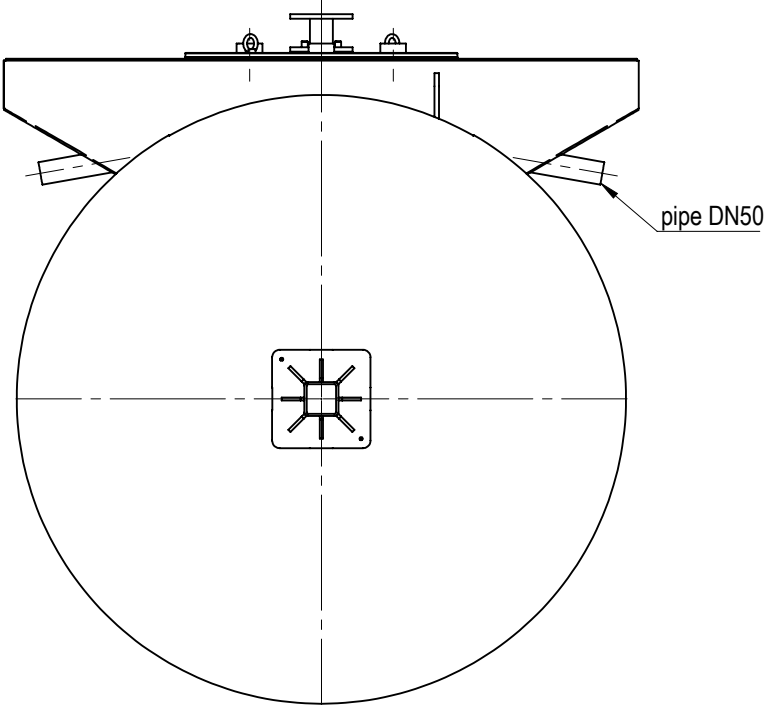


Tabela rewizji / Revision table				
Rewizja Revision	Imię i Nazwisko Name	Data Date	Podpis Signature	Zakres zmian Scope of modification

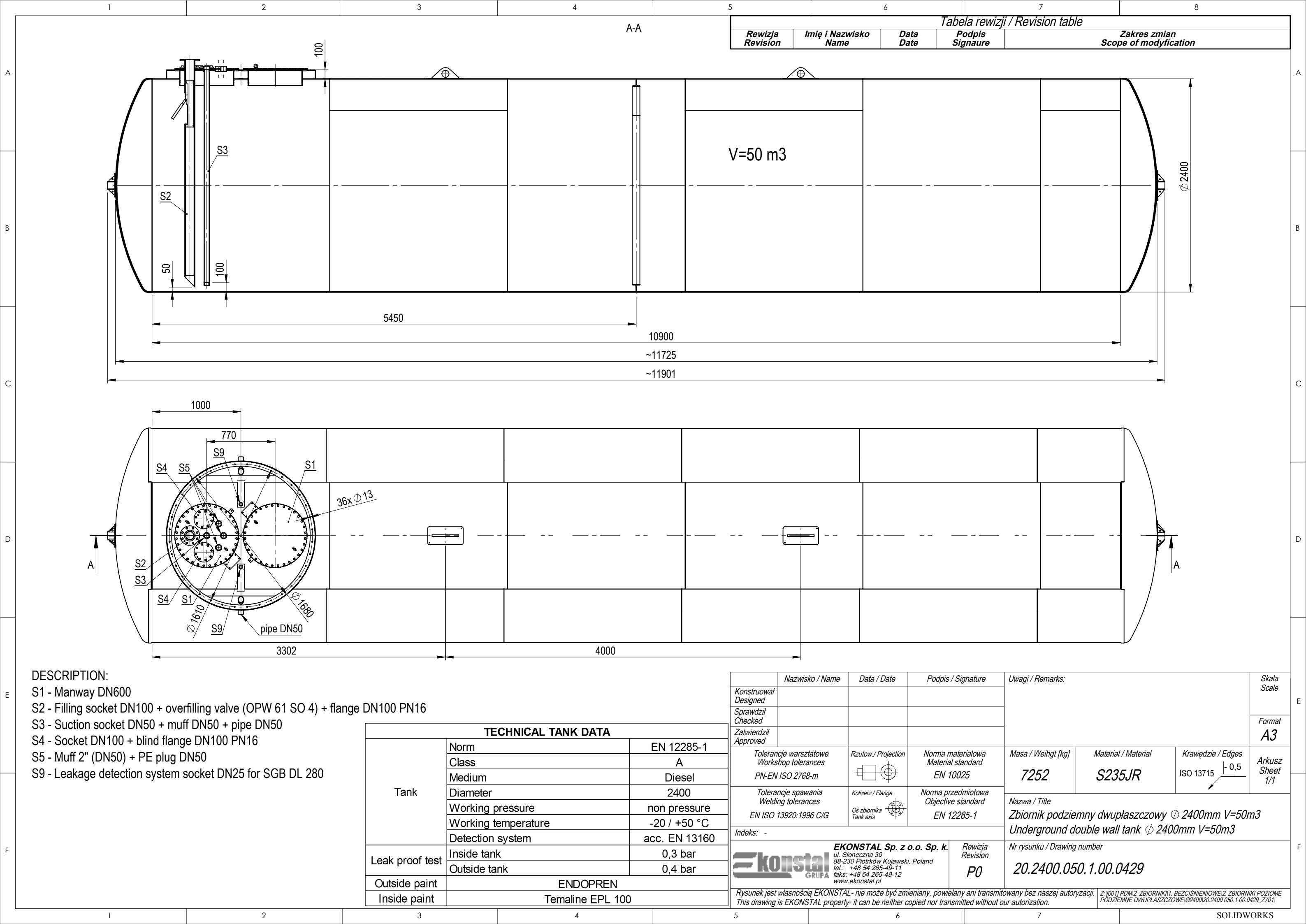


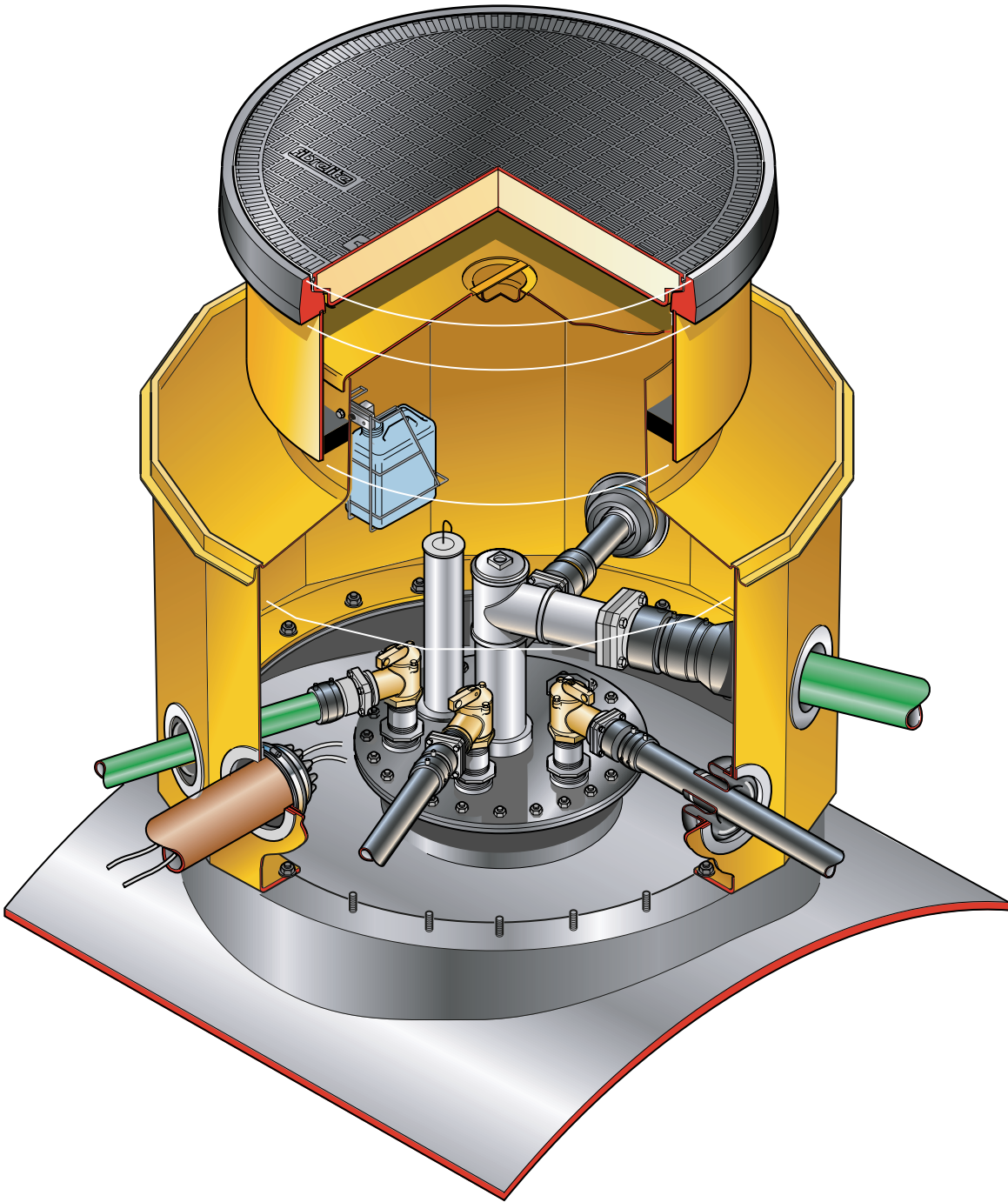
TECHNICAL TANK DATA		
Tank	Norm	EN 12285-1
	Class	A
	Medium	Diesel
	Diameter	1600
	Working pressure	non pressure
	Working temperature	-20 / +50 °C
	Detection system	acc. EN 13160
Leak proof test	Inside tank	0,3 bar
	Outside tank	0,4 bar
Outside paint	ENDOPREN	
Inside paint	Temaline EPL 100	

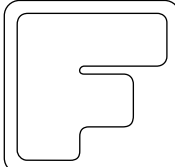
DESCRIPTION:
S1 - Manway DN600
S2 - Filling socket DN50 + overfilling valve (Self Climat) + flange DN50 PN16
S3 - Suction socket DN50 + muff DN50 + pipe DN50
S4 - Muff 2" (DN50) + PE plug DN50
S9 - Leakage detection system socket DN25 for SGB DL 280

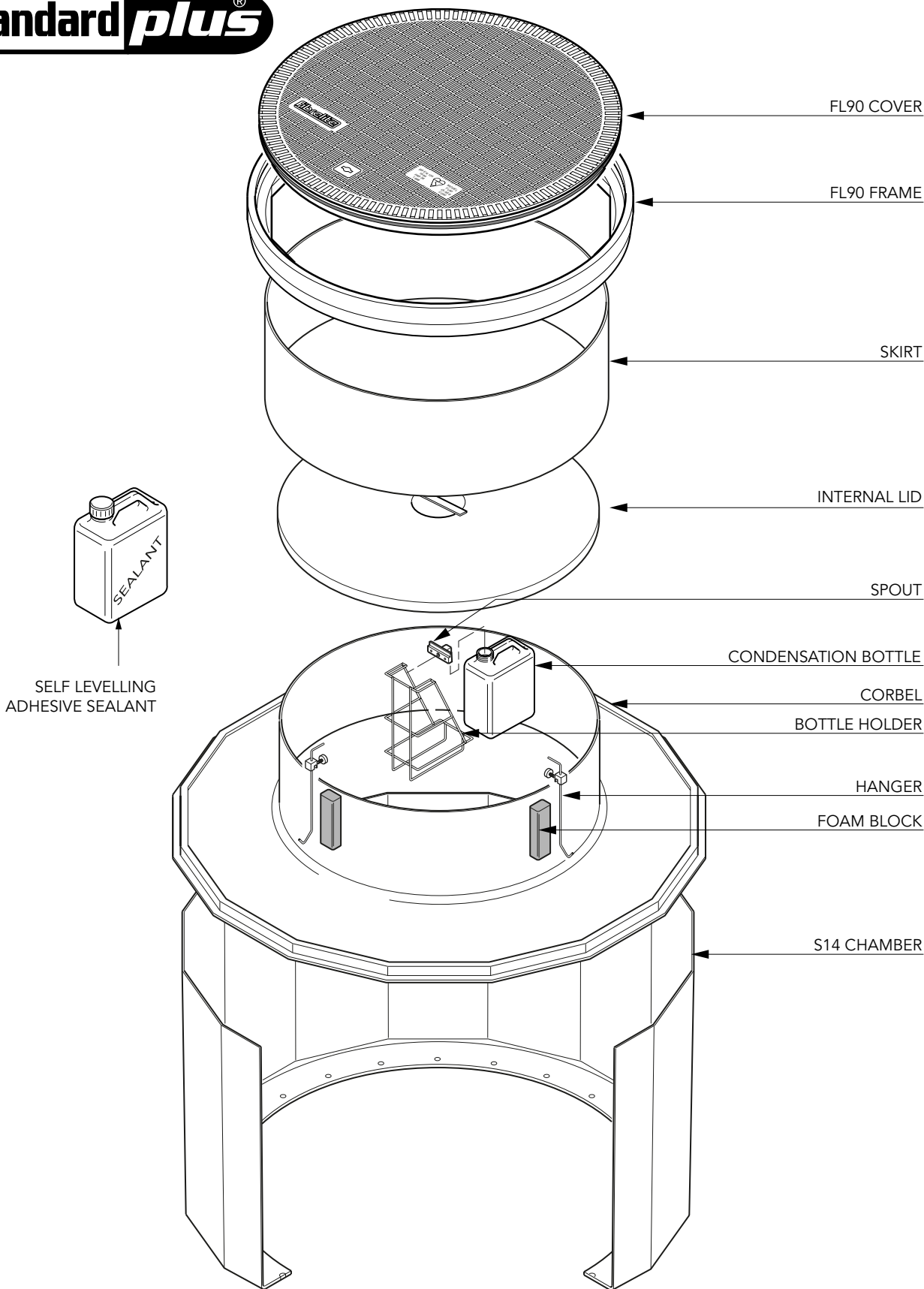
Konstruował Designed Sprawdził Checked Zatwierdził Approved	Nazwisko / Name	Data / Date	Podpis / Signature	Uwagi / Remarks:			Skala Scale 1:20
							Format A3
	Tolerancje warsztatowe Workshop tolerances PN-EN ISO 2768-m	Rzutów./ Projection	Norma materiałowa Material standard EN 10025	Masa / Weight [kg] ~1363	Materiał / Material S235JR	Krawędzie / Edges ISO 13715 -0,5	Arkusz Sheet 1/1
	Tolerancje spawania Welding tolerances EN ISO 13920:1996 C/G	Kolnierz / Flange Oś zbiornika Tank axis	Norma przedmiotowa Objective standard DIN 6608	Nazwa / Title Zbiornik podziemny dwupłaszczowy Ø 1600mm V=6m3 Underground doublewall tank Ø 1600mm V=6m3			
Indeks: -				Nr rysunku / Drawing number 20.1600.006.1.00.0430			
Ekonstal Sp. z o.o. Sp. k. ul. Słoneczna 30 88-230 Piotrków Kujawski, Poland tel.: +48 54 265 49 11 faks: +48 54 265 49 12 www.ekonstal.pl				Rysunek jest własnością EKONSTAL - nie może być zmieniany, powielany ani transmitowany bez naszej autoryzacji. This drawing is EKONSTAL property- it can be neither copied nor transmitted without our authorization.			

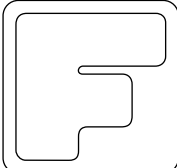
Z:\001\PD\12_ZBIORNIKI\1. BEZCIŚNIENIOWE\2. ZBIORNIKI POZIOME
PODZIEMNE DWUPŁASZCZOWE\Ø1600\20.1600.006.1.00.0430_Z7011





Notes:	Category: HEIGHT ADJUSTABLE COMPLIANT ROUND CHAMBER SYSTEMS		 FIBRELITE
	Product Description: 1.4m diameter base chamber with a height adjustable corbel and round 900mm flat sealed cover. Indirect Offset Fill		
For reference purposes only. This drawing is not a specification.	Drawing No: 25004	Product Code S14-390/SEAL	
	Date: Oct 2003	Revisions: 0	



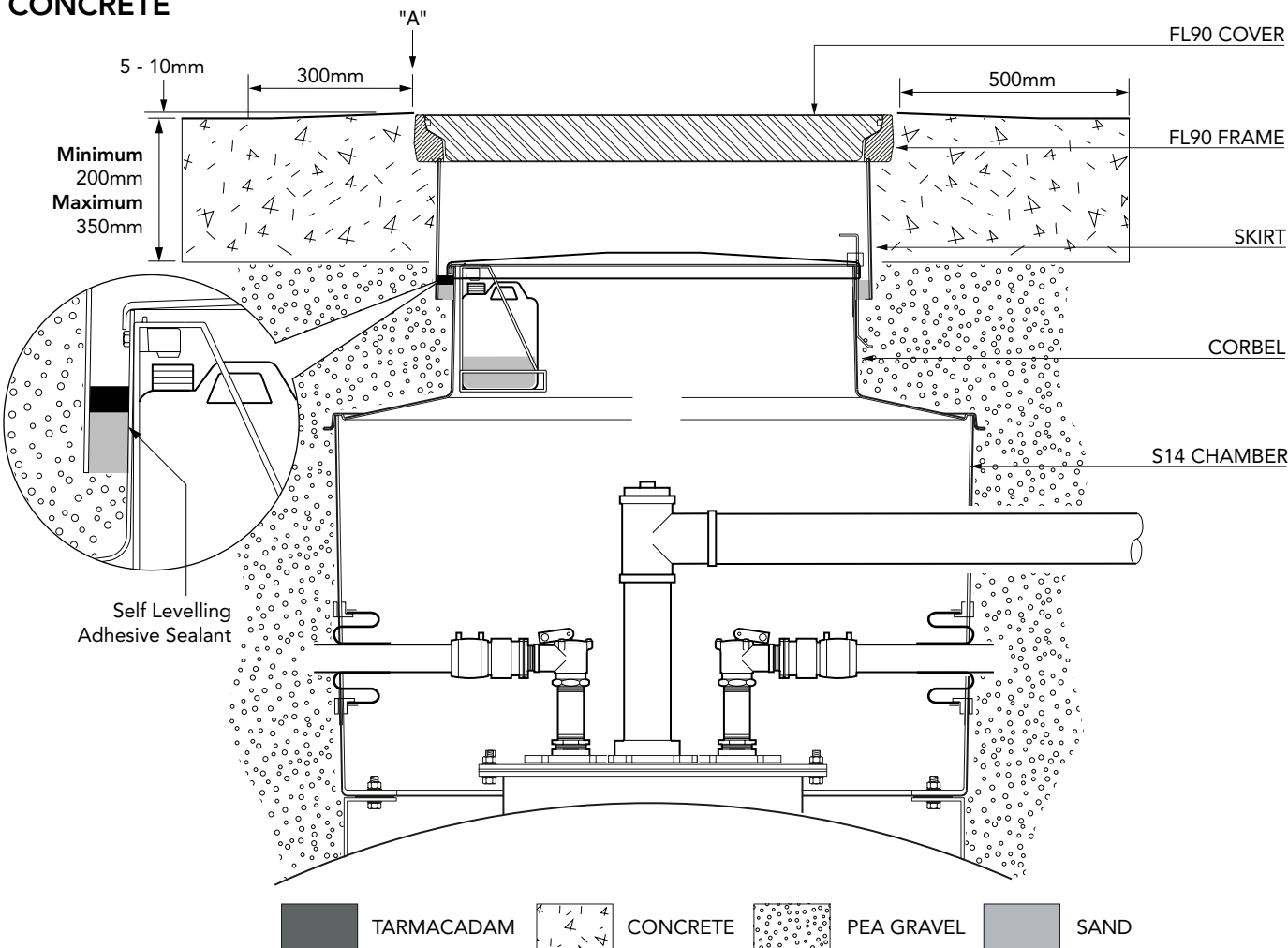
Notes:	Category: HEIGHT ADJUSTABLE COMPLIANT ROUND CHAMBER SYSTEMS		 FIBRELITE
	Product Description: 1.4m diameter base chamber with a height adjustable corbel and round 900mm flat sealed cover. Indirect Offset Fill		
For reference purposes only. This drawing is not a specification.	Drawing No: 2	Product Code S14-390/SEAL	
	Date: Nov 2003	Revisions: 0	



! VERY IMPORTANT !
OUTER EDGE "A" OF FRAME SET 5 - 10MM
ABOVE GENERAL FORECOURT AREA WITH
CONCRETE RAMPED AWAY OVER 300MM.

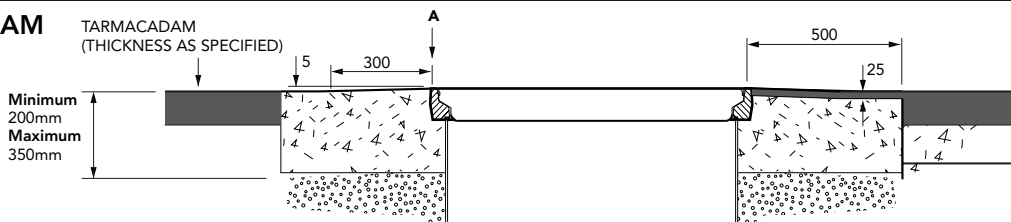
TYPICAL INSTALLATION

CONCRETE

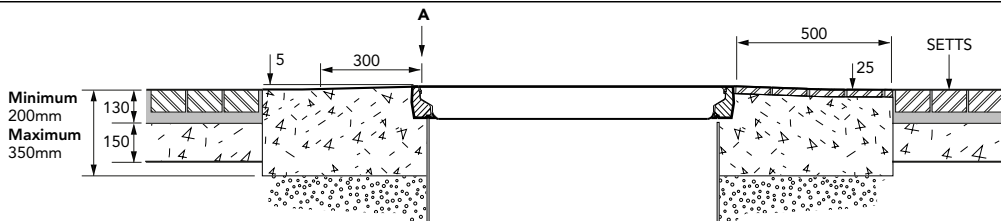


ALTERNATIVE INSTALLATION ADVICE

TARMACADAM



SETTS



Notes:

For reference purposes only.
This drawing is not a specification.

Category:

**HEIGHT ADJUSTABLE COMPLIANT ROUND
CHAMBER SYSTEMS**

Product

**1.4m diameter base chamber with a height adjustable
corbel and round 900mm flat sealed cover. Indirect offset Fill**

Drawing No:

3

Product Code

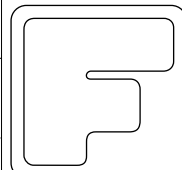
S14-390/SEAL

Date:

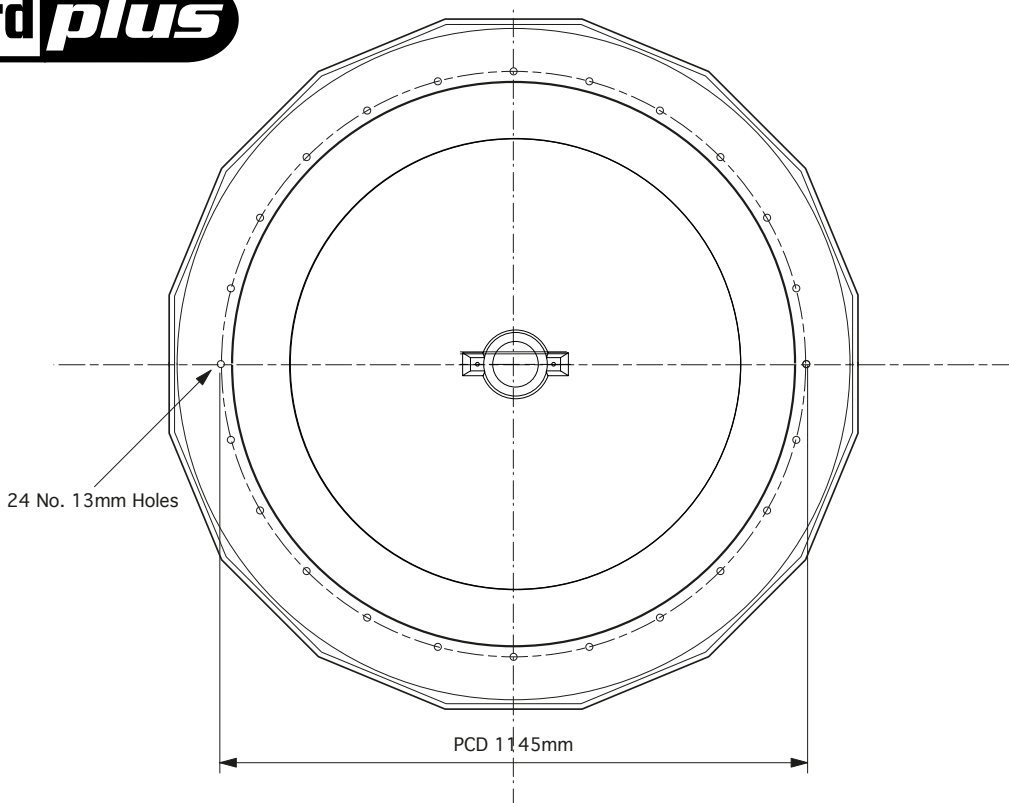
Nov 2003

Revisions:

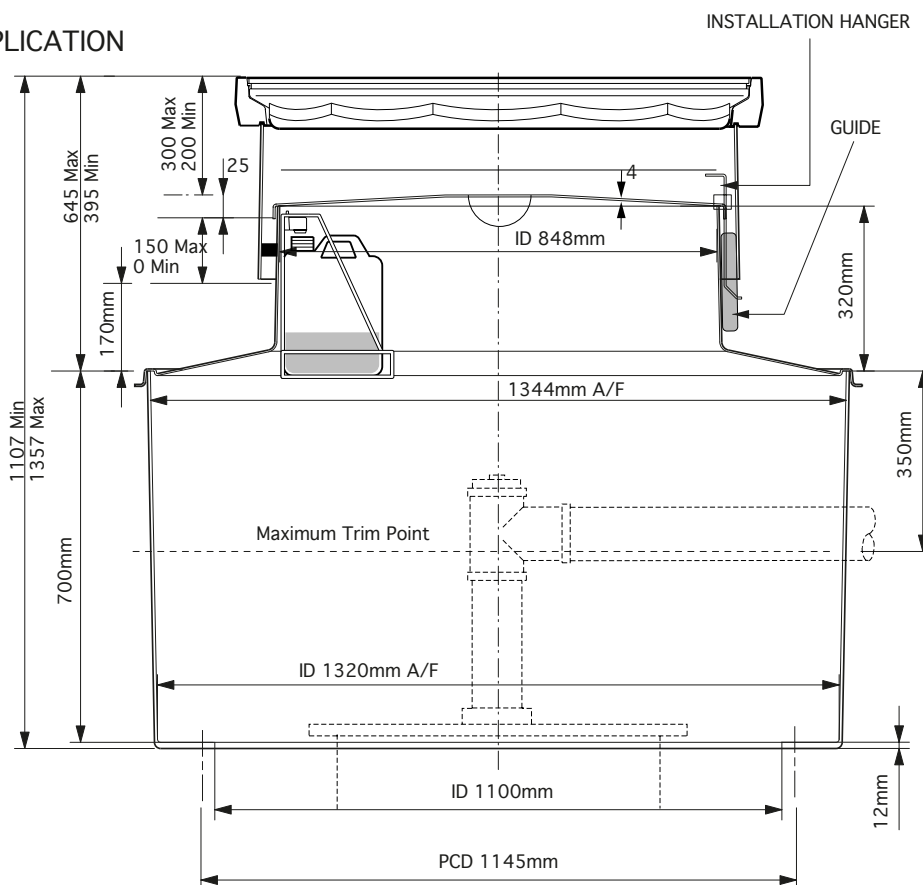
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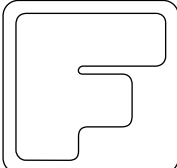


FIBRELITE



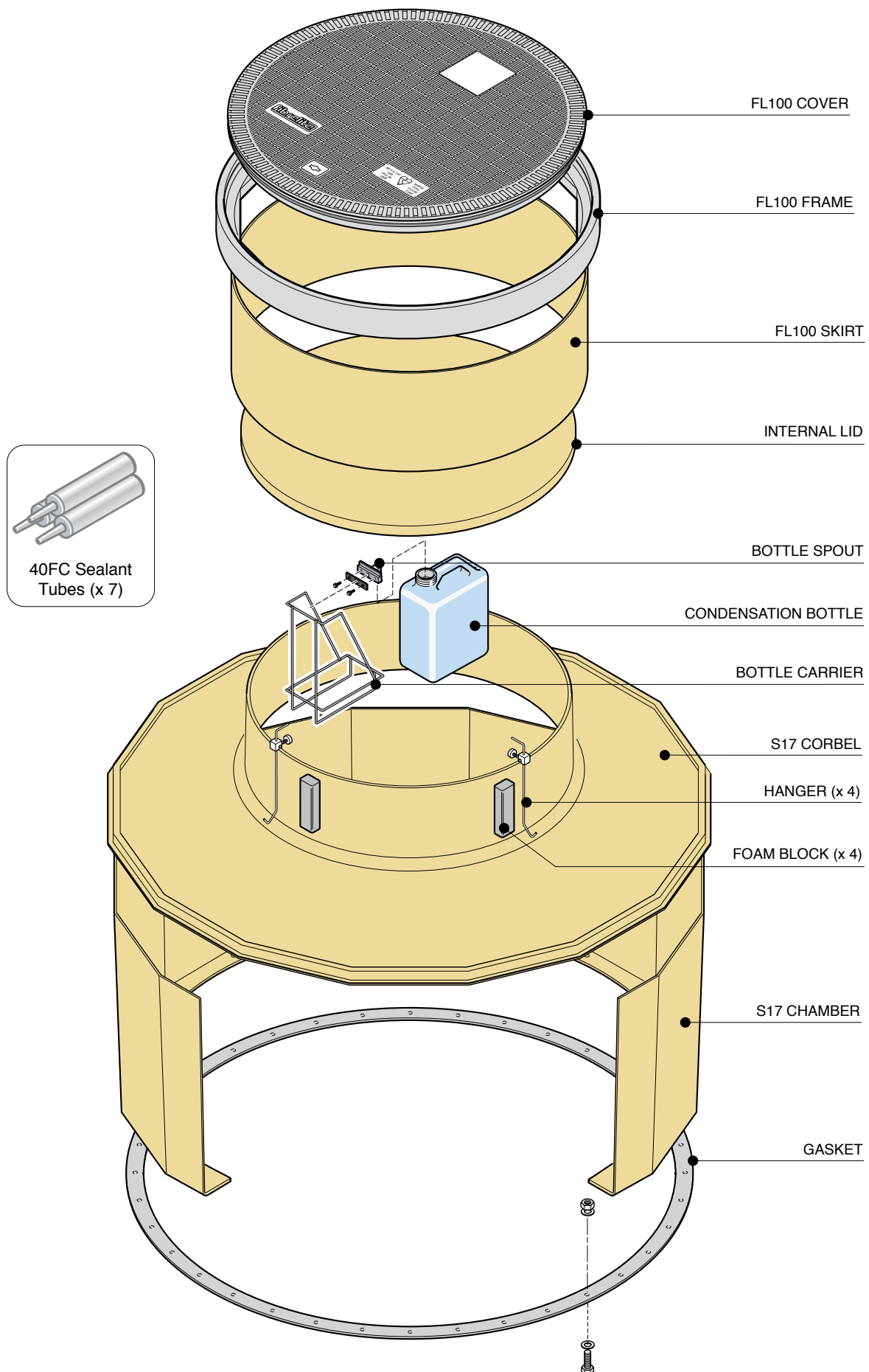
OFFSET FILL APPLICATION



Notes:	Category: HEIGHT ADJUSTABLE COMPLIANT ROUND CHAMBER SYSTEMS		 FIBRELITE
	Product Description: 1.4m diameter base chamber with a height adjustable corbel and round 900mm flat sealed cover. Indirect offset Fill		
For reference purposes only. This drawing is not a specification.	Drawing No: 4	Product Code S14-390/SEAL	
	Date: Nov 2003	Revisions: 0	

S17-3100 INSTALLATION INSTRUCTIONS

Tank Sump Systems

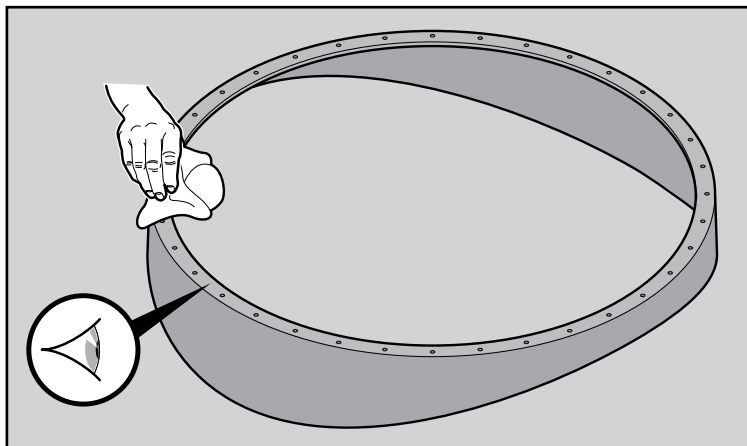


S17-3100 INSTALLATION INSTRUCTIONS (Sump Installation)



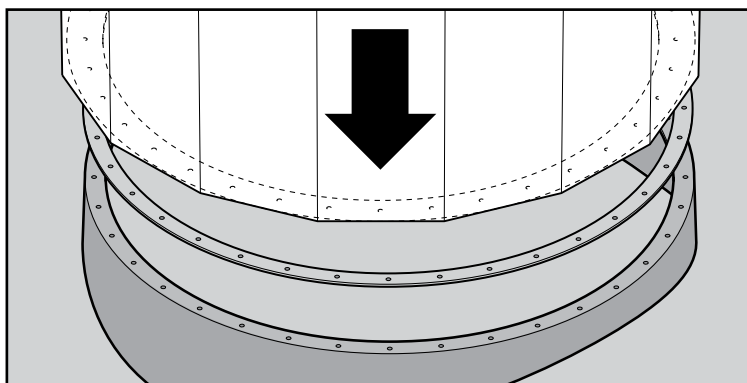
1

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).



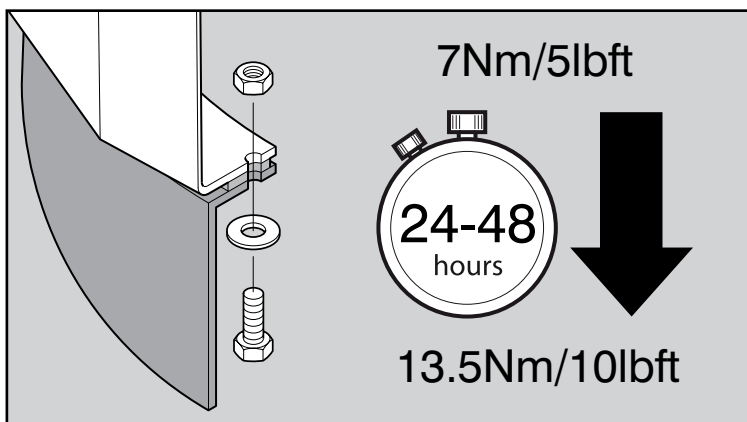
2

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

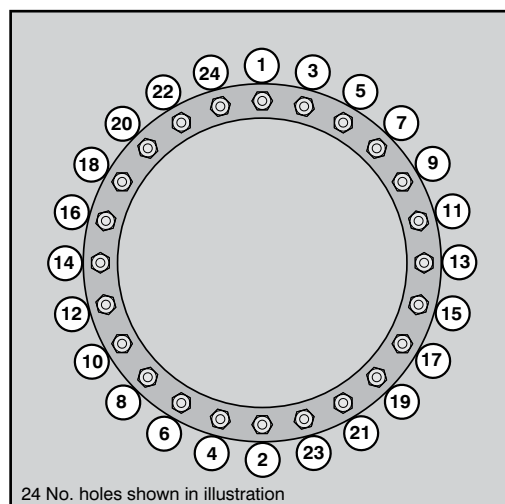
Fit a bolt and washer into each of the 36 holes (use only those supplied). Fit a washer and nut to each of the bolts. Tighten each bolt to 13.5Nm/10lbft torque, employing the following method, to avoid distortion of chamber.



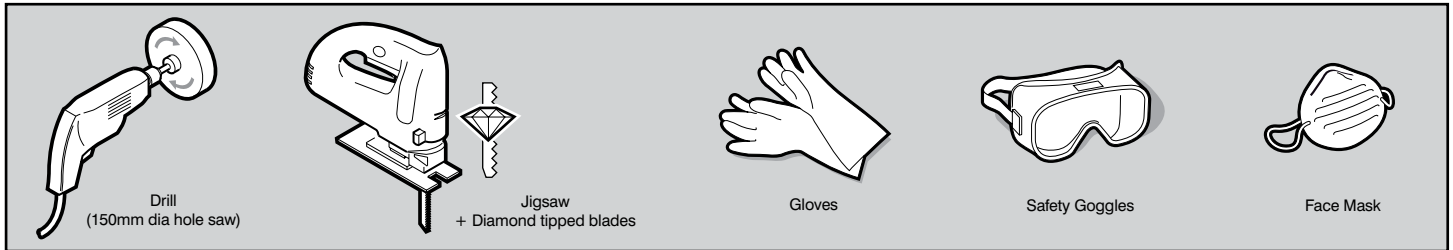
3

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.

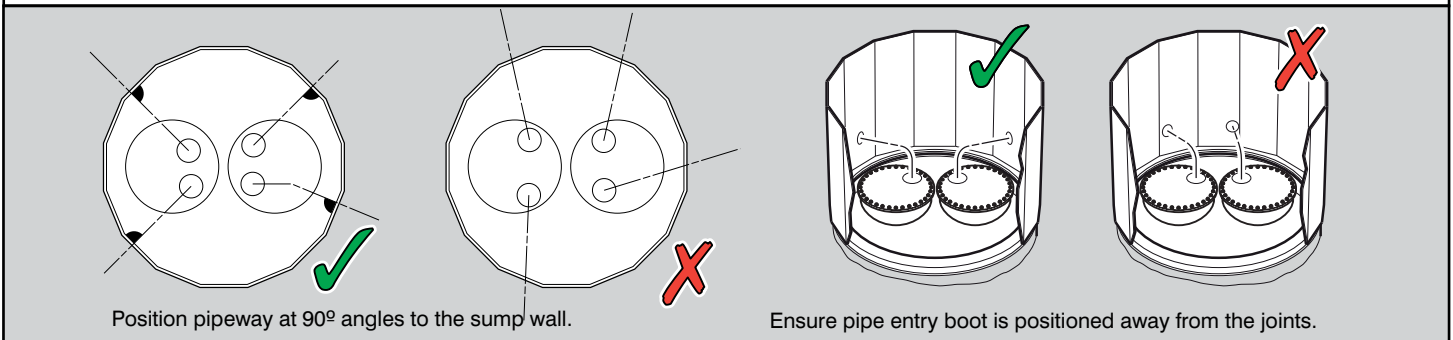


S17-3100 INSTALLATION INSTRUCTIONS (Pipework and Entry Seal Kits)



4

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.



5

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.

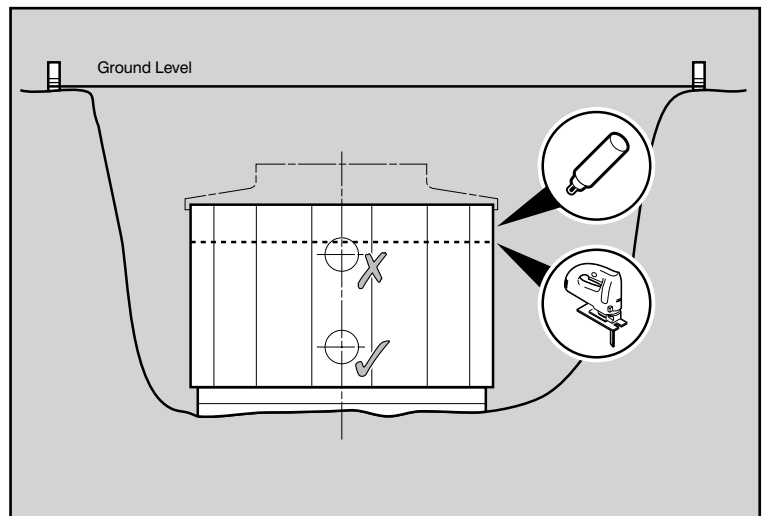
Check to ensure you have the necessary minimum clearance required from the top of the sump to the centreline of the pipework/pipe entry kits.

Standard Entry Kit = 145mm

Large Entry Kit = 170mm

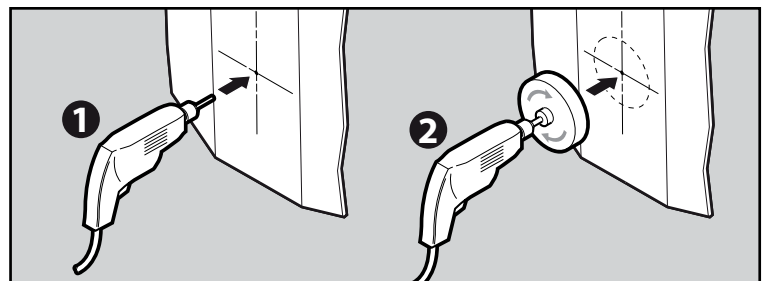
For shallow burials, it may be necessary to cut less material off the sump, and cut the remainder off the corbel and skirt to allow pipe entry boots to be fitted. **PLAN THIS CAREFULLY.**

Refer to measurement chart.



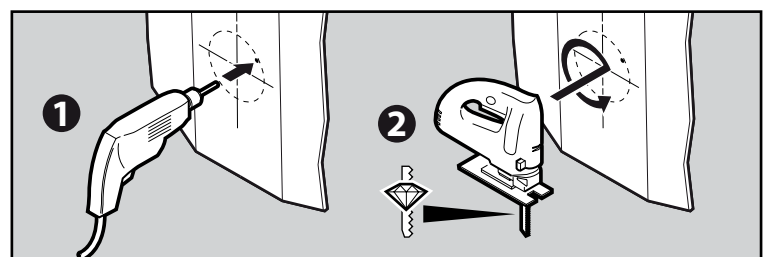
6

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.



7

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).



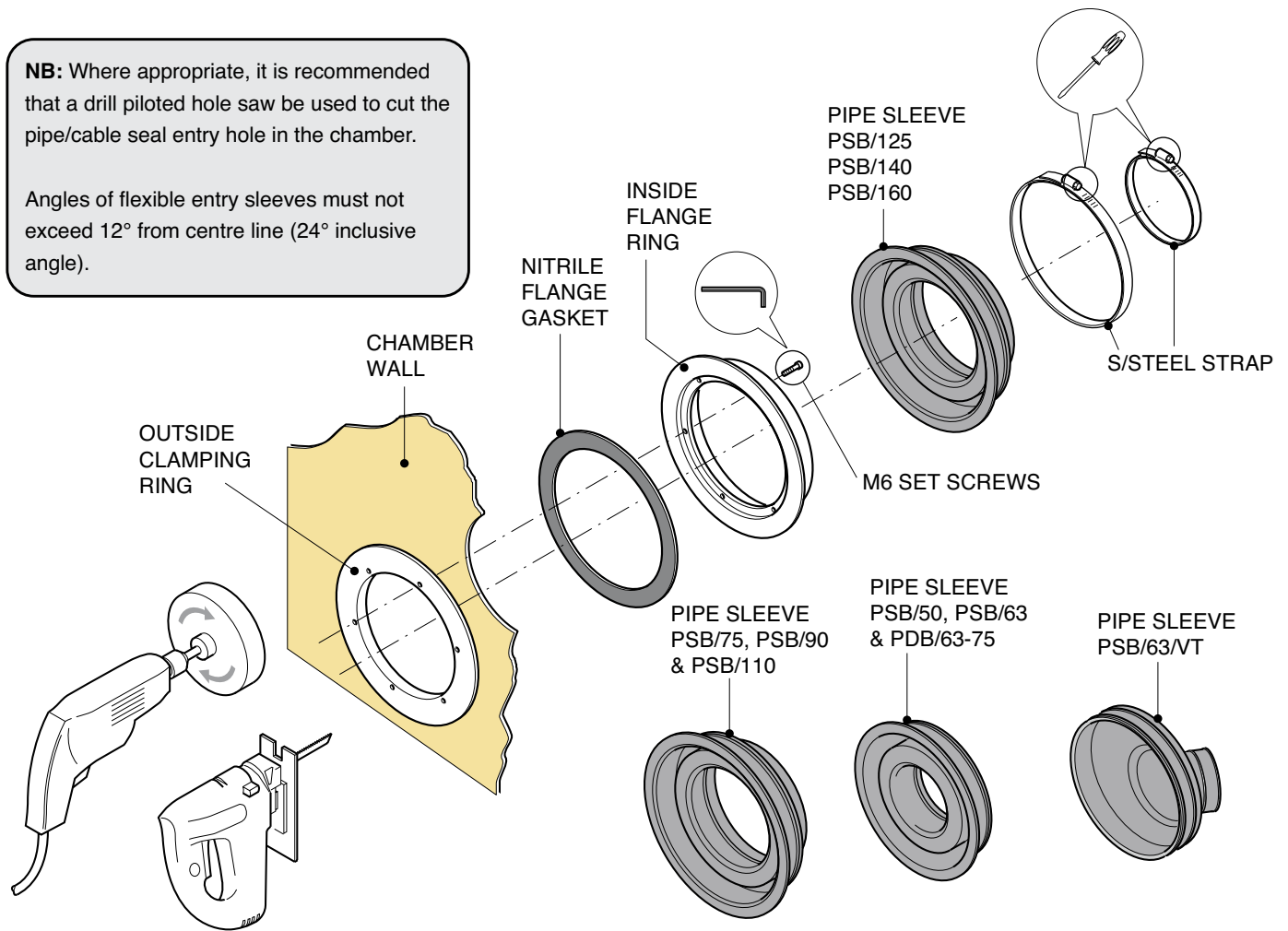
NOTE : When backfilling ensure the pipework is not disturbed.
WARNING : Do not backfill until the sump has been vacuum tested.

S17-3100 INSTALLATION INSTRUCTIONS (Pipework and Entry Seal Kits)



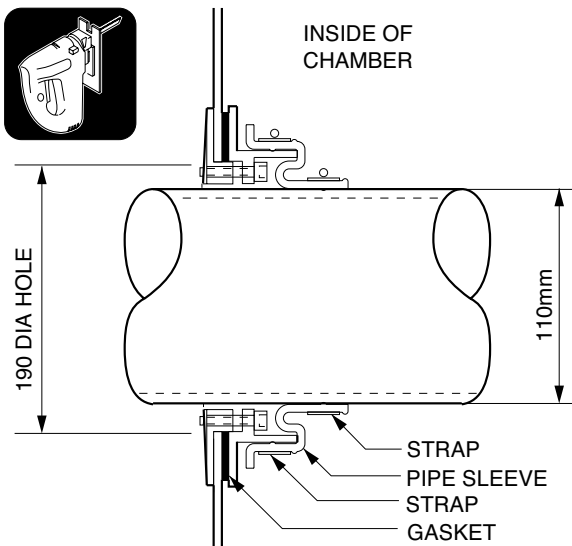
NB: Where appropriate, it is recommended that a drill piloted hole saw be used to cut the pipe/cable seal entry hole in the chamber.

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

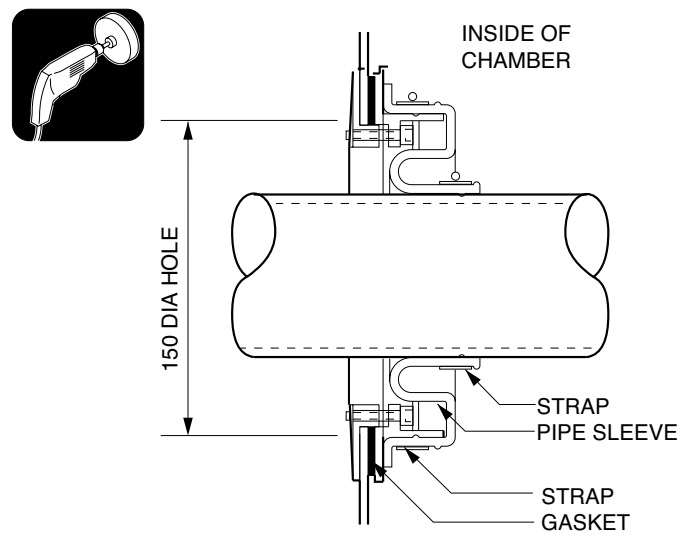


DRILL AND HOLE SAW
ATTACHMENT OR JIGSAW

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



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



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.

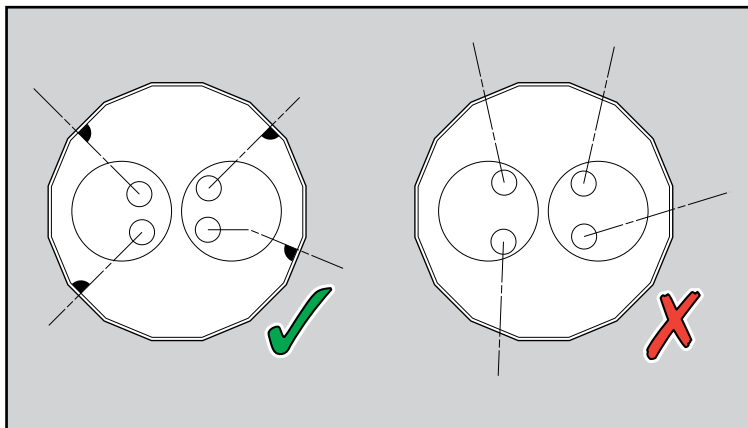
S17-3100 INSTALLATION INSTRUCTIONS (Conduit entry seal kit installation guide)



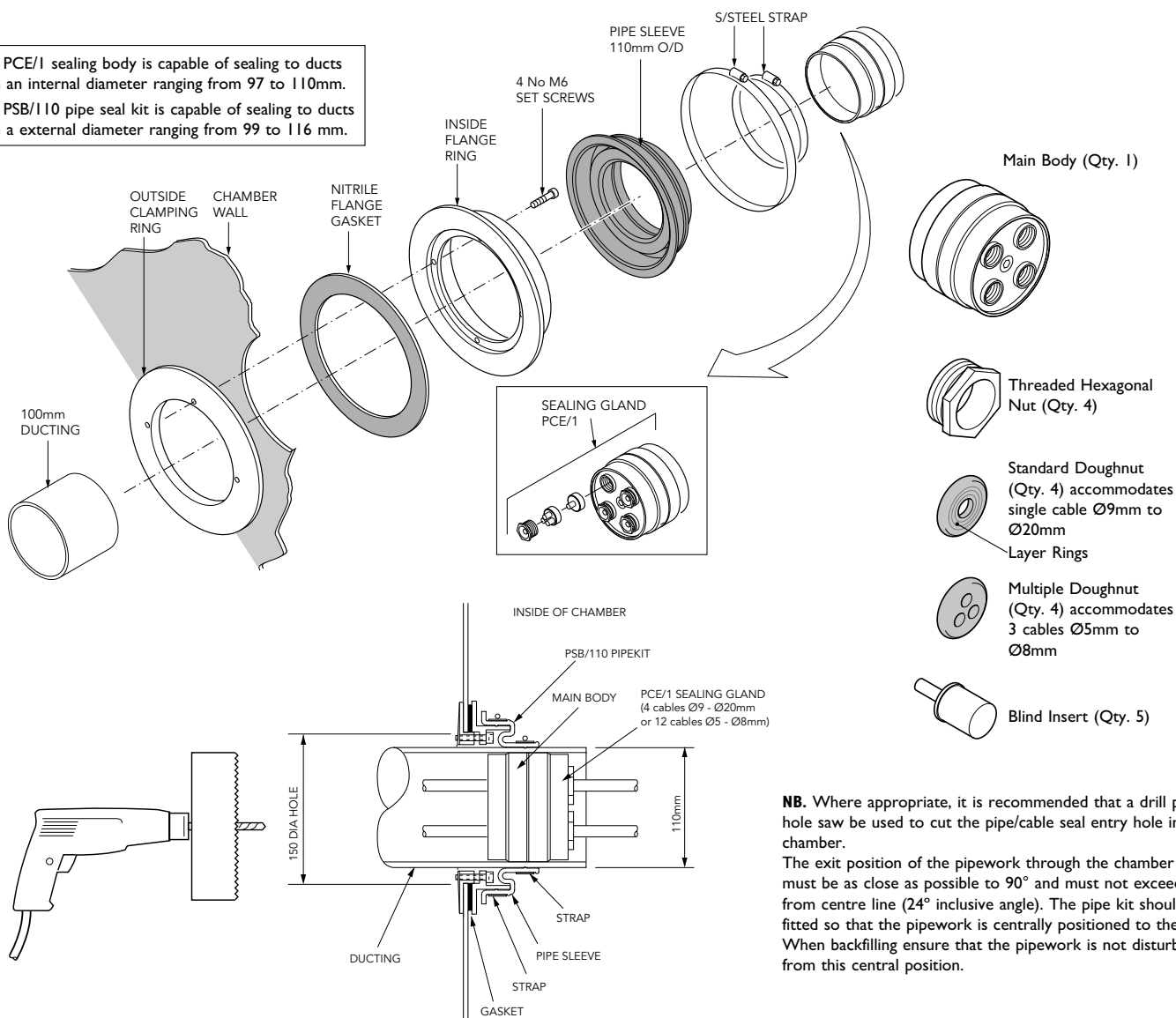
8 PCE/1 KITS

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

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



The PCE/1 sealing body is capable of sealing to ducts with an internal diameter ranging from 97 to 110mm. The PSB/110 pipe seal kit is capable of sealing to ducts with a external diameter ranging from 99 to 116 mm.



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

The exit position of the pipework through the chamber wall must be as close as possible to 90° and must not exceed 12° from centre line (24° inclusive angle). 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.

Firstly, determine the number and size of cables to be routed through the entry seal and fit the appropriate rubber doughnut (standard or multiple) into the recess of the main body. For cables with an O/D greater than 9 mm the appropriate layer ring must be cut from the single hole rubber doughnut to accommodate the cable size. Ensuring there is a washer both sides of the rubber doughnut. Finger tighten the threaded hexagonal nut onto the inserts. Pull the cables through the doughnut openings and fit the main body into the ducting. When in position lock the main body in place by tightening the M8 socket cap screw in the centre of the main body (6mm allen key). Expanding the main body bellows against the internal the diameter of the ducting to create a seal.

When the position of the cables is finalised tighten the threaded hexagonal nut until the cables are sealed in the doughnut openings(s). This is achieved when the cable CANNOT be moved inside the doughnut.

Any doughnut opening not used must be sealed off using the plastic blind insert.

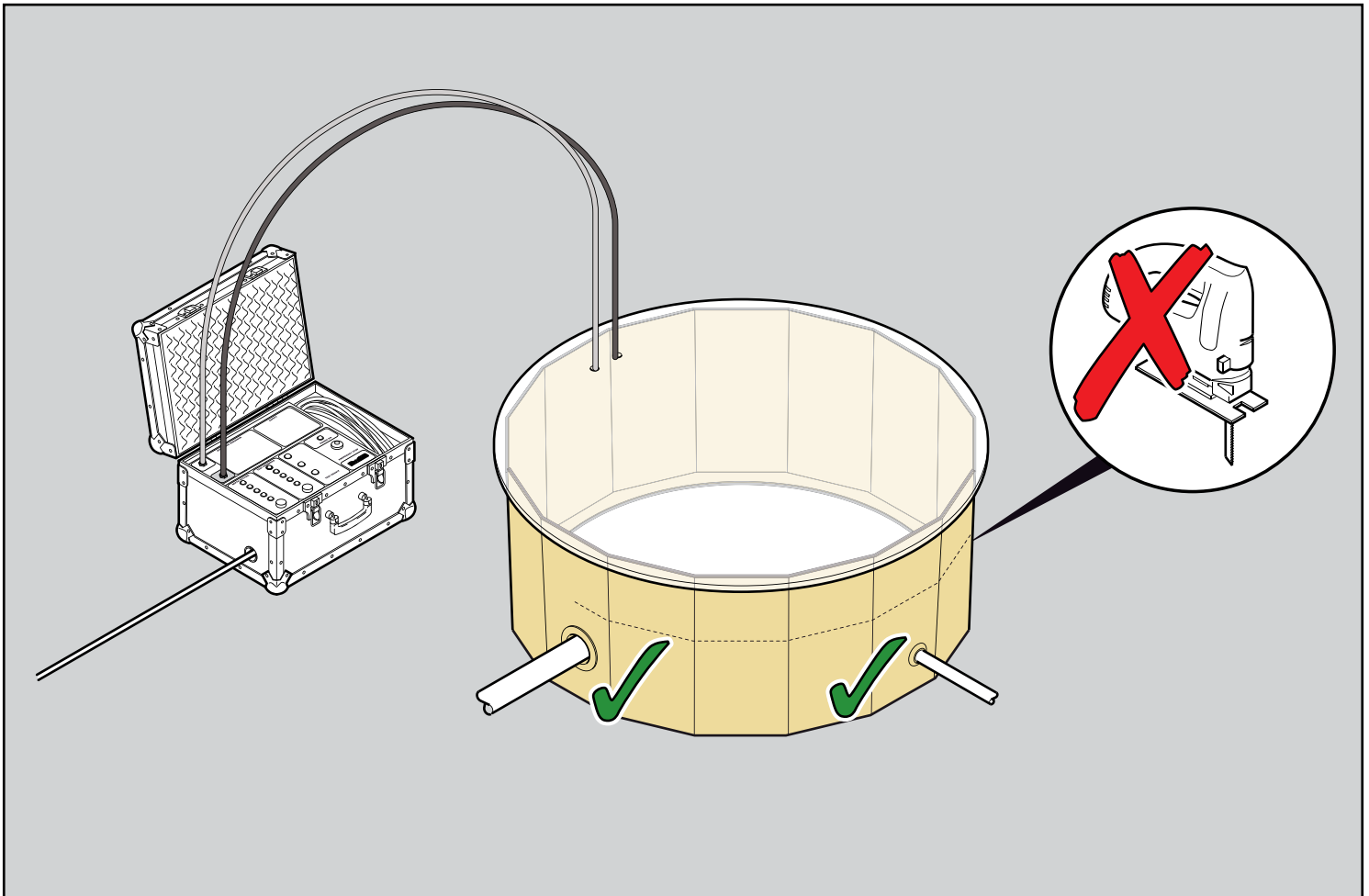
S17-3100 INSTALLATION INSTRUCTIONS (Sump Vacuum Test)



9

After penetrations have been fitted, ensure all connections on the manway lid are sealed. Perform vacuum test. Refer to Vacuum test instructions.

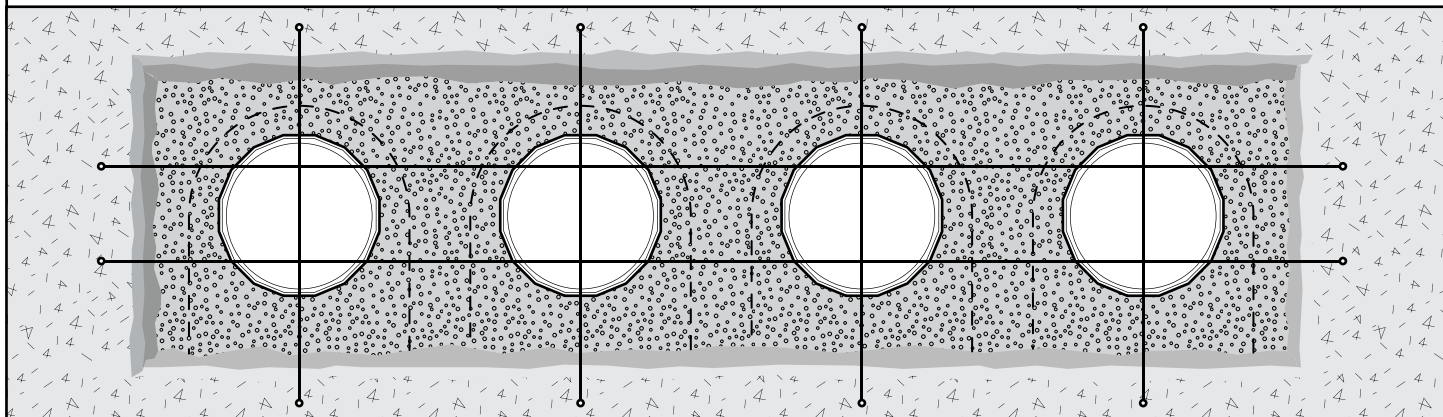
Do not backfill around sump or cut material off the sump until the test has passed successfully.



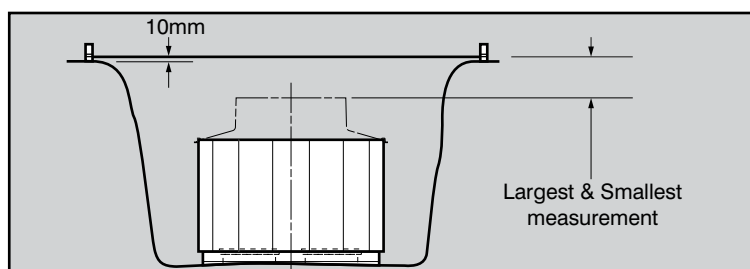
S17-3100 INSTALLATION INSTRUCTIONS (Achieving the correct height)



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



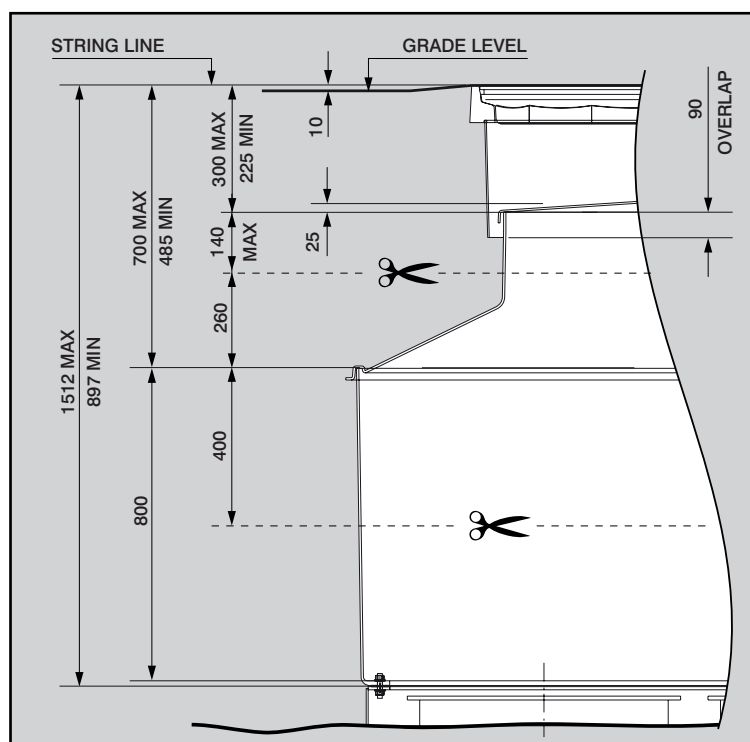
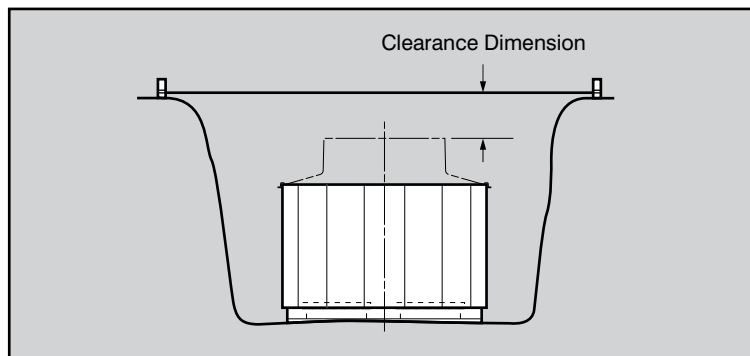
- 11** Place the corbel onto the sump (only 'dry fit' the corbel do not bond at this stage). Check the measurement from the top of the corbel to the string line, which is set 10mm above the general grade level. Check all sides of the sump and select the largest and smallest measurement to take account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



12 IMPORTANT

Refer to this measurement chart;

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	<p>Option 1: If by trimming material (max of 100mm) from the corbel turret increases the 'clearance dimension' into the 300mm - 225mm 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 90mm.</p> <p>Option 2: If by trimming 100mm from the corbel turret does not increase the 'clearance dimension' into the 300mm - 225mm range then the remaining material must be removed from the sump. A maximum of 400mm can be removed from the sump. Trim the corbel and skirt as described above in option 1.</p>
more than 300mm	<p>The burial depth of the tank is greater than the maximum burial depth of the standard system. Contact Fibrelite: + 44 (0) 1756 799 773</p>

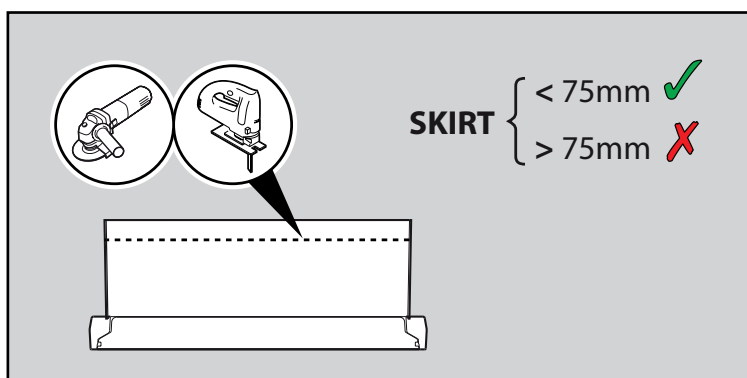
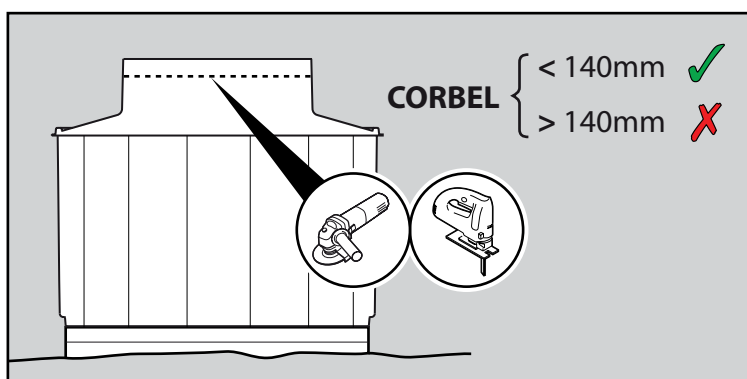
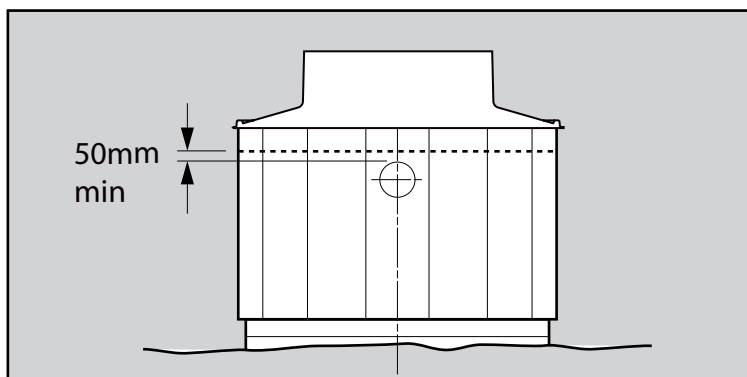


S17-3100 INSTALLATION INSTRUCTIONS (Achieving the Correct Height)

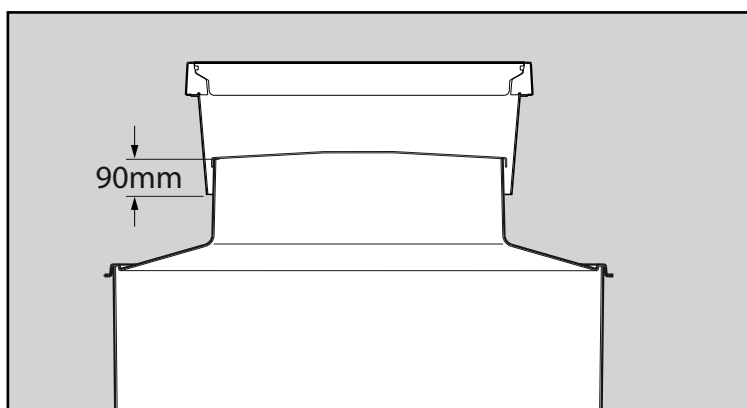


- 13** Before trimming the sump check pipe entry positions allow 50mm from top edge to be able to fit the corbel in position.
If necessary cut a smaller amount off the sump height, then cut the remaining material from the corbel and skirt.

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 300 to 225mm and that the overlap between the skirt and corbel is a minimum of 90 mm.



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

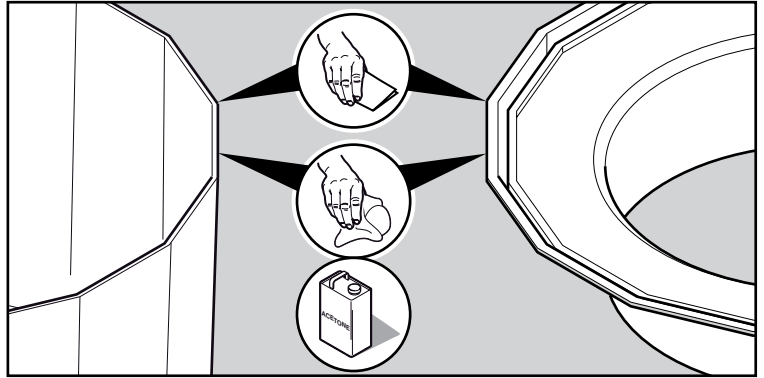


WARNING Do not trim sump until sump has been vacuum tested with pipework installed and completed.

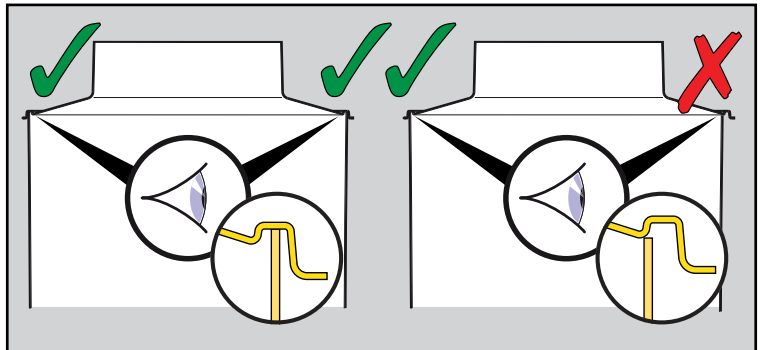
S17-3100 INSTALLATION INSTRUCTIONS (Bonding the Corbel)



- 15** Abrade and wipe with a degreasing solvent the chamber or extension top edge/wall and the corbel groove.



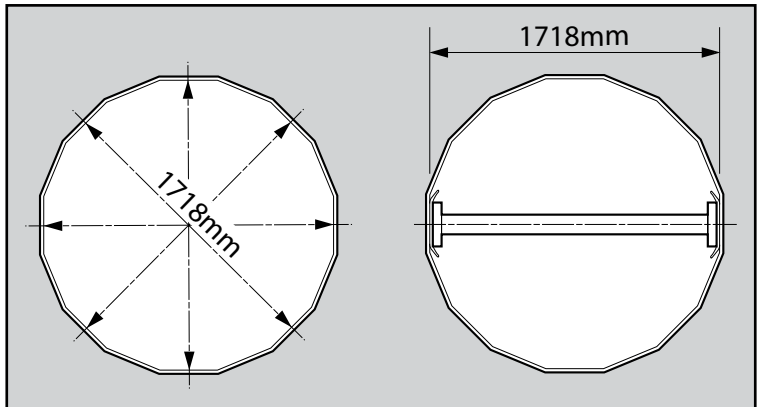
- 16** Dry fit the corbel on the sump to ensure it fits - push corbel groove onto sump wall. If it does not fit, pipework may have distorted the sump wall shape.



- 17** Measure distance between opposite walls, this should be 1718mm. If less than this you will need to brace out the sump.

Using wooden batons (1718mm \pm 5mm long) with timber spreader plates (150 x 150) to spread the load, brace out the sump to the correct size.

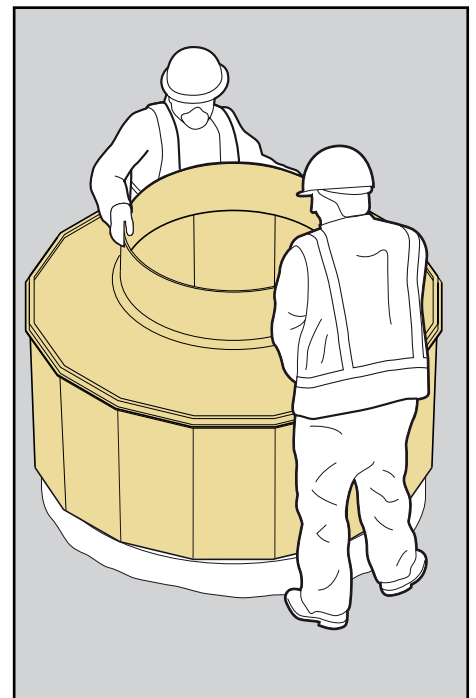
Repeat this process on all walls to get the correct shape.



- 18** Apply 3 tubes of soudaflex 40FC sealant in the groove of the corbel. Sealant should fill 1/2 the groove.



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

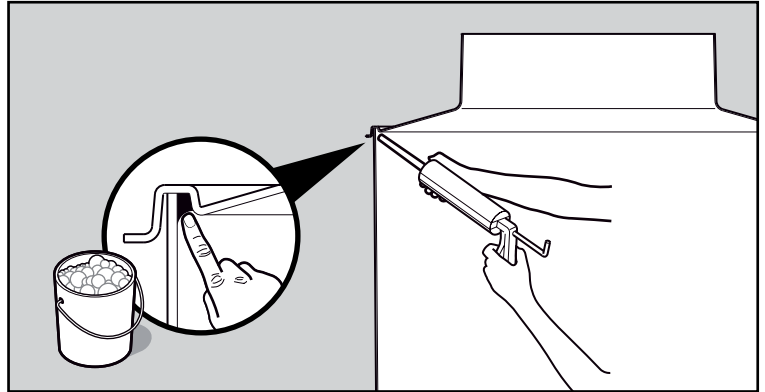


S17-3100 INSTALLATION INSTRUCTIONS (Bonding the Corbel)



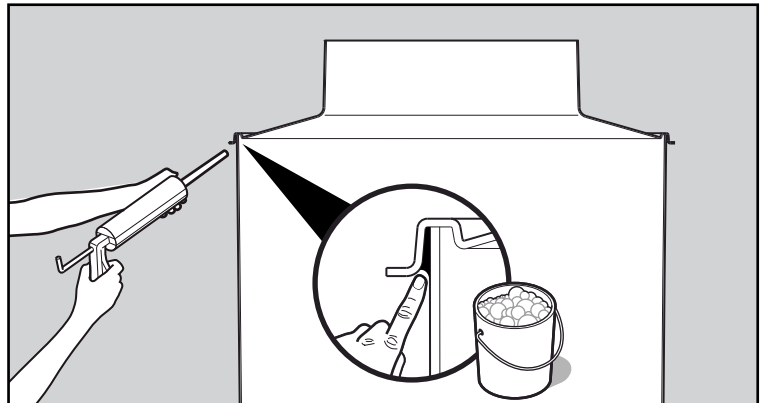
- 20** Seal around the inside edge of the corbel joint from inside the sump. Smooth off the sealant with soapy water.

Use 1.5 tubes of soudaflex 40FC sealant.



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

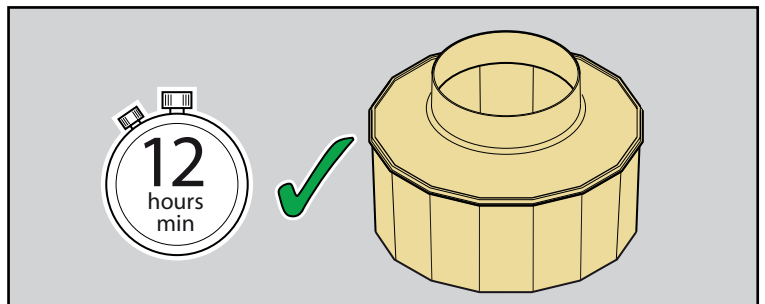
Use 1.5 tubes of 40FC sealant.



(Performing Corbel Vacuum Test)

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

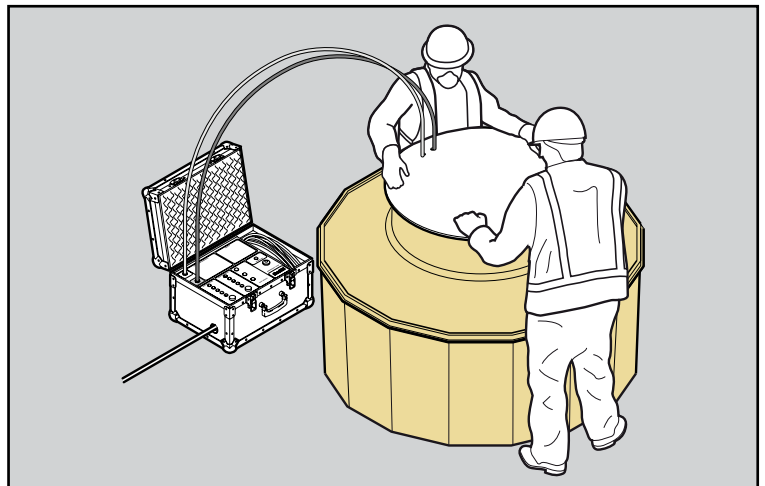
Do not disturb the sump during this time.



- 23** 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.

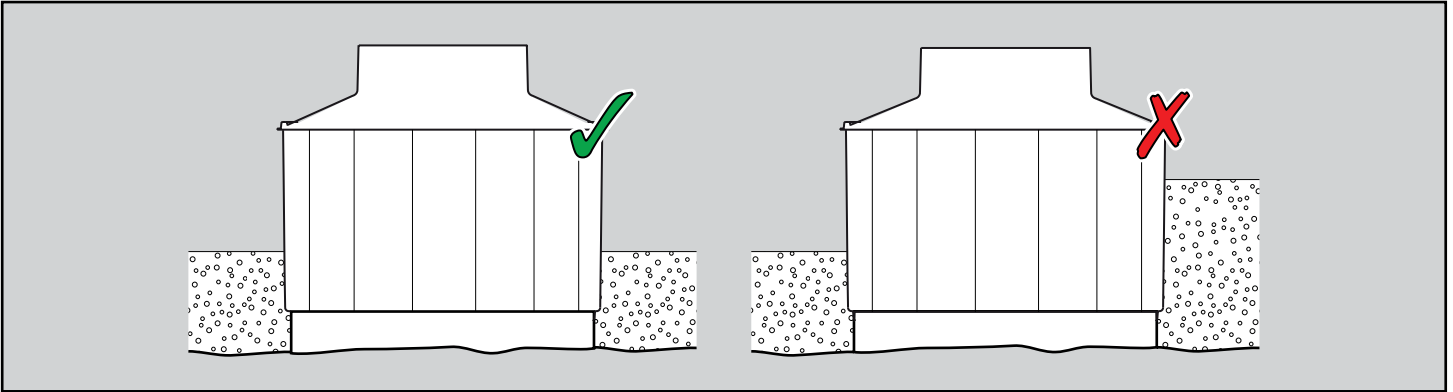
Refer to vacuum testing instructions for correct method.



S17-3100 INSTALLATION INSTRUCTIONS (Backfilling)

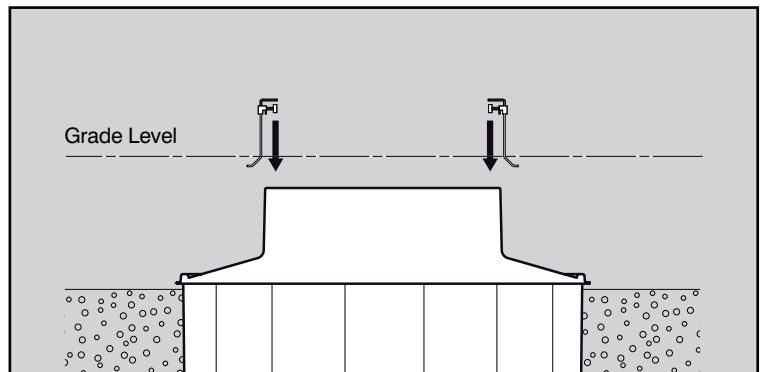


- 24** Once the corbel test has been performed with a PASS result, the area around the sump can be carefully backfilled with peagravel or sand. Back-fill equally around the sump in layers to prevent damage or deformation.



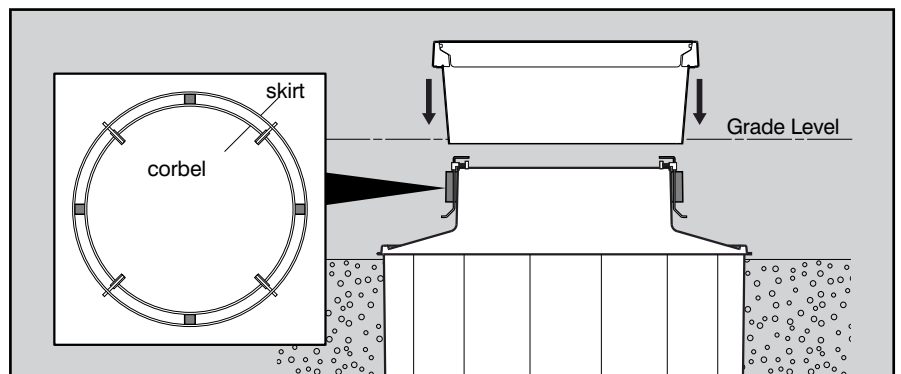
(Adjusting the Skirt & Frame to Grade Level)

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

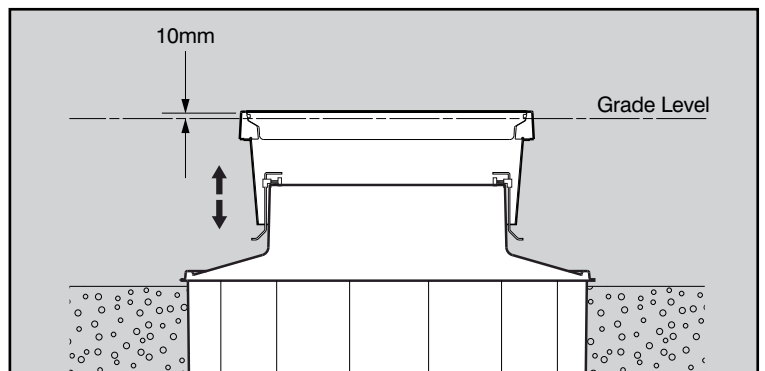


- 26** Put the skirt and frame on the hangers.

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.



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

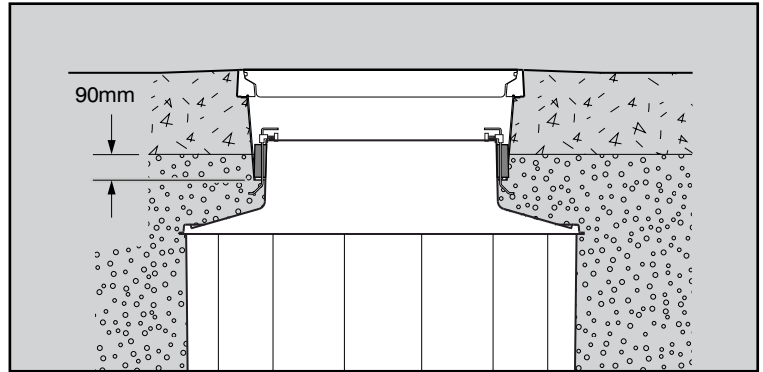


S17-3100 INSTALLATION INSTRUCTIONS (Concreting)



- 28** Ensure the void between corbel and skirt is kept free from concrete and a depth of 90mm overlap minimum is maintained.

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

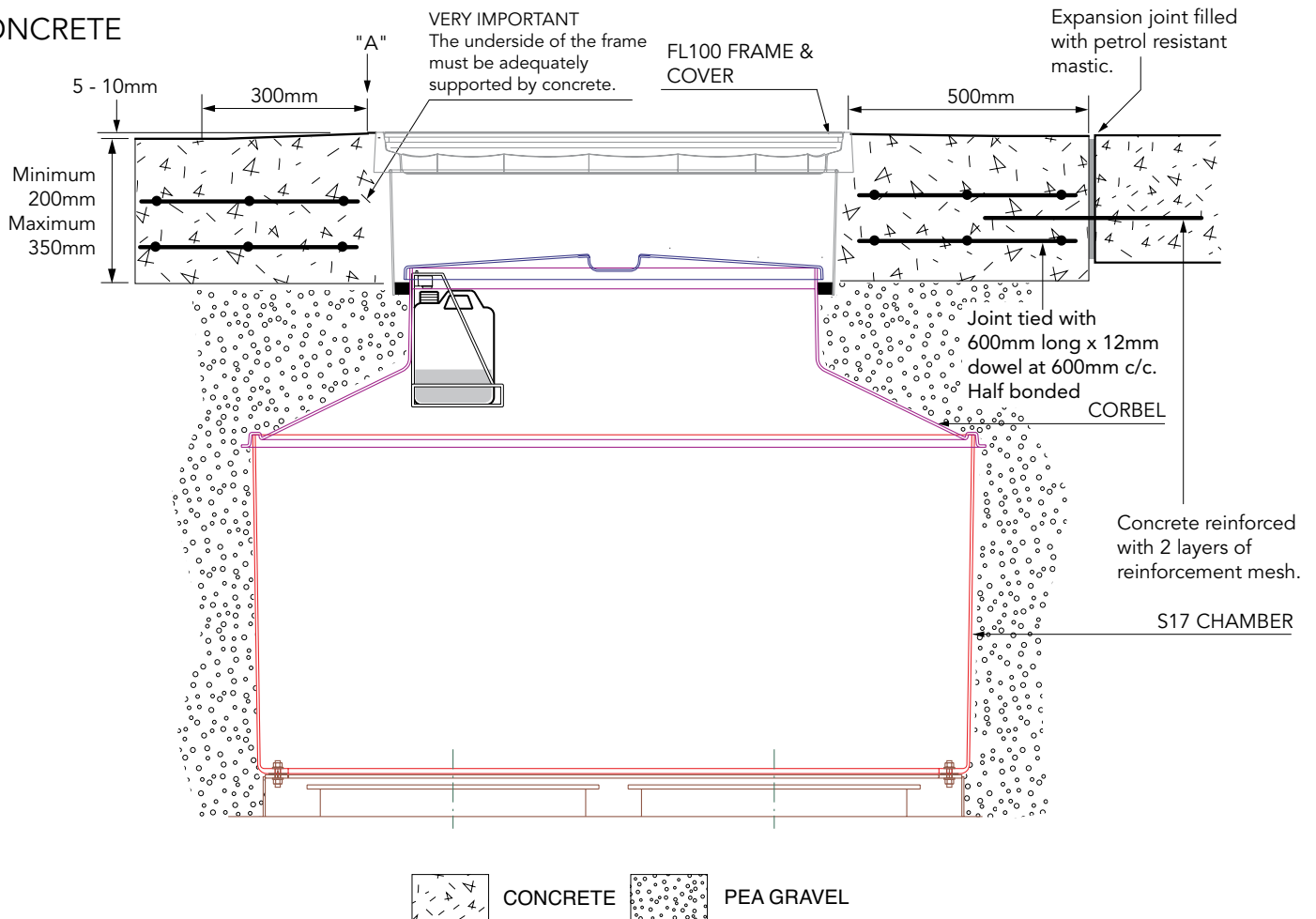


- 29** Complete backfilling to appropriate level. Frame must be supported by a minimum depth of 200mm of concrete. Concrete ties must be inserted as close to the frame as possible. Minimum block of 500mm square around the frame. Joint must be tied as per diagram. Continuous pour preferred if possible.

! VERY IMPORTANT !
OUTER EDGE "A" OF FRAME SET 5 - 10MM ABOVE GENERAL FORECOURT AREA WITH CONCRETE RAMPED AWAY OVER 300MM.

TYPICAL INSTALLATION

CONCRETE

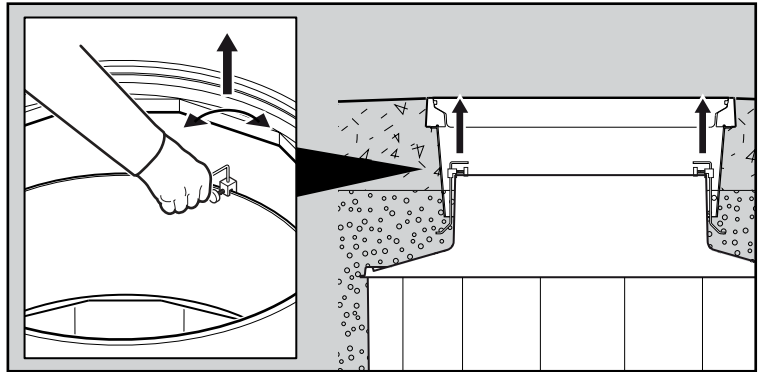


S17-3100 INSTALLATION INSTRUCTIONS (Concreting)

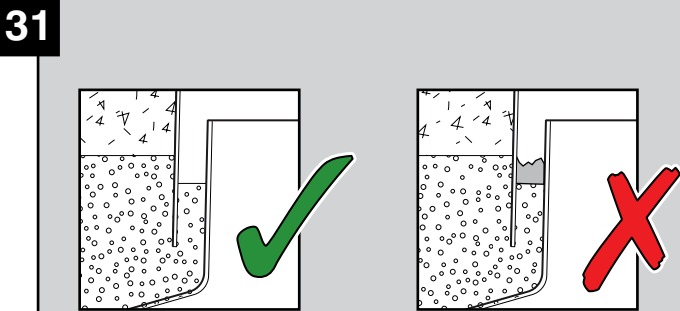


- 30** After minimum concrete cure time, hangers can be removed. Loosen the 'T' knob, push down on the rod, turn the rod through 90° and pull rod up to remove.

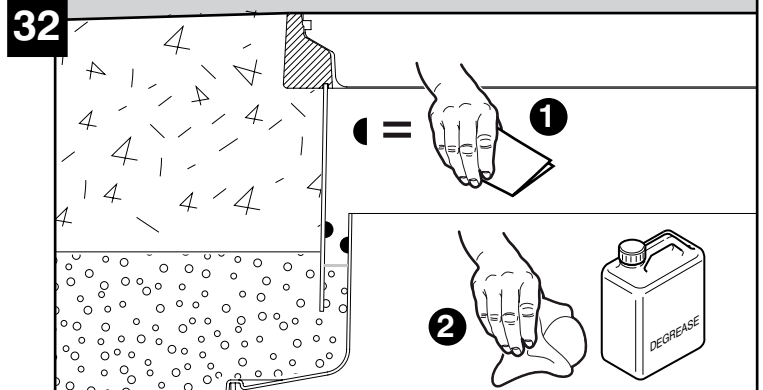
Complete other third party equipment installation inside the sump.



(Installation of Corbel / Skirt Sealant)

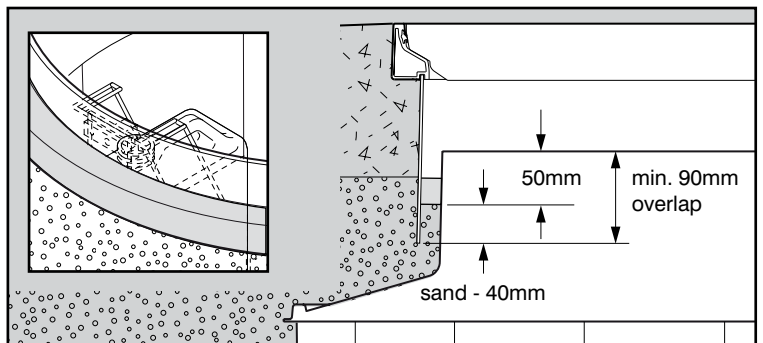


Ensure void is free of concrete to a depth of 90mm (120mm on a high water table installation).

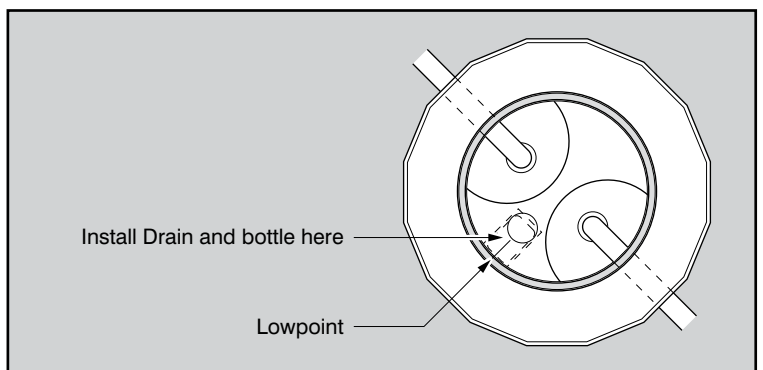


Abrade surface of corbel and skirt with sand paper.
Use acetone to clean surface of corbel and skirt.
Ensure surfaces and channel are dry and free from dirt and grease.

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



- 34** 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.



S17-3100 INSTALLATION INSTRUCTIONS (Installation of Corbel / Skirt Sealant)



35 Mixing and Application

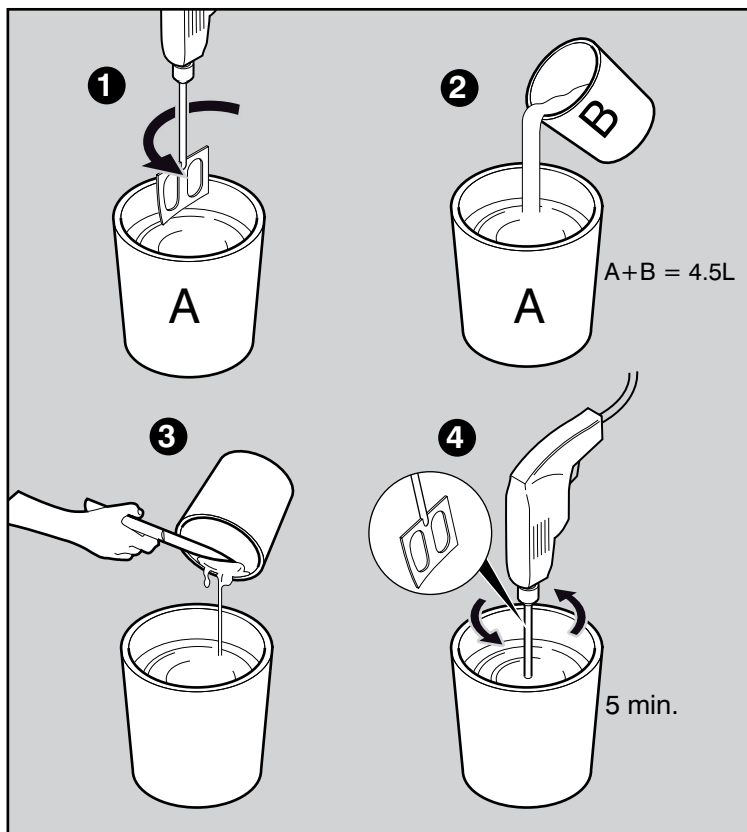
Application Temperature +5 to +45°C

(Do not apply at temperatures below +4 degrees °C)

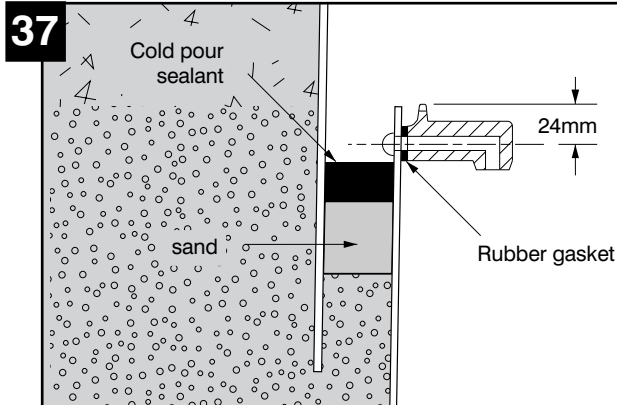
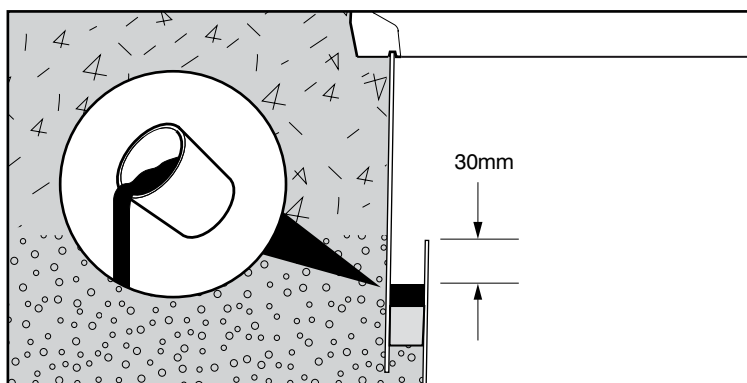
Pot Life	45 minutes @ 25°C
Cure Times @ 25°C	Tack Free 2 1/2hrs
	Full Cure 2 days

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

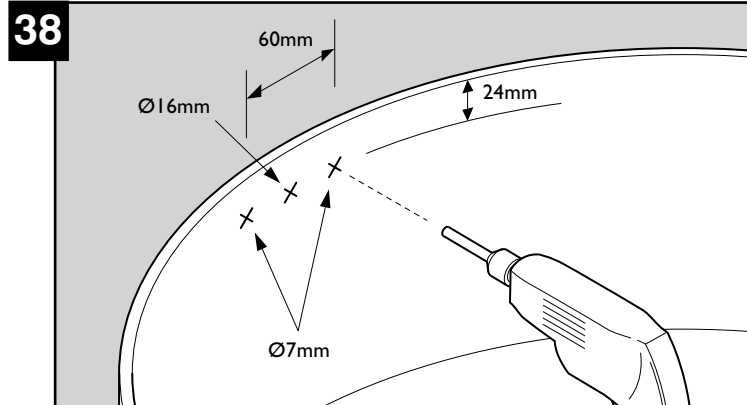


36 1 set of cans A+B will seal 2 sumps. Decant mixture from can A into can B to have more control when pouring the mixture into the void, onto the sand base. Avoid spilling the contents to ensure a clean finish on the side walls of corbel and skirt. The sealant shall be poured to level 30mm below the 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).



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.



Mark out the position of the two 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.

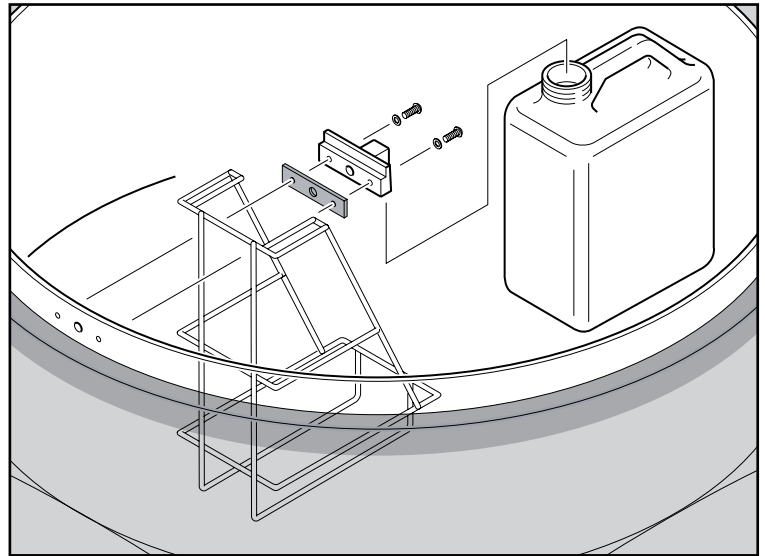
Also mark out the position of the drain hole to align with the hole in the drain spout and drill 1 No. Ø16mm through the corbel wall.

S17-3100 INSTALLATION INSTRUCTIONS (Concreting)

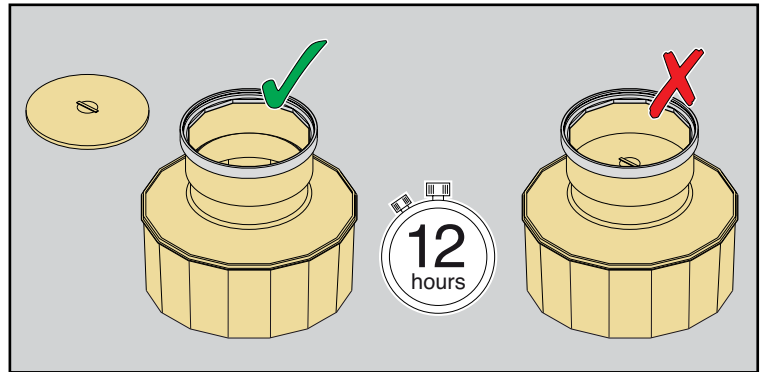


- 39** Ensure the rubber gasket is fitted to the mating surface of the bottle hanger. Secure the Bottle Hanger to the Corbel wall with 2 No. M6 x 15 Dome Head Screws and Washers.

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



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



- 41** 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.

