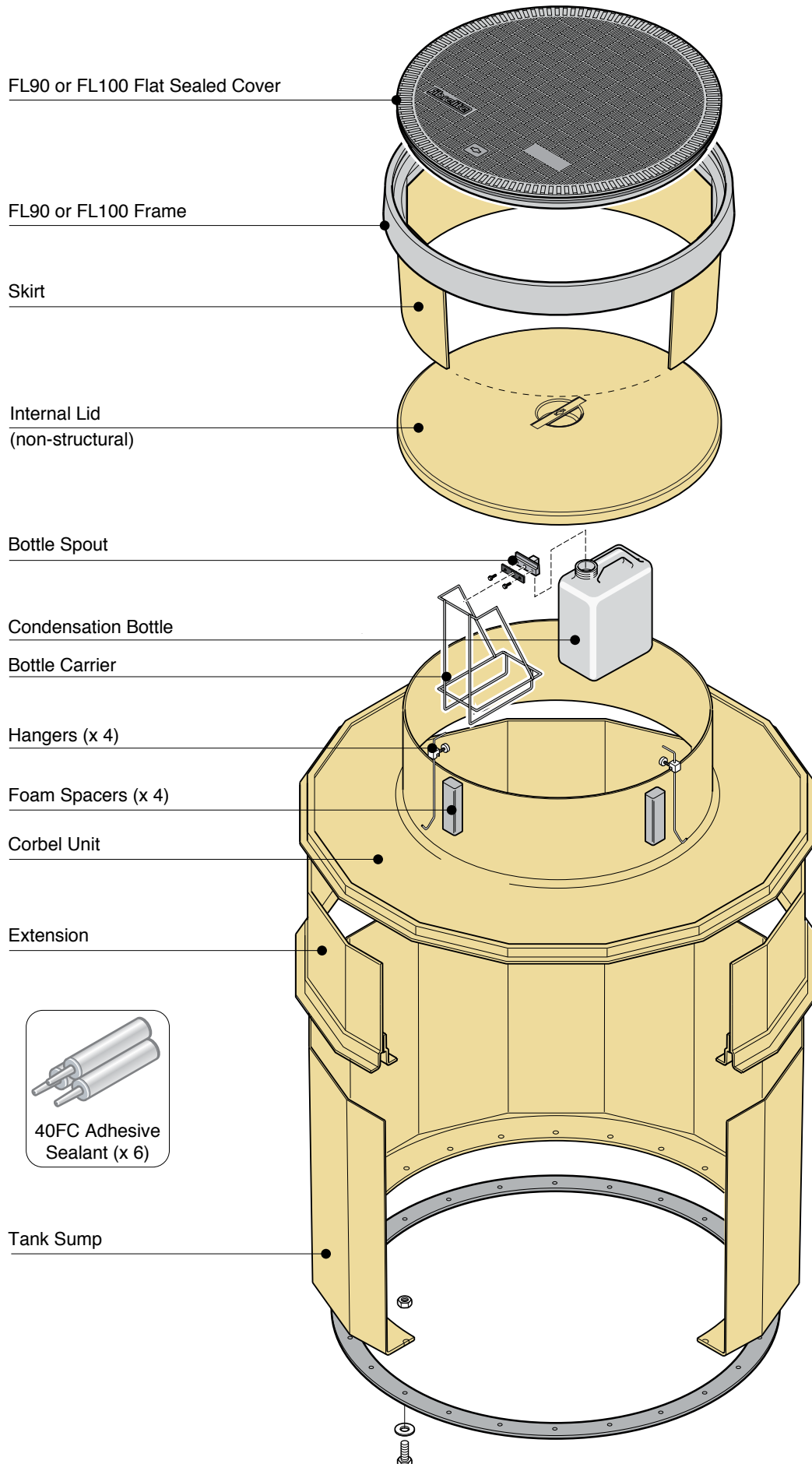


# INSTALLATION INSTRUCTIONS

## S14-390 and S14-3100 Tank Sump Systems

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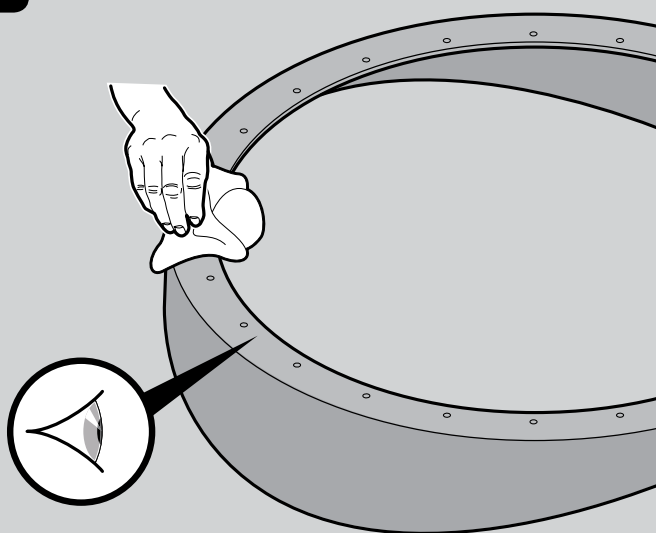
# INSTALLATION INSTRUCTIONS

( Sump Installation )

**FIBRELITE** 

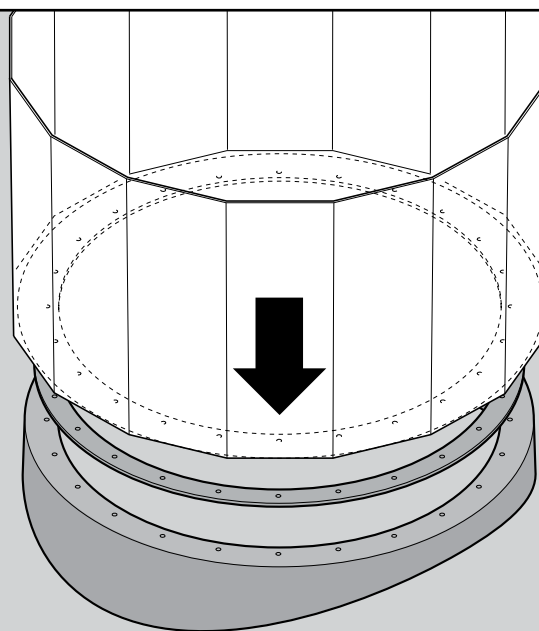
PART OF OPW A DOVER COMPANY

1



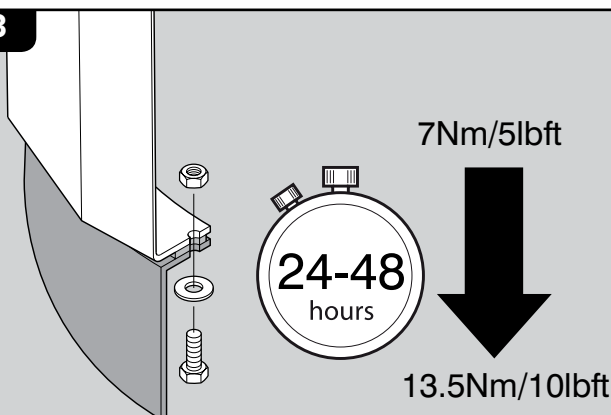
Clean the tank connection flange and ensure it is free of all grit etc. Check for flatness and deformation as this can cause the sump to become distorted or fail to seal. If in doubt contact our technical department (01756 799773).

2



Remove protective cover from base of chamber and position chamber onto tank flange, aligning the holes. Ensure the seal on the base of chamber is not damaged and is free from grit etc.

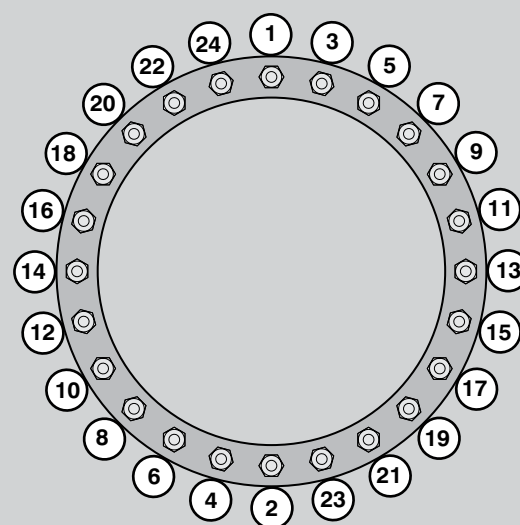
3



Fit a bolt and washer into each of the 24 holes (use only those supplied). Fit a washer and nut to each of the bolts. Tighten each bolt to 13.5Nm/10lbft torque, employing the following method, to avoid distortion of chamber.

As the nuts and bolts are stainless steel "thread galling" maybe experienced. To overcome this we recommend Lubricating the internal and/or external threads. The suggested lubricants should contain substantial amounts of molybdenum disulfide (moly), graphite, mica, or talc. Some proprietary, extreme pressure waxes may also be effective. Slowing down the installation RPM speed will also reduce thread galling

4



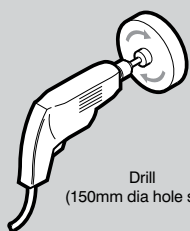
Starting with any bolt tighten to 7Nm/5lbft torque. Move to the bolt positioned at 180° and tighten to 7Nm/5lbft torque. Move 180° plus one bolt pitch and tighten to 7Nm/5lbft of torque. Repeat until all bolts are tightened to 7Nm/5lbft torque. Now repeat the procedure tightening all bolts to 13.5Nm/10lbft torque.

**Note:** The seal will initially relax and it is an advantage if each bolt is tighten to 13.5Nm/10lbft torque after a period of 24 to 48 hours after initial assembly.

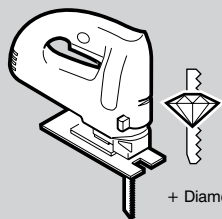
# INSTALLATION INSTRUCTIONS

( Pipework and Entry Seal Kits )

**FIBRELITE**   
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Drill  
(150mm dia hole saw)



Jigsaw  
+ Diamond tipped blades



Gloves

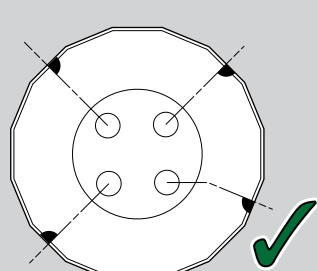


Safety Goggles

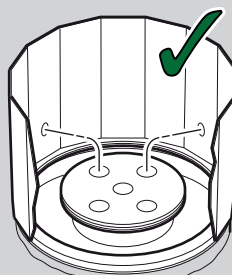
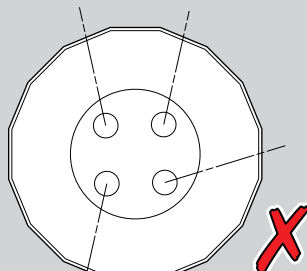


Face Mask

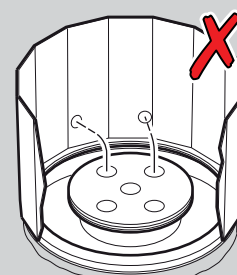
5



Position pipeway at 90° angles to the sump wall.

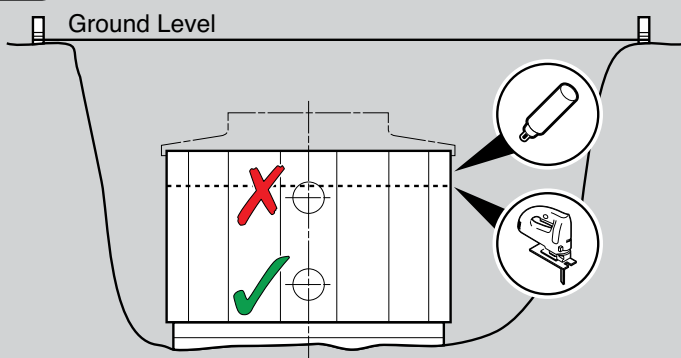


Ensure pipe entry boot is positioned away from the joints.



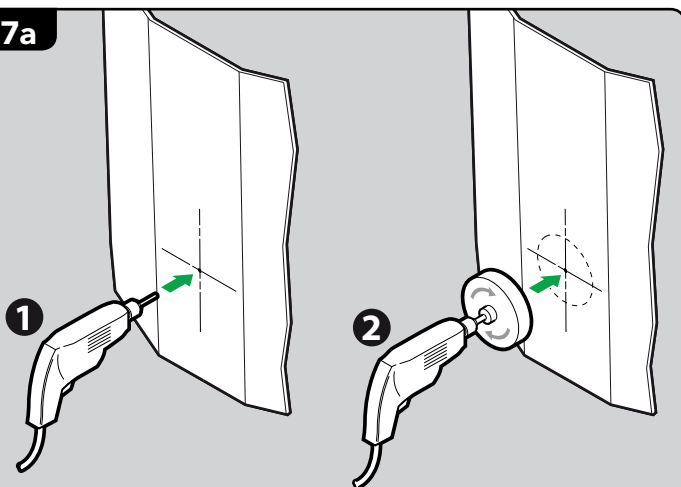
**WARNING** Care must be taken to position the pipework and conduit so it exits the sump at 90° angle to the sump wall, otherwise undue stress will be placed on the sump wall and entry boot, which may lead to leaks in the future.

6



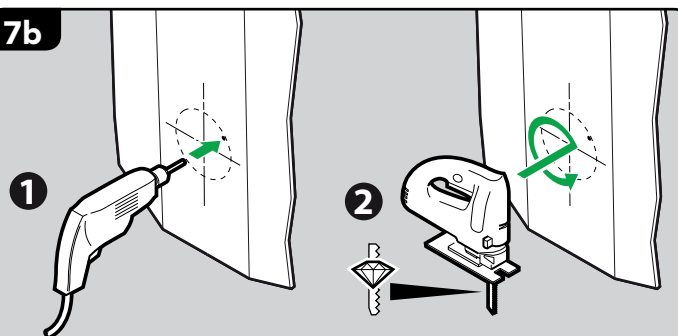
Before installing pipework, fix a string line at ground level across the sump to check if material needs to be cut off the sump. If so, mark the sump with a line along the cut mark. Check to ensure you have the necessary minimum clearance required from the top of the sump to the centreline of the pipework/pipe 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.**

7a



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.

7b



For larger holes (190mm) we recommend that the hole is marked and jigsaw is used to cut the hole. 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.

# INSTALLATION INSTRUCTIONS

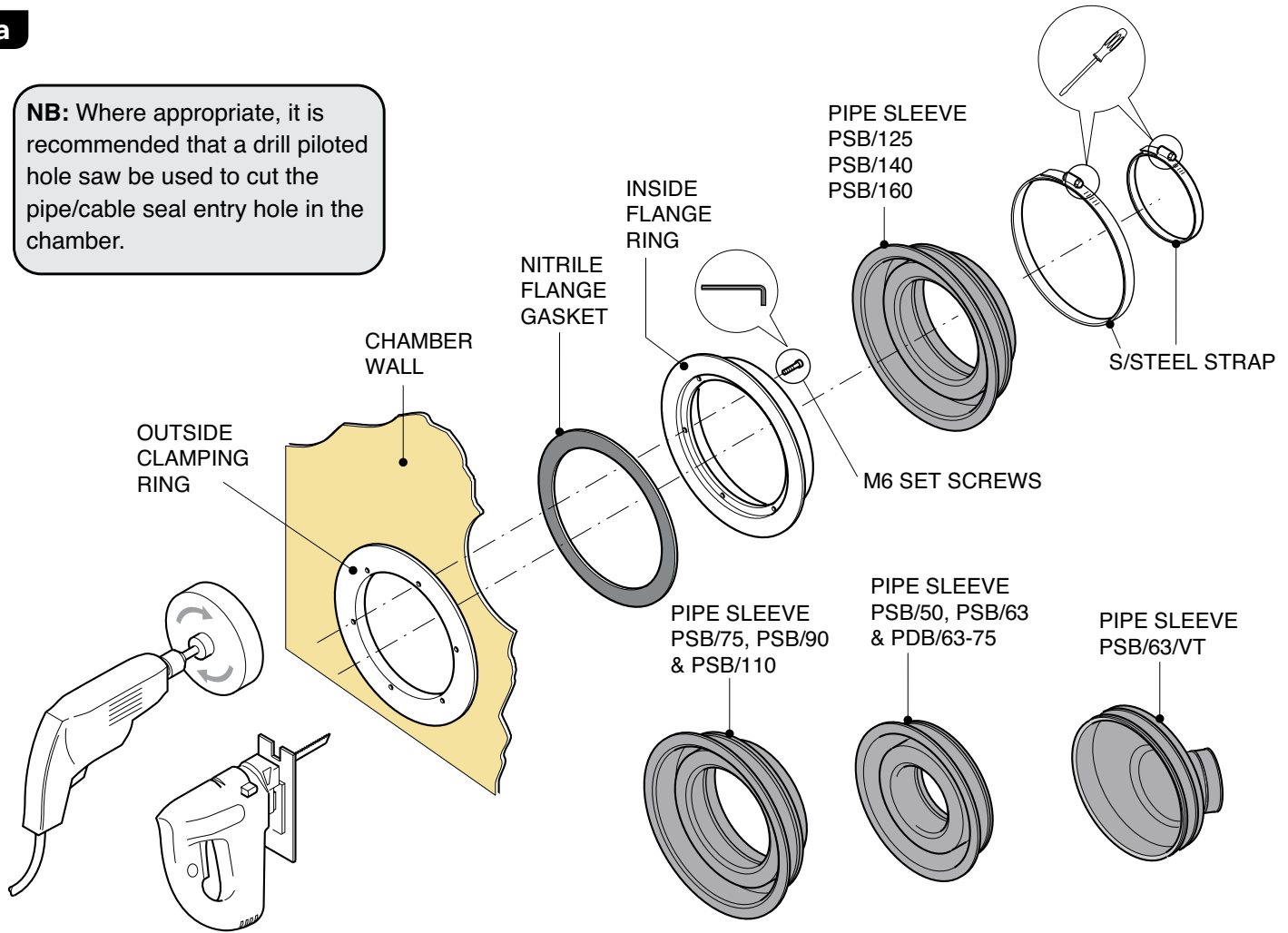
( Pipework and Entry Seal Kits )

**FIBRELITE** 

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8a

**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.

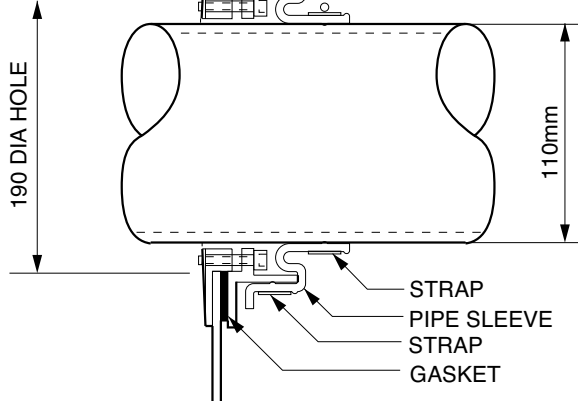


DRILL AND HOLE SAW  
ATTACHMENT OR JIGSAW

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



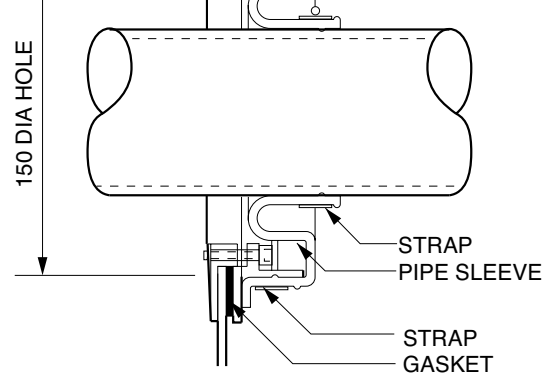
INSIDE OF  
CHAMBER



PIPE ENTRY KITS: -  
PSB/125, PSB/140 & PSB/160



INSIDE OF  
CHAMBER



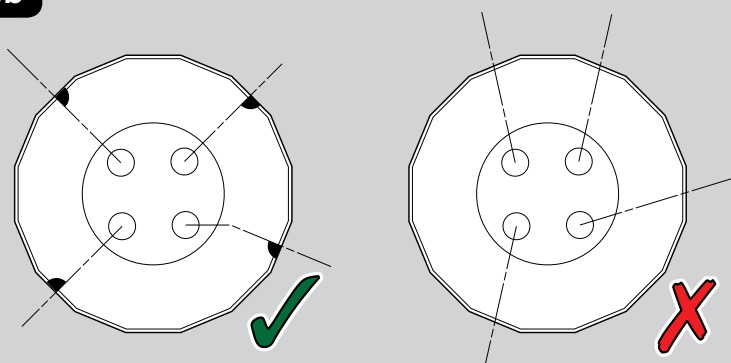
PIPE ENTRY KITS: -  
PSB/50, PSB/63, PSB/63/VT, PSB/75  
PSB/90, PSB/110, PDB/63-75

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 Sealkit Installation Guide )

8b



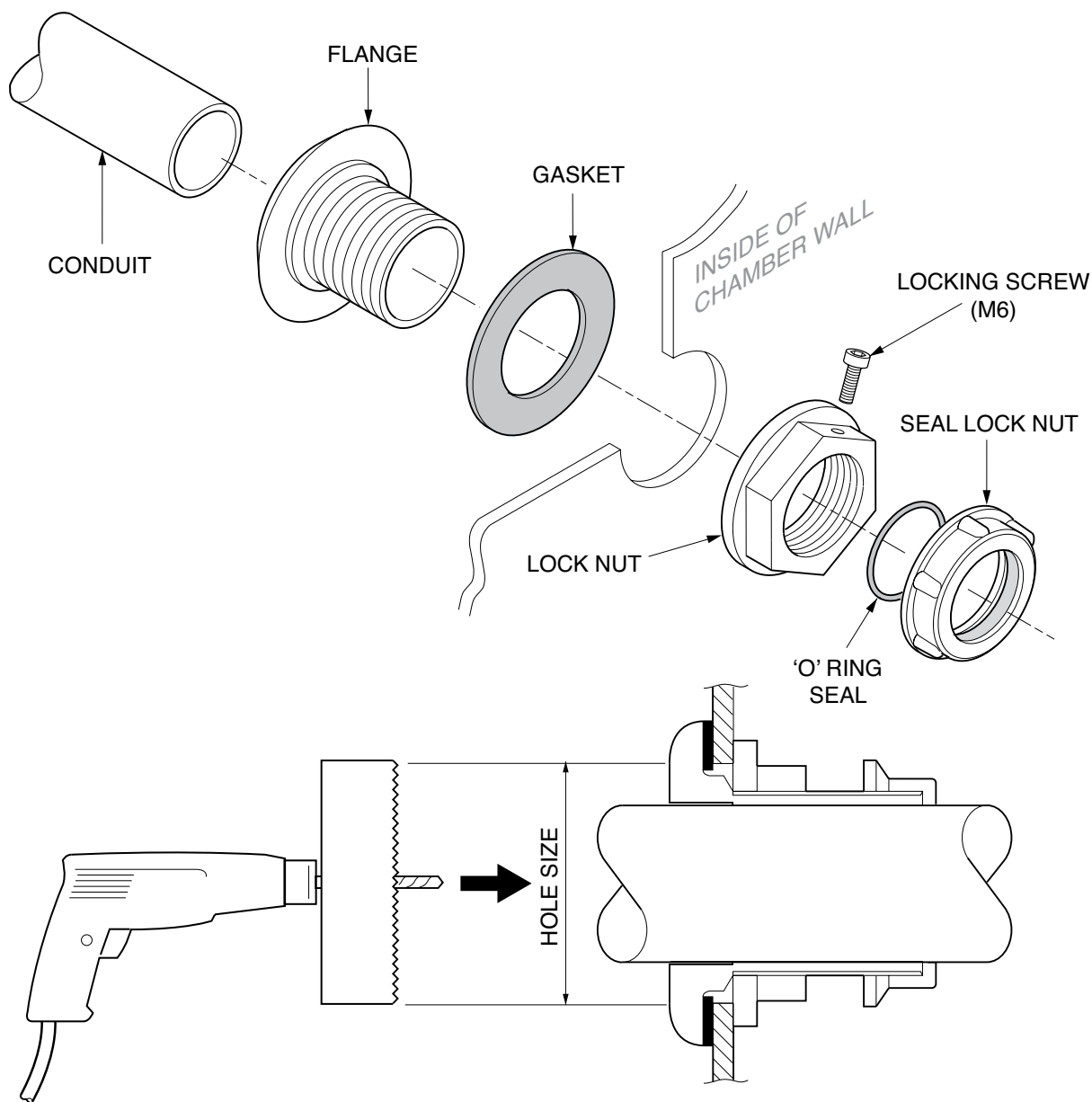
## PEC KITS

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 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

# INSTALLATION INSTRUCTIONS

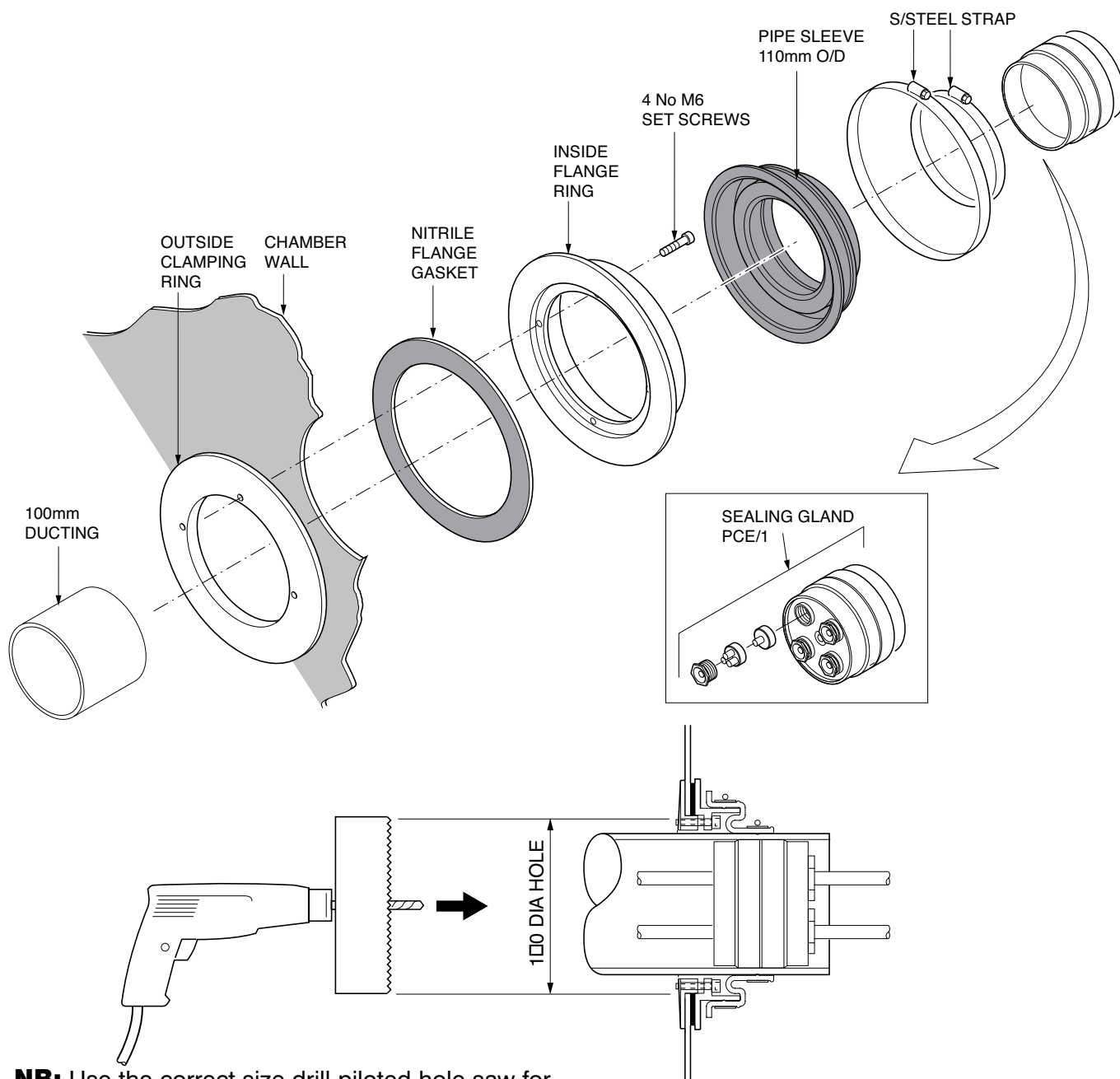
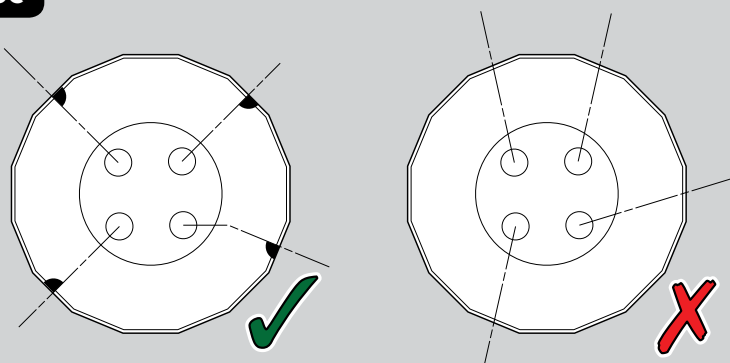
( Conduit Entry Seal Kit Installation Guide )

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PART OF OPW A DOVER COMPANY

8c

## 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 sump wall and the conduit must enter the entry kit perfectly aligned. When backfilling ensure the conduit is not disturbed.

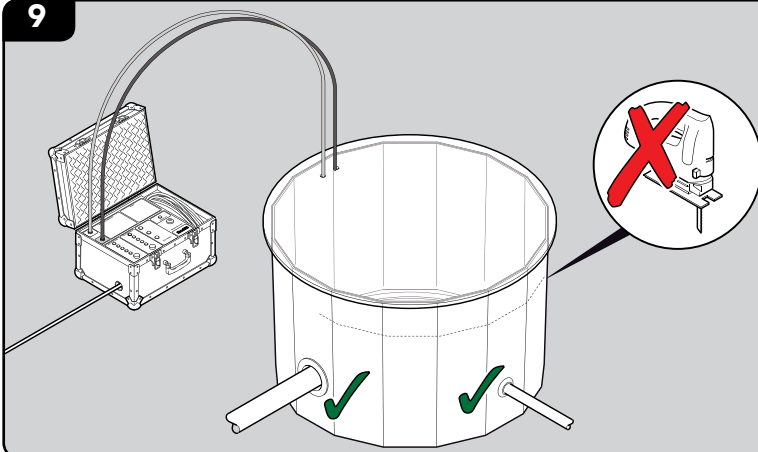


# INSTALLATION INSTRUCTIONS

( Sump Vacuum Test )

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9



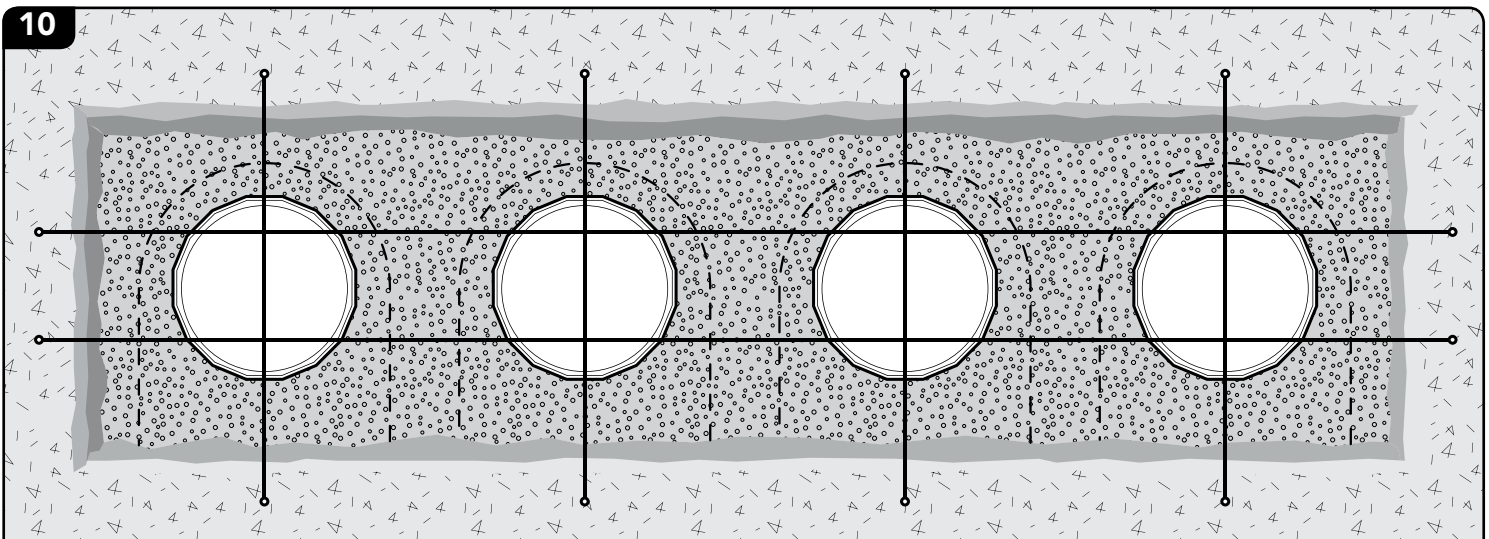
After penetrations have been fitted, ensure all connections on the manway lid are sealed.

Refer to Vacuum test instructions and perform a vacuum test.

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

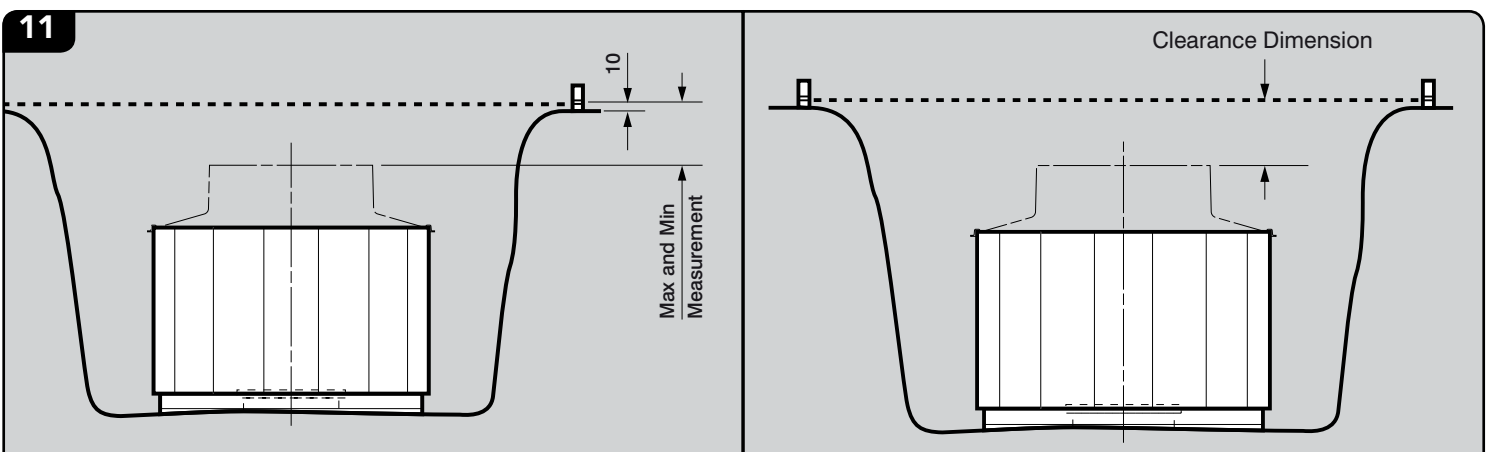
**Note:** sump to be tested to a depth setting of 1.2 meters/12 kPa.

10



Fix string lines 10mm above grade level across the sump lengths and widths of the tank farm to highlight any falls.

11



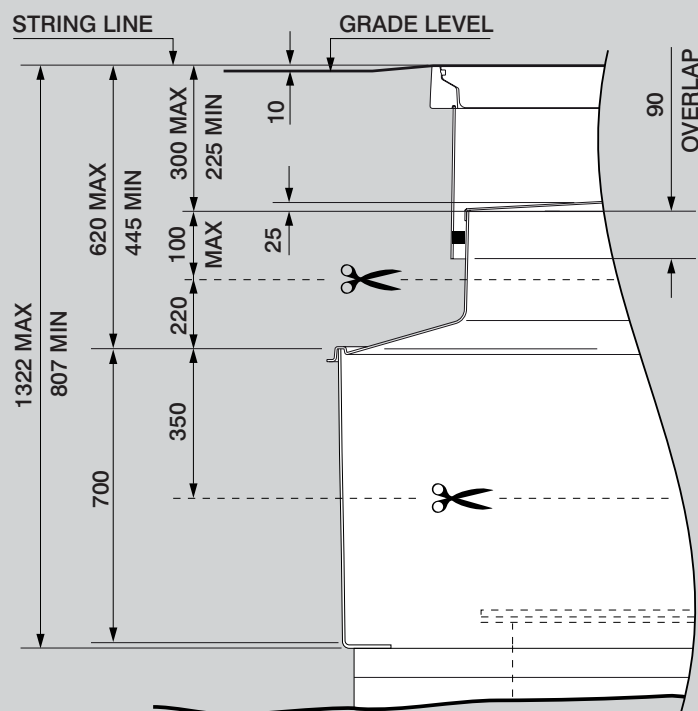
Place the corbel onto the sump (only 'dry fit' the corbel do not bond at this stage). Check the measurement from the top of the corbel to the string line, which is set 10mm above the general grade level. Check all sides of the sump and select the largest and smallest measurement to take account of falls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

# INSTALLATION INSTRUCTIONS

( Achieving the Correct Height )

## S14-390 Systems

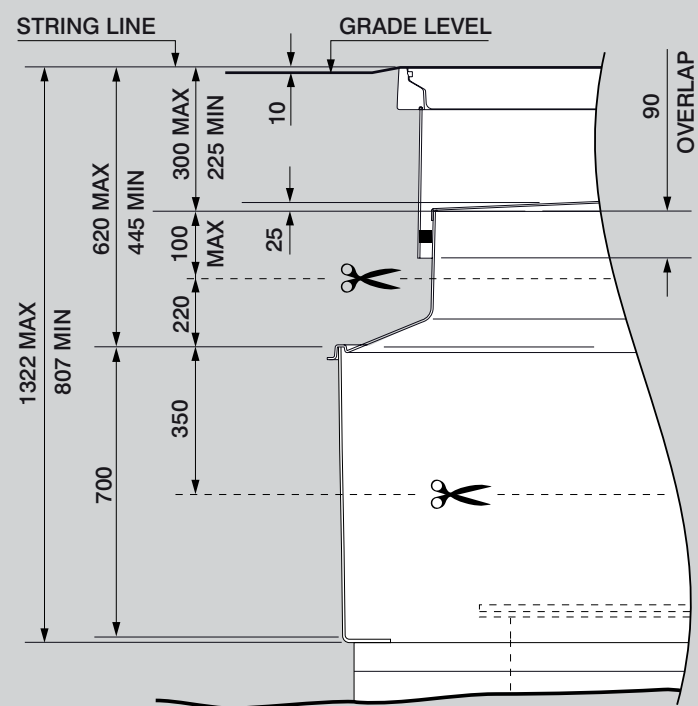
12a



Measurement (clearance dimension)	Action
Max. 300mm Min. 225mm	No trimming required, corbel can be bonded onto the sump. Adjust frame height using hangers.
less than 225mm	Option 1: If by trimming material (max of 100mm) from the corbel turret increases the 'clearance dimension' into the 225mm - 300mm range then material only needs to be trimmed from the corbel turret and skirt. Trim the skirt so that the overlap between the corbel turret and skirt is between 90 and 120mm.  Option 2: If by trimming 100mm from the corbel turret does not increase the 'clearance dimension' into the 225mm - 300mm range then the remaining material must be removed from the sump. A maximum of 350mm can be removed from the sump. Trim the corbel and skirt as described above in option 1.
more than 300mm	The burial depth of the tank is greater than the maximum burial depth of the standard system. Bond a 300mm extension onto the sump. Then proceed as above.

## S14-3100 Systems

12b



Measurement (clearance dimension)	Action
Max. 300mm Min. 225mm	No trimming required, corbel can be bonded onto the sump. Adjust frame height using hangers.
less than 225mm	Option 1: If by trimming material (max of 100mm) from the corbel turret increases the 'clearance dimension' into the 225mm - 300mm range then material only needs to be trimmed from the corbel turret and skirt. Trim the skirt so that the overlap between the corbel turret and skirt is between 90 and 120mm.  Option 2: If by trimming 100mm from the corbel turret does not increase the 'clearance dimension' into the 225mm - 300mm range then the remaining material must be removed from the sump. A maximum of 350mm can be removed from the sump. Trim the corbel and skirt as described above in option 1.
more than 300mm	The burial depth of the tank is greater than the maximum burial depth of the standard system. Bond a 300mm extension onto the sump. Then proceed as above.

See page 10 for extension bonding instructions



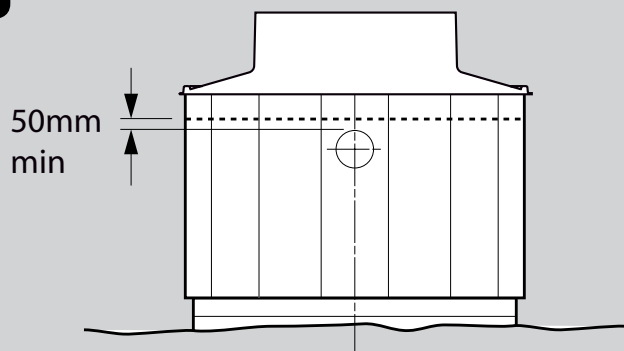
# INSTALLATION INSTRUCTIONS

( Achieving the Correct Height )

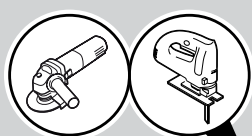
# FIBRELITE

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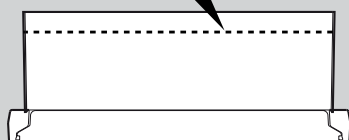
13



**CORBEL** { < 100mm ✓  
> 100mm ✗



**SKIRT** { < 75mm ✓  
> 75mm ✗

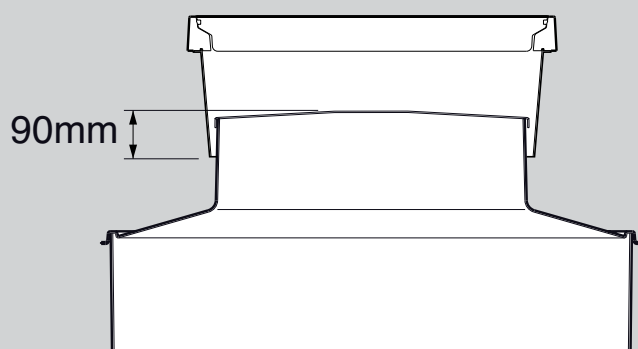


Before trimming the sump check pipe entry positions allow 50mm from top edge to be able to fit the corbel in position.

If necessary cut a smaller amount off the sump height, then cut the remaining material from the corbel and skirt.

**Important Note:** Trim the corbel and skirt so that the clearance from the top of the frame to the top of the corbel falls in the range 225 to 300mm.

14



Ensure that you have a min overlap of 90mm between the skirt and corbela, to allow space to install the seal kit.

**NB.** On installations with very high water tables (up to concrete pad) refer to special instructions, overlap increases to 120mm.

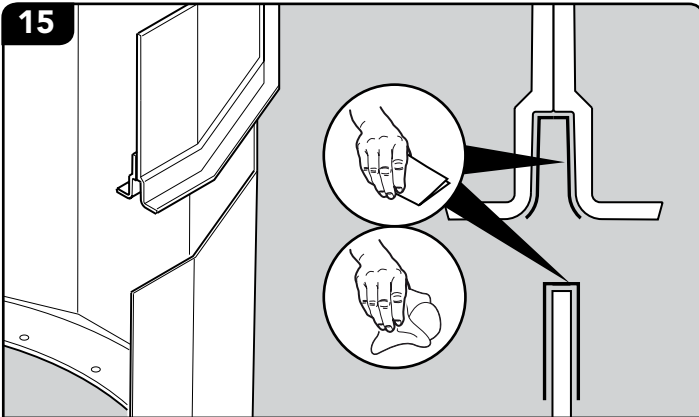
**WARNING** Do not trim sump until sump has been vacuum tested with pipework installed and completed.

# INSTALLATION INSTRUCTIONS

( Bonding the Extension / Chamber )

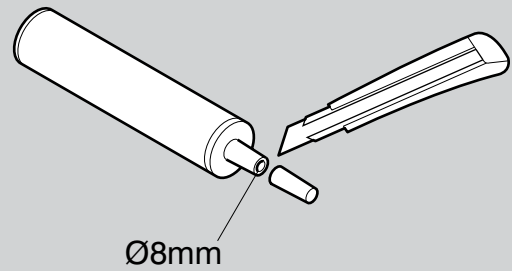
**FIBRELITE**   
PART OF OPW A DOVER COMPANY

15



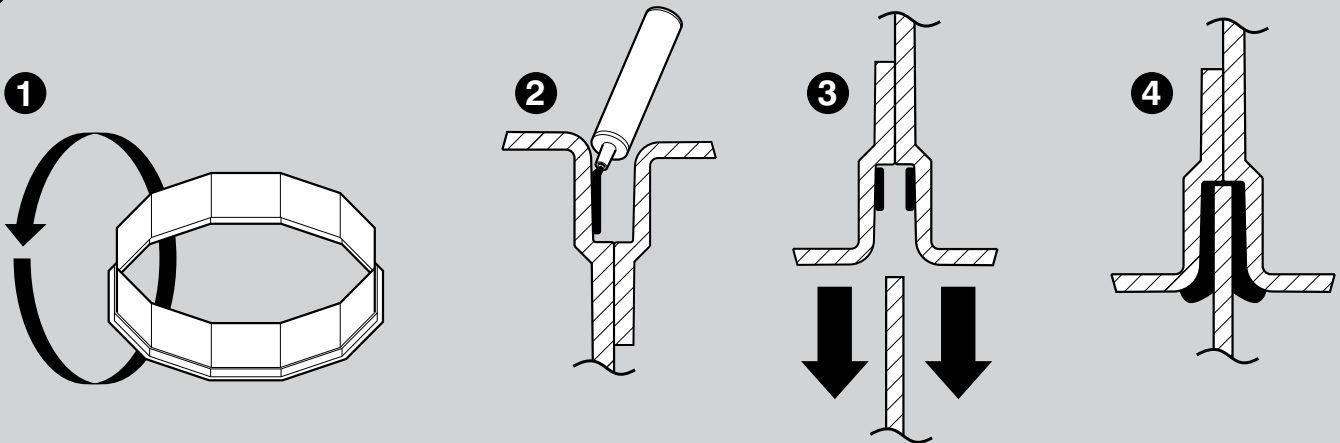
Abrade and wipe with a degreasing solvent the sump top edge / wall and the extension recess shoulder

16



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

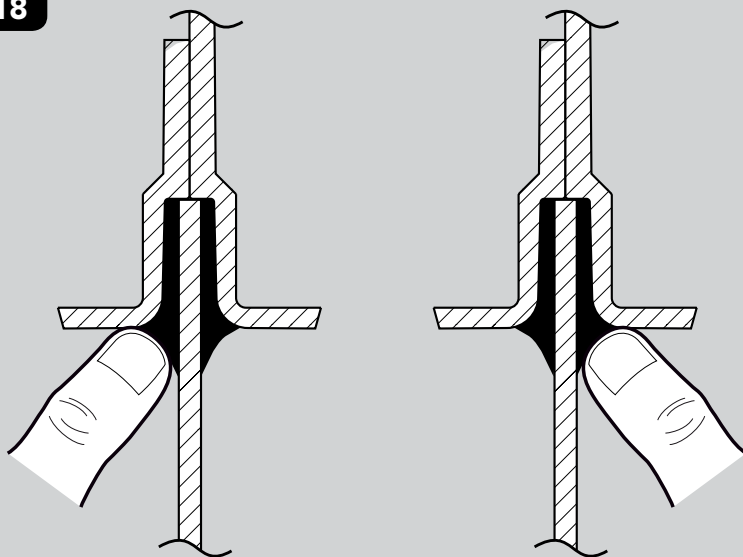
17



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

18



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

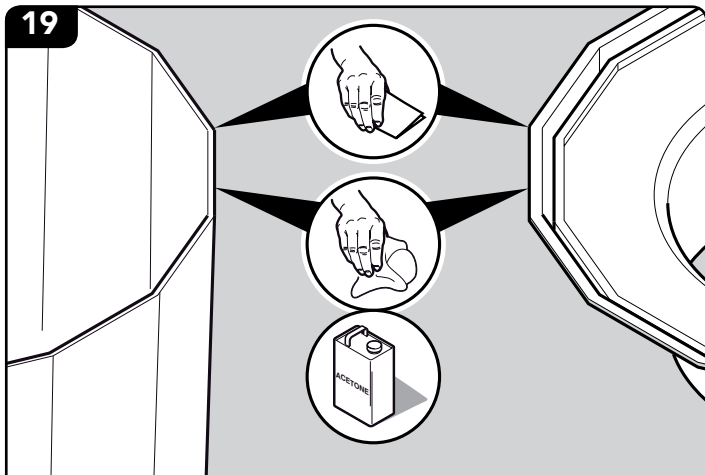
# INSTALLATION INSTRUCTIONS

( Bonding the Corbel )

**FIBRELITE**

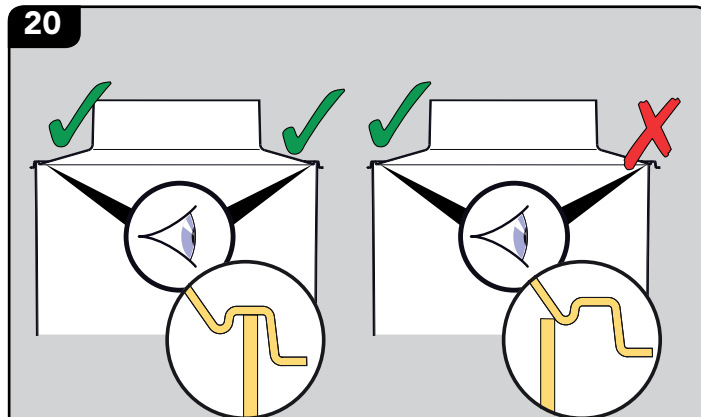
PART OF OPW A DOWER COMPANY

19



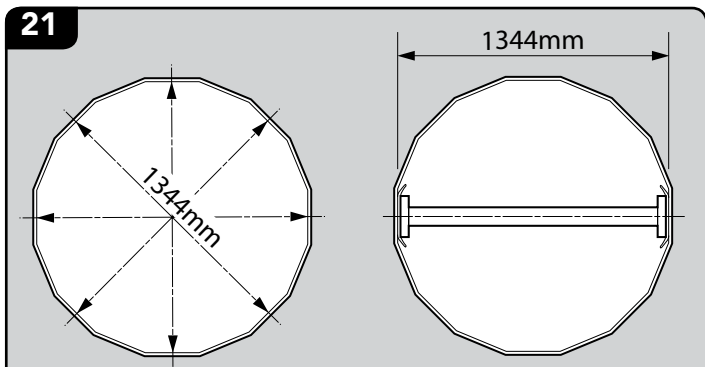
Abrade and wipe with a degreasing solvent the sump or extension top edge/wall and the corbel groove.

20



Dry fit the corbel on the sump to ensure it fits - push corbel groove onto sump wall. If it does not fit, pipework may have distorted the sump wall shape.

21

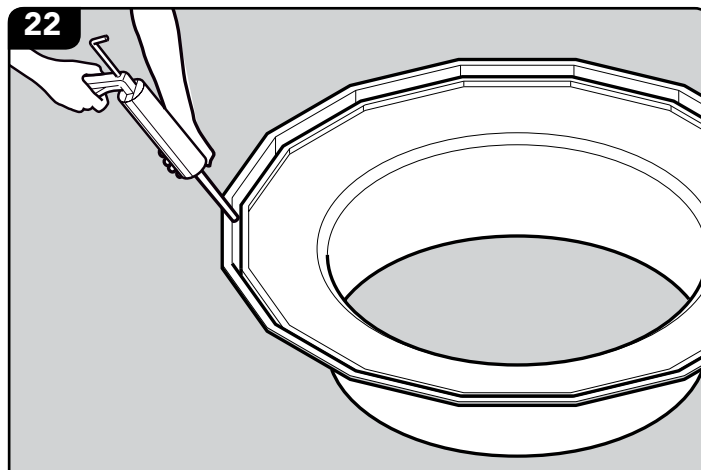


Measure distance between opposite walls, this should be 1425mm. If less than this you will need to brace out the sump.

Using wooden batons (1344mm  $\pm$  5mm long) with timber spreader plates (150 x 150) to spread the load, brace out the sump to the correct size.

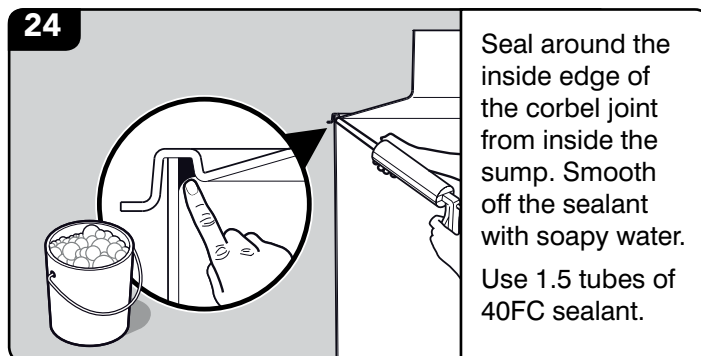
Repeat this process on all walls to get the correct shape.

22



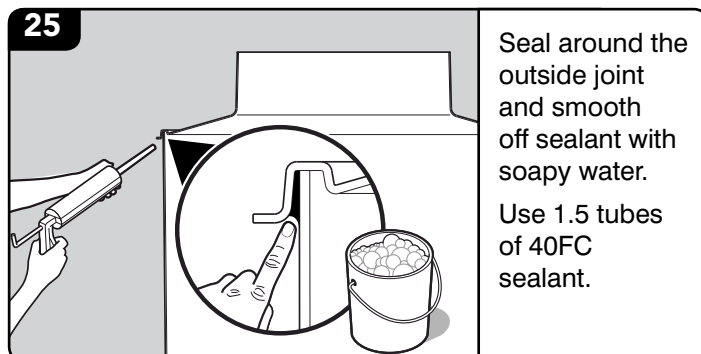
Apply 2 tubes of Soudaflex 40FC sealant in the groove of the corbel. Sealant should fill 1/2 the groove.

24



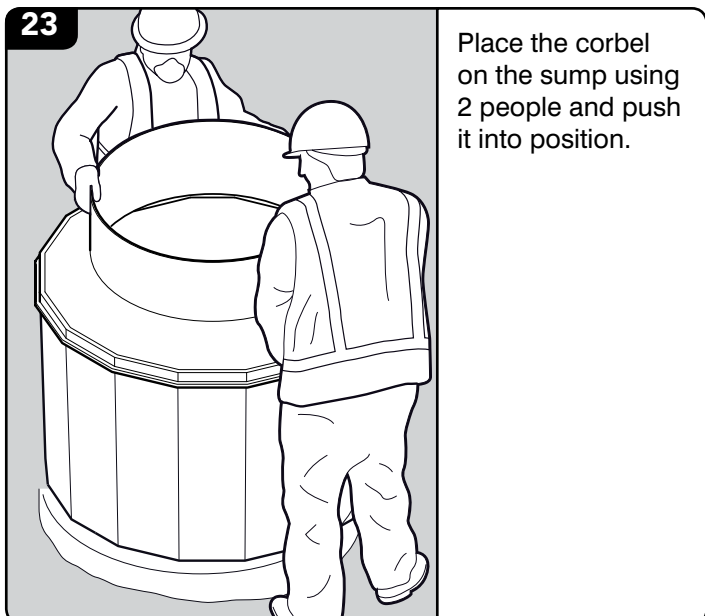
Seal around the inside edge of the corbel joint from inside the sump. Smooth off the sealant with soapy water. Use 1.5 tubes of 40FC sealant.

25



Seal around the outside joint and smooth off sealant with soapy water. Use 1.5 tubes of 40FC sealant.

23



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

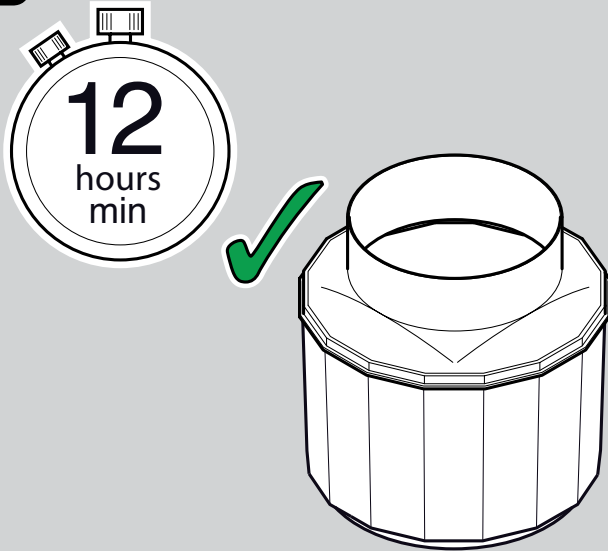
# INSTALLATION INSTRUCTIONS

( Performing Corbel Vacuum Test )

**FIBRELITE** 

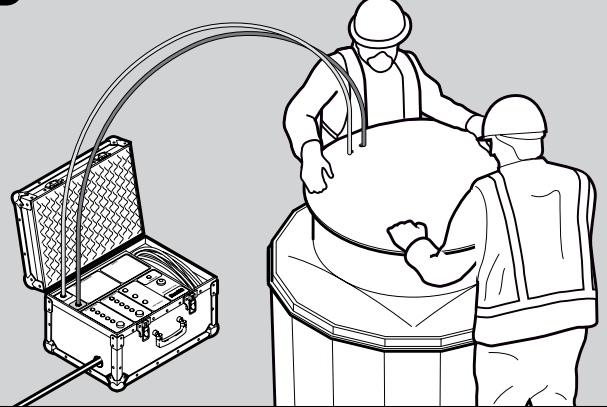
PART OF OPW A DOVER COMPANY

26



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.

27



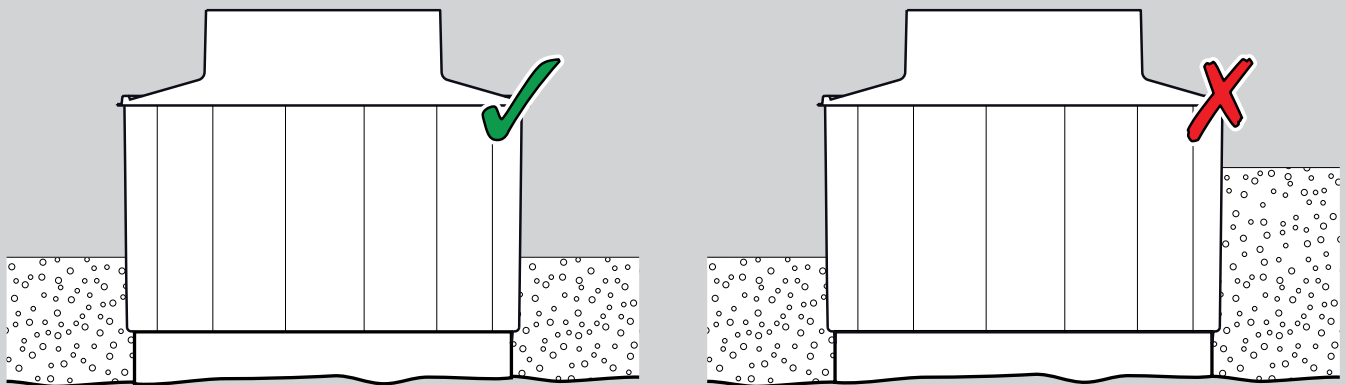
Ensure all pipework and electrical entries have been completed before vacuum testing, this is a final test for all penetrations in the sump.

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

Refer to vacuum testing instructions for correct method.

## ( Backfilling )

28



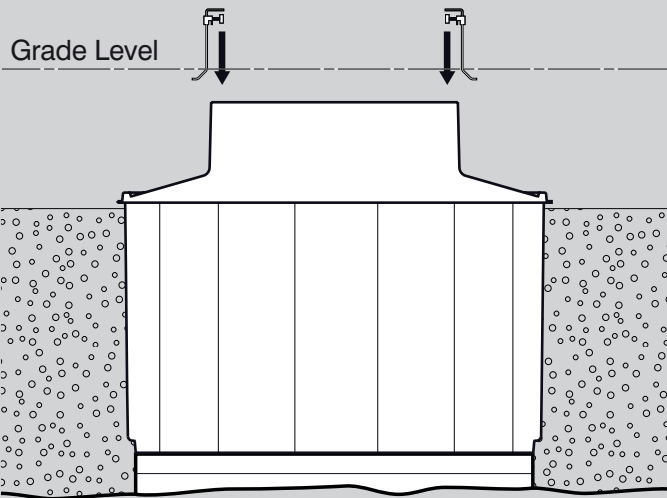
Once the corbel test has been performed with a PASS result, the area around the sump can be carefully backfilled with peag gravel or sand. Back-fill equally around the sump in layers to prevent damage or deformation.

# INSTALLATION INSTRUCTIONS

( Adjusting the Skirt & Frame to Grade Level )

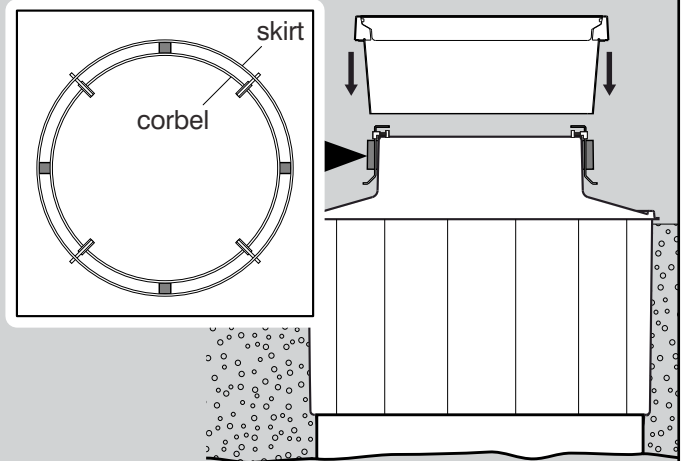
**FIBRELITE**   
PART OF OPW A DOVER COMPANY

29



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

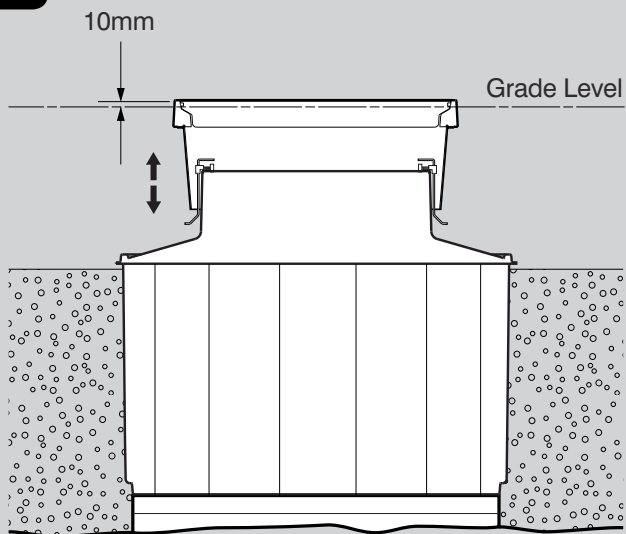
30



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 do this may result in the internal lid fouling.

31



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

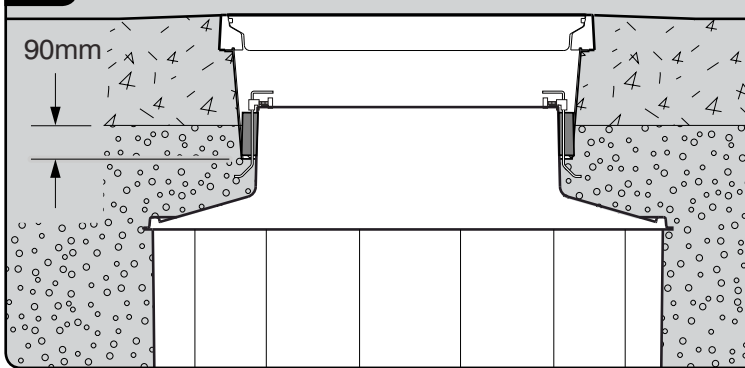
# INSTALLATION INSTRUCTIONS

( Concreting )

**FIBRELITE**

PART OF OPW A DOVER COMPANY

32



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).

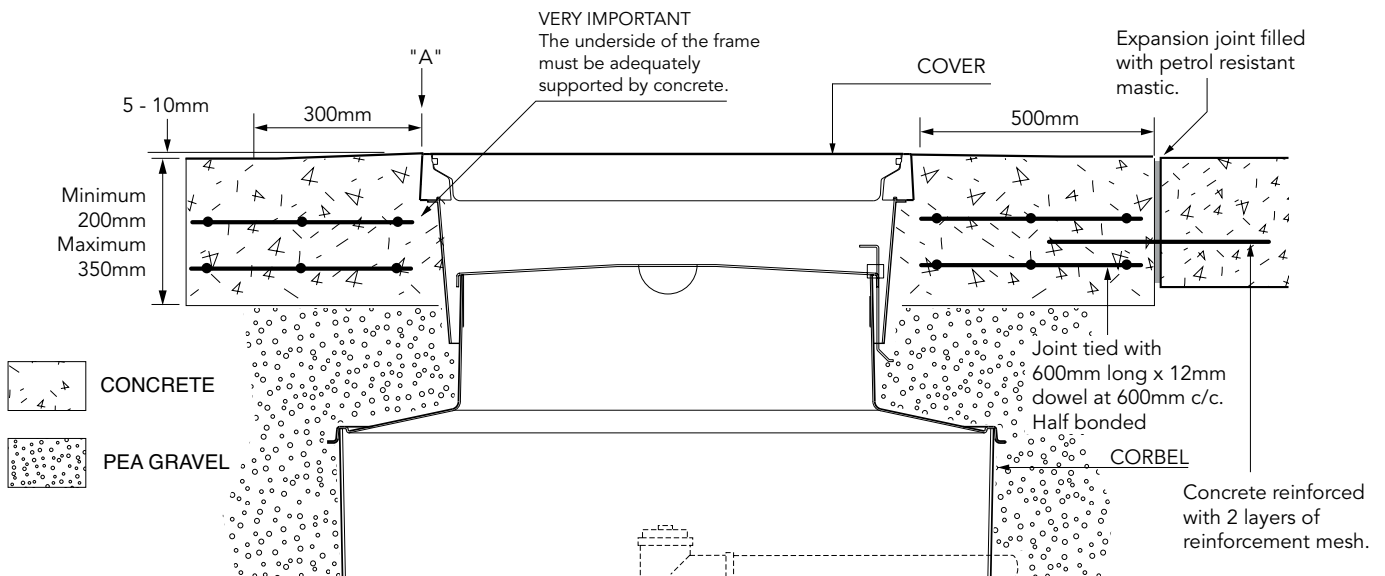
Ensure foam spacers are in position to locate the skirt centrally around the corbel.

33



## TYPICAL INSTALLATION

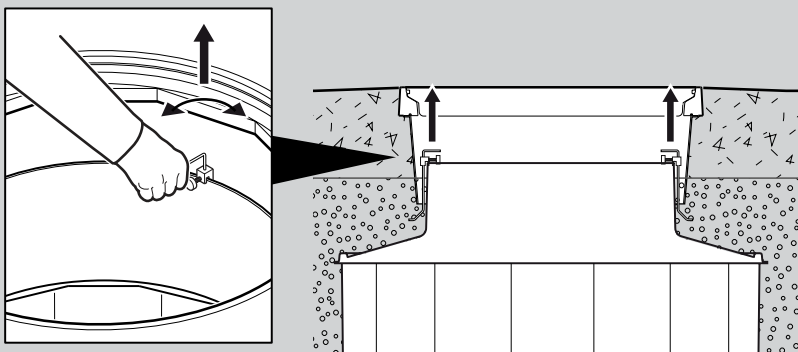
### CONCRETE



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

Concrete ties must be inserted 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.

34



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.



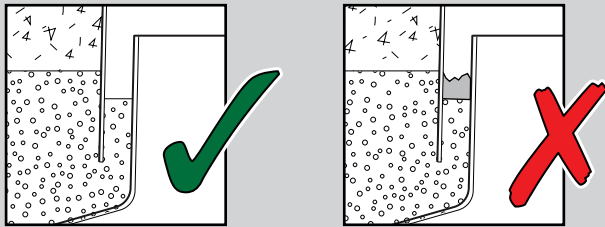
# INSTALLATION INSTRUCTIONS

( Installation of Corbel / Skirt Sealant )

**FIBRELITE** 

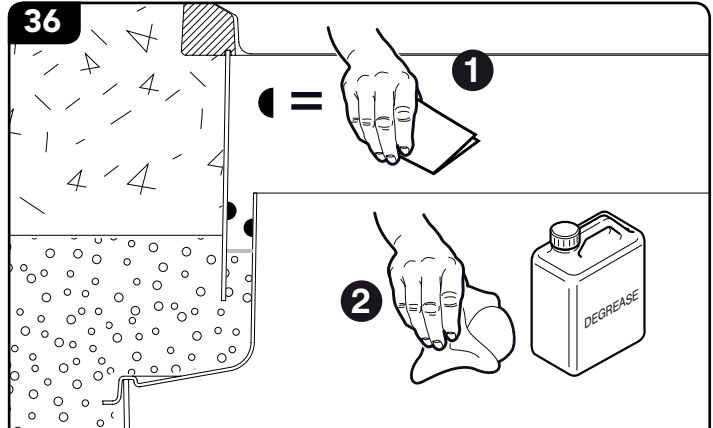
PART OF OPW A DOVER COMPANY

35



Ensure void is free of concrete to a depth of 90mm (120mm on a high water table installation).

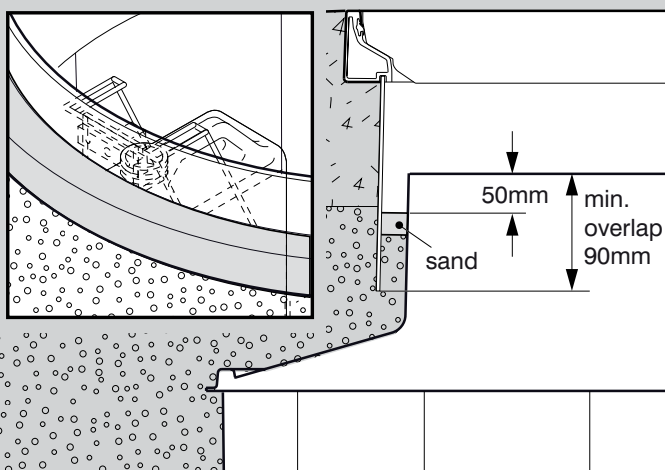
36



Abrade surface of corbel and skirt with sand paper.

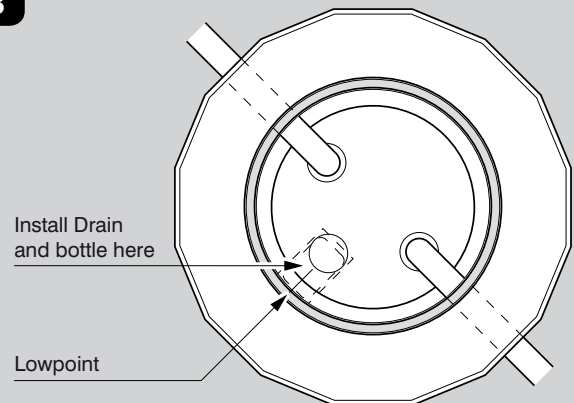
Use acetone to clean surface of corbel and skirt. Ensure surfaces and channel are dry and free from dirt and grease.

37



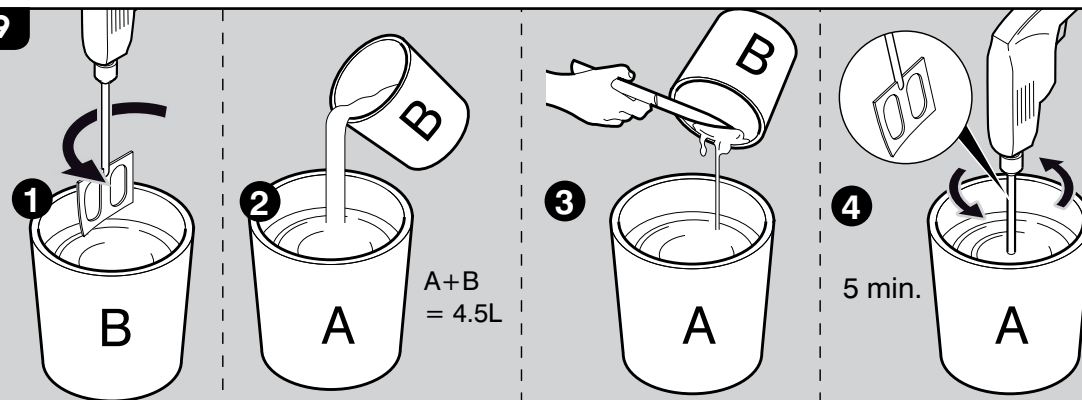
Insert sand in the void to a depth of 50mm from the top of corbel. Compact the sand.

38



Drain and bottle should be positioned away from pipe risers and stp. The drain must be installed at the created low point to do this. Compact the sand in a way to create a low point 10-15mm lower than the surrounding sand.

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**Application Temp:**

5 to 45°C

(Do not apply below 4°C)

**Pot Life:**

45 min at 25°C

**Tack Free (at 25°C):**

2 1/2 hrs

**Full Cure (at 25°C):**

2 days

Using a suitable container stir the contents of Pack B and add the entire contents to Pack A to give a combined content of 4.5Ltrs. Ensure white sediment from can B is put into can A before mixing. Stir for a full 5 minutes using a slow speed electric drill (400 - 500 RPM) with a mixer paddle until a completely homogeneous mix is obtained. Take care to avoid including excess air. Mixing is made easier if the Pack B is added and mixed in two stages.

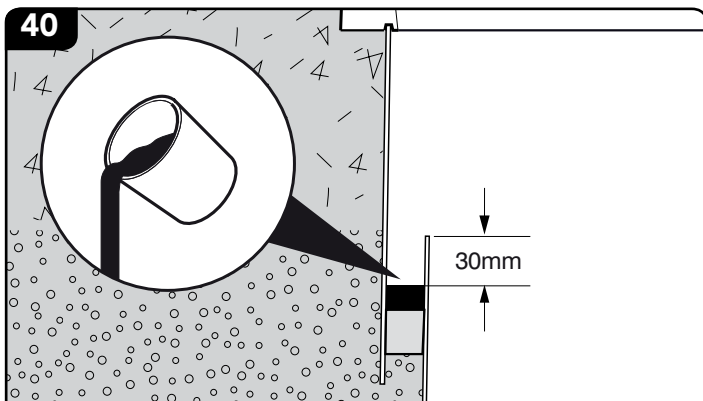
**WARNING** If white sediment is not added to mixture, or contents are not mixed thoroughly using an electric mixer - the sealant will not set and will need replacing

# INSTALLATION INSTRUCTIONS

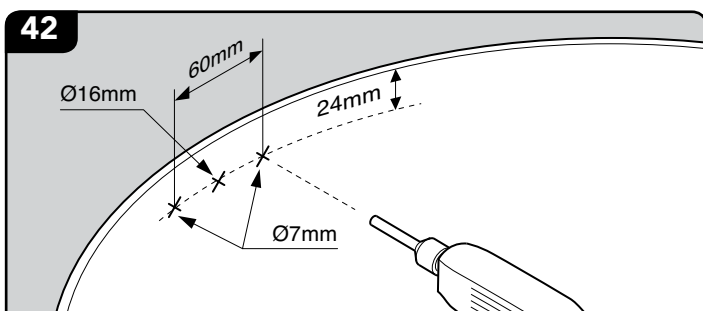
( Installation of Corbel / Skirt Sealant )

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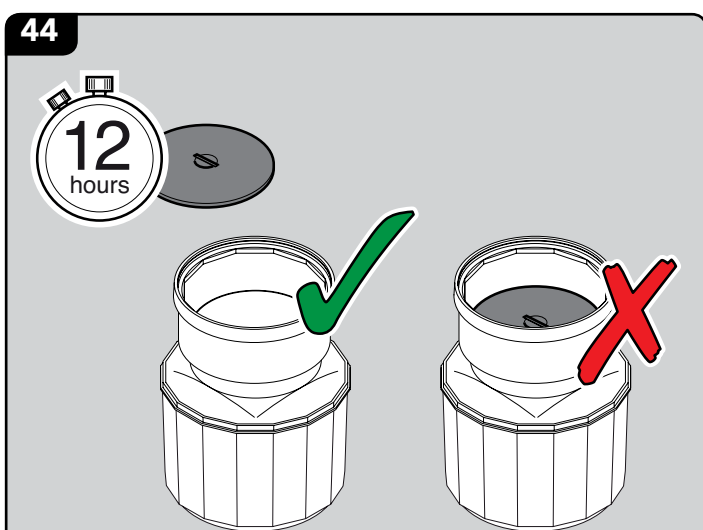


1 set of cans A+B will seal 2 sumps. Decant mixture from can A into can B to have more control when pouring the mixture into the void, onto the sand base. Avoid spilling the contents to ensure a clean finish on the side walls of corbel and skirt. The sealant shall be poured to level 30mm below the top edge of the Corbel (the amount of sealant required is dependant on the height of the system but should be between 1.5 and 1.7 Litres).

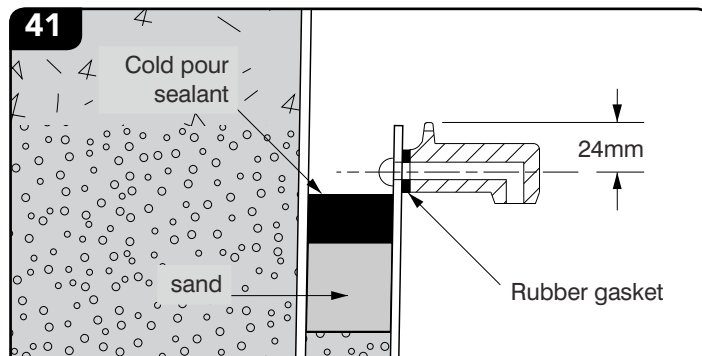


Mark out the position of 2 No. holes to be drilled 24mm down from the top edge of the corbel and 60mm cross centre. Drill the two Ø7mm holes into the Corbel walls.

Mark out the position of the drain hole to align with the hole in the drain spout and drill 1 No. Ø16mm.

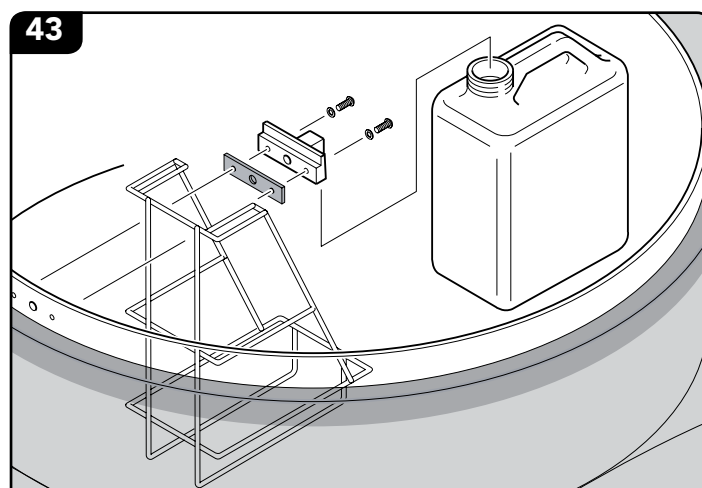


Do not install the internal lid until the sealant has set. Wait overnight.



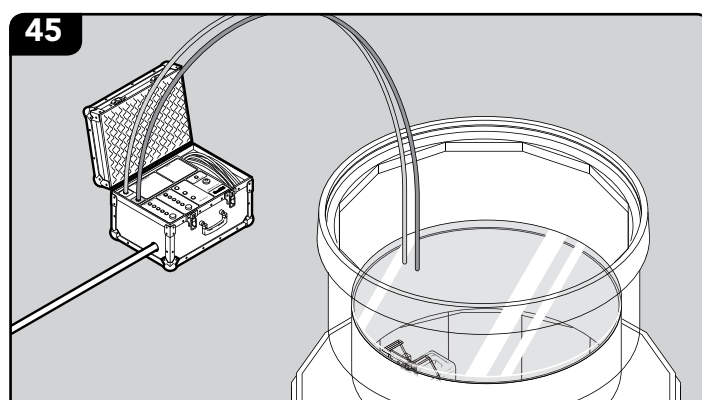
## Fitting Bottle Hanger

When the sealant is tack free the bottle hanger may be fitted. Ensure that when the bottle hanger is fitted the water will drain down the spout.



Ensure the rubber gasket is fitted to the mating surface of the bottle hanger. Secure the Bottle Hanger to the Corbel wall with 2 No. M6 x 15 Dome Head Screws and Washers.

Locate the Condensation Bottle into the Bottle carrier and suspend the Bottle Carrier from the Bottle Hanger.



## Test completed system.

**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.