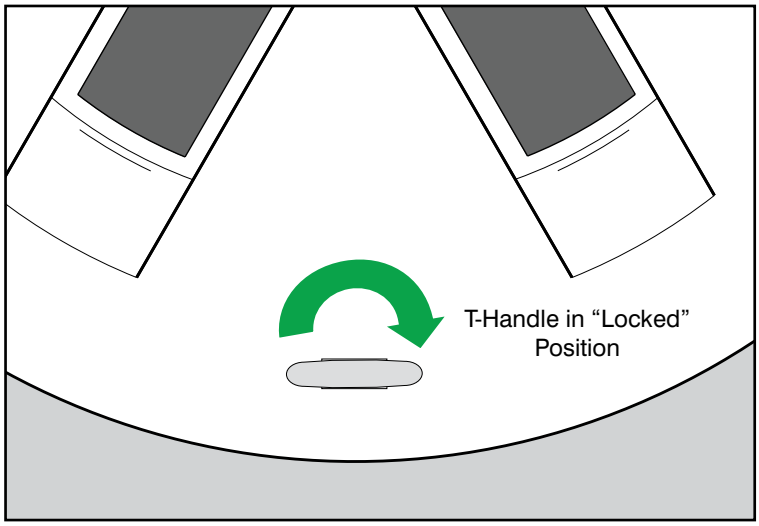
40 Turn all T-handles on the top of the platform fully counterclockwise to the open position (as shown in the drawing to the right) – the cam-lock latches on the underside should be 90 degrees opposed from the edge of the platform (as shown below).





41 Seat the watertight platform 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).

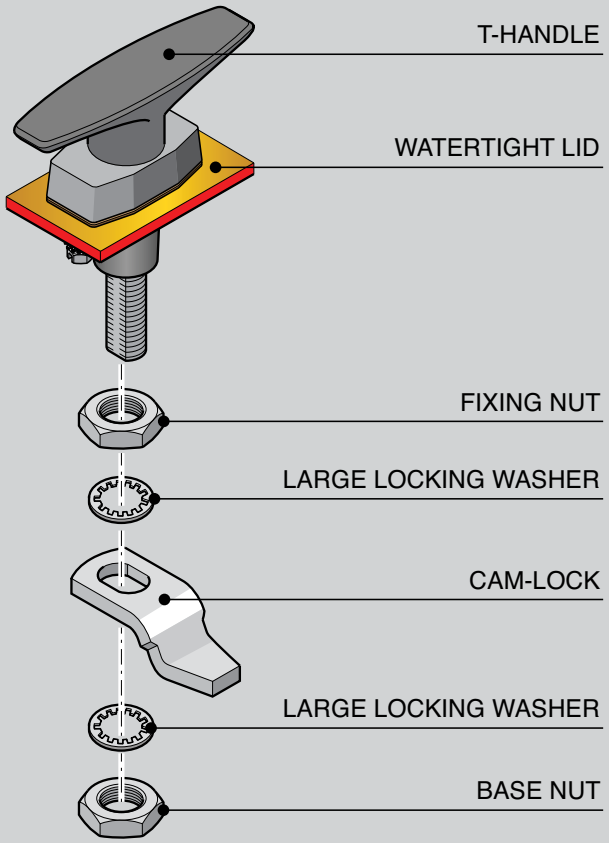
When turning T-handle into locked position the cam-lock should compress very tightly. It may be necessary to adjust the cam-lock latch. See next page for instructions.



INSTALLATION INSTRUCTIONS
(Adjusting the T-handles)

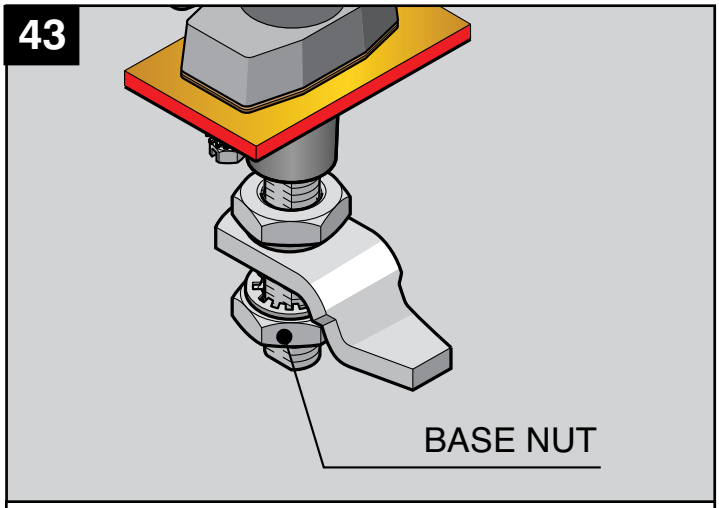
FIBRELITE
PART OF OPW A DOVER COMPANY

42



The T-handle mechanism consists of the above items.

43

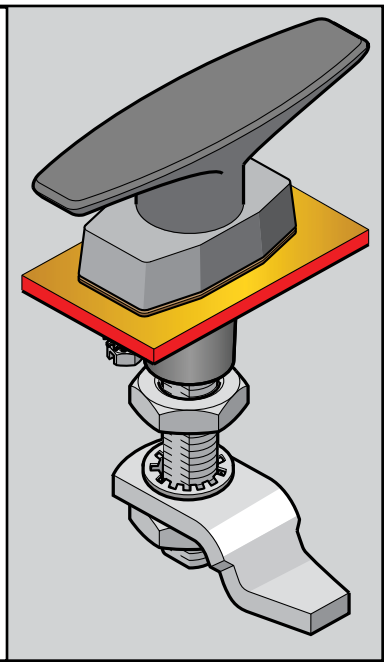


If the T-handle is not fully engaging it means the cam-lock needs to be lowered. Loosen the base nut to a lower position and go to step 44a.

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 44b.

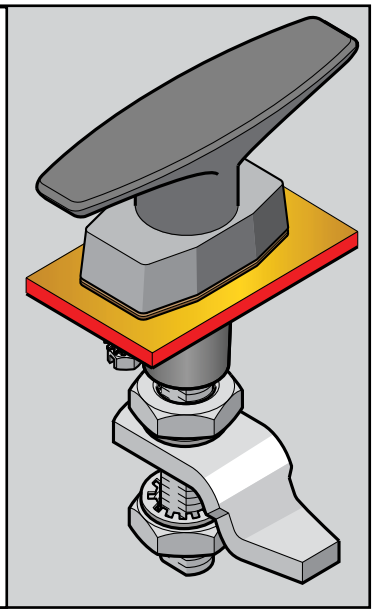
44a

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 45.



44b

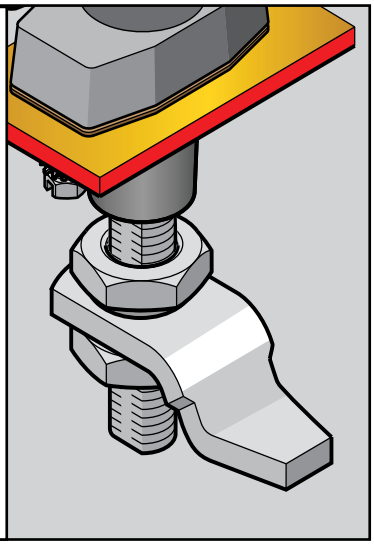
Pull the cam-lock down to rest onto the base nut and raise the fixing nut. Push the cam-lock up to the fixing nut and tighten the base nut until the cam-lock is secure as per step 45.



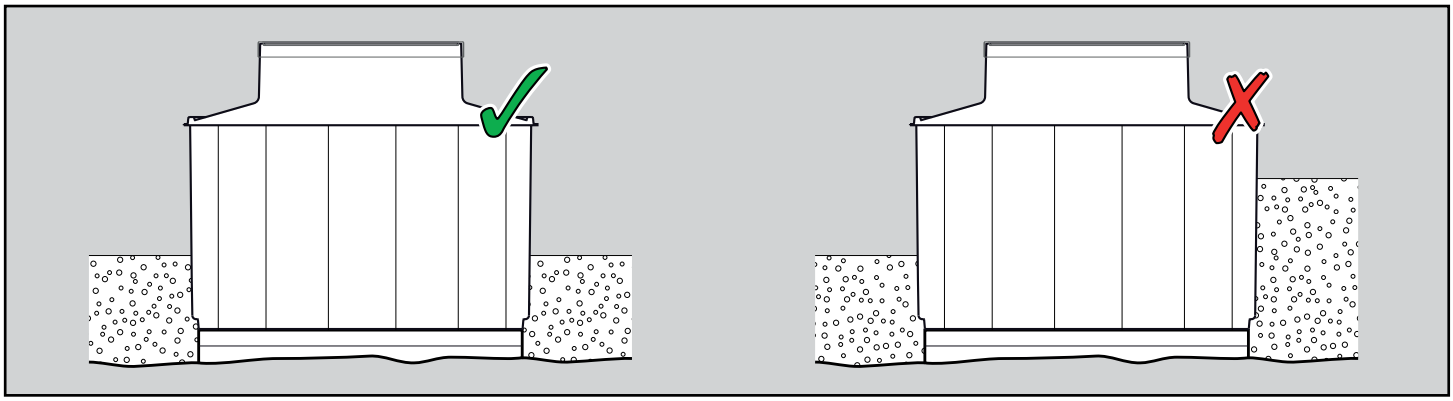
45

Once the cam-lock is secure refit the watertight spill platform as per steps 40 and 41.

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

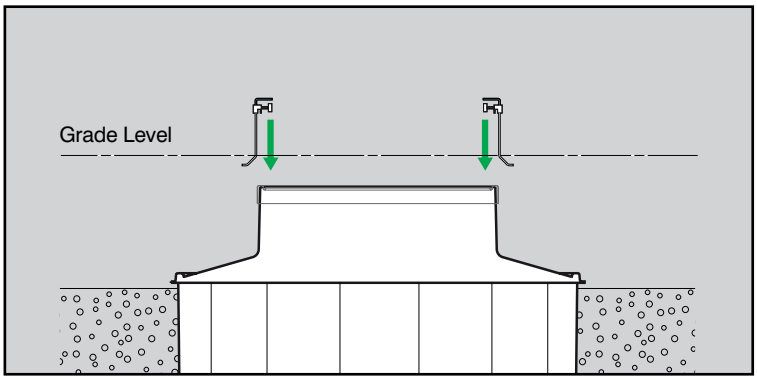


46 Once the corbel test has been performed with a PASS result, the area around the sump can be carefully backfilled with peagravel or sand. Back-fill equally around the sump in layers to prevent damage or deformation.



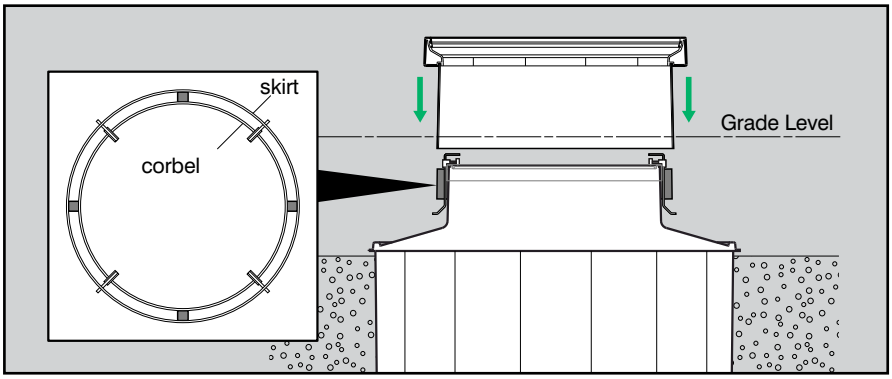
(Adjusting the Skirt & Frame to Grade Level)

47 Fix a string line 10mm above grade level across the sump, fix 4 hangers on the corbel top with base support facing out.

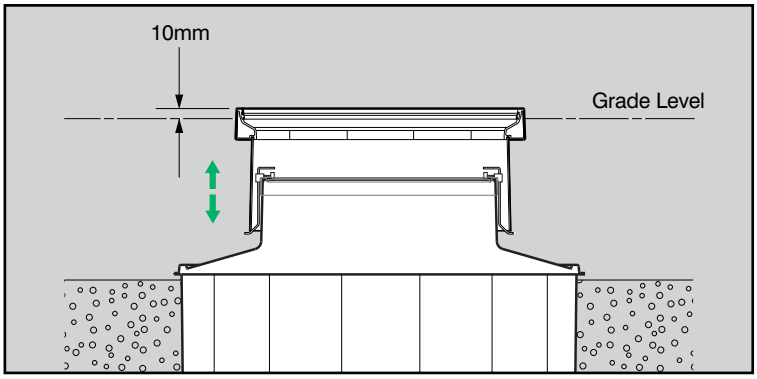


48 Put the skirt and frame on the hangers.

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 platform fouling.

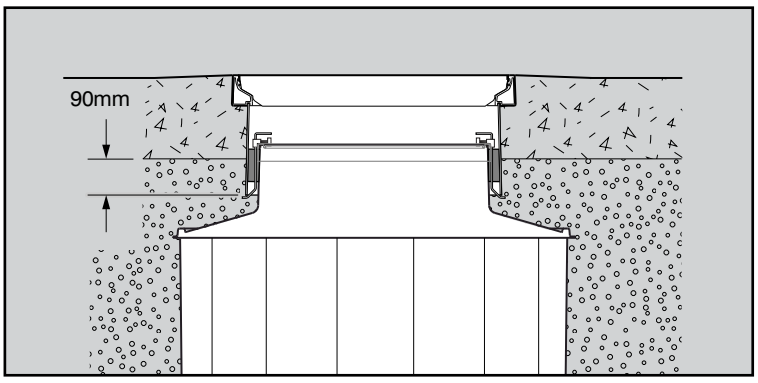


49 Adjust knobs to set the frame to string line level, adjust for fall in grade. Set the frame 10mm above grade level.



50 Ensure the void between corbel and skirt is kept free from concrete and a depth of 90mm overlap minimum is maintained, (120mm on high water table installations).

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



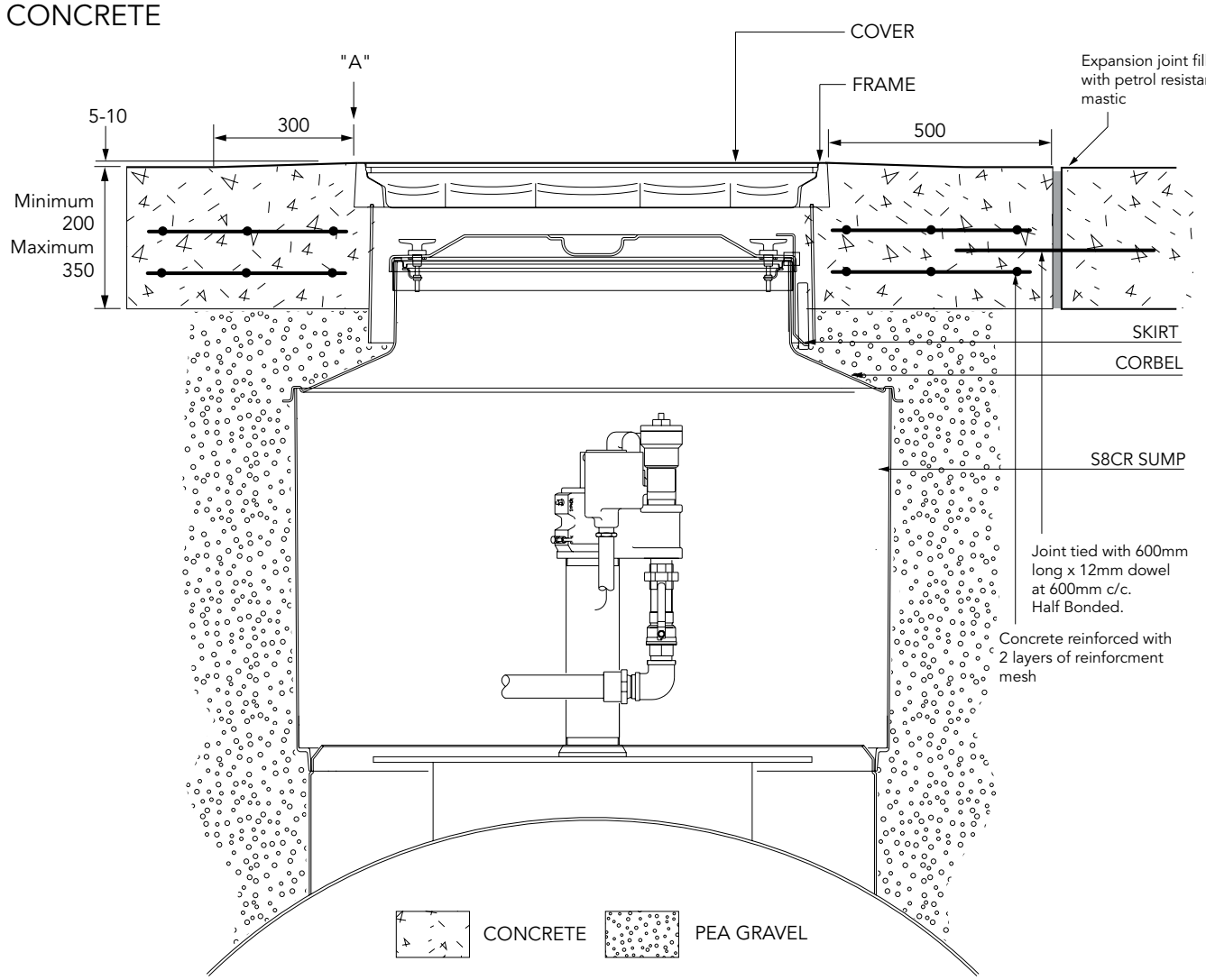
51 Complete backfilling to appropriate level. Frame must be supported by a minimum depth of 200mm of concrete

Concrete reinforcement must be positioned as close to the frame as possible. Minimum block of 500mm square around the frame. Joint must be tied as per diagram. Continuous pour preferred if possible.

VERY IMPORTANT
OUTER EDGE "A" OF FRAME SET 5-10mm
ABOVE GENERAL GRADE AREA WITH
CONCRETE RAMPED AWAY OVER 300mm

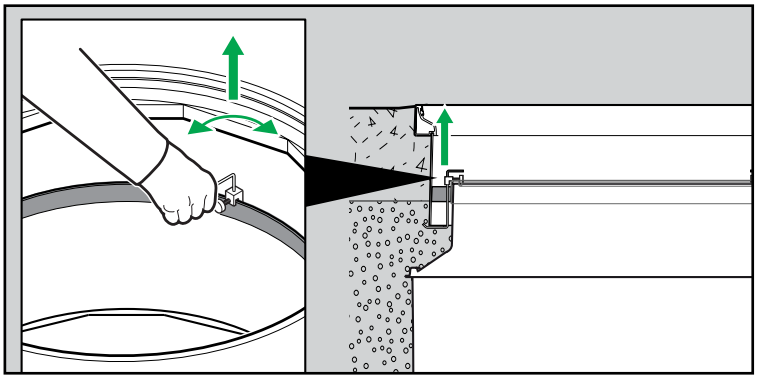
TYPICAL INSTALLATION

CONCRETE



52 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.

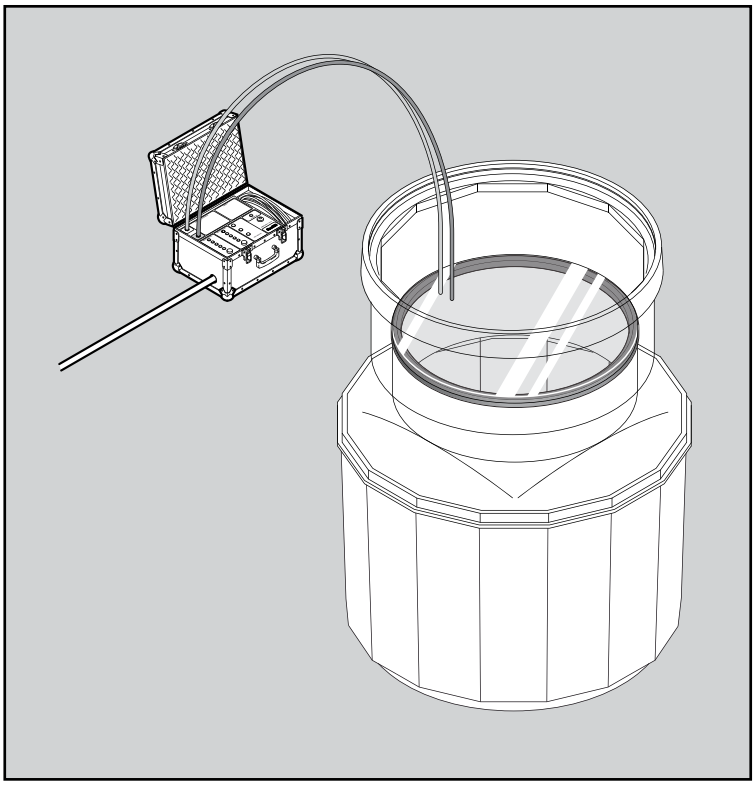


53 **Optional vacuum test on corbel.**

Once completed a final test can be performed. Ensure the corbel is supported from below by wooden batons (due to extra weight of concrete and backfill).

Warning: Test the corbel at a 0.6m depth setting only or irreparable damage may occur.

When testing at this stage the drain hole which is drilled in the corbel turret must be blanked off to achieve a test.



54 Re-fit the platform and cover.