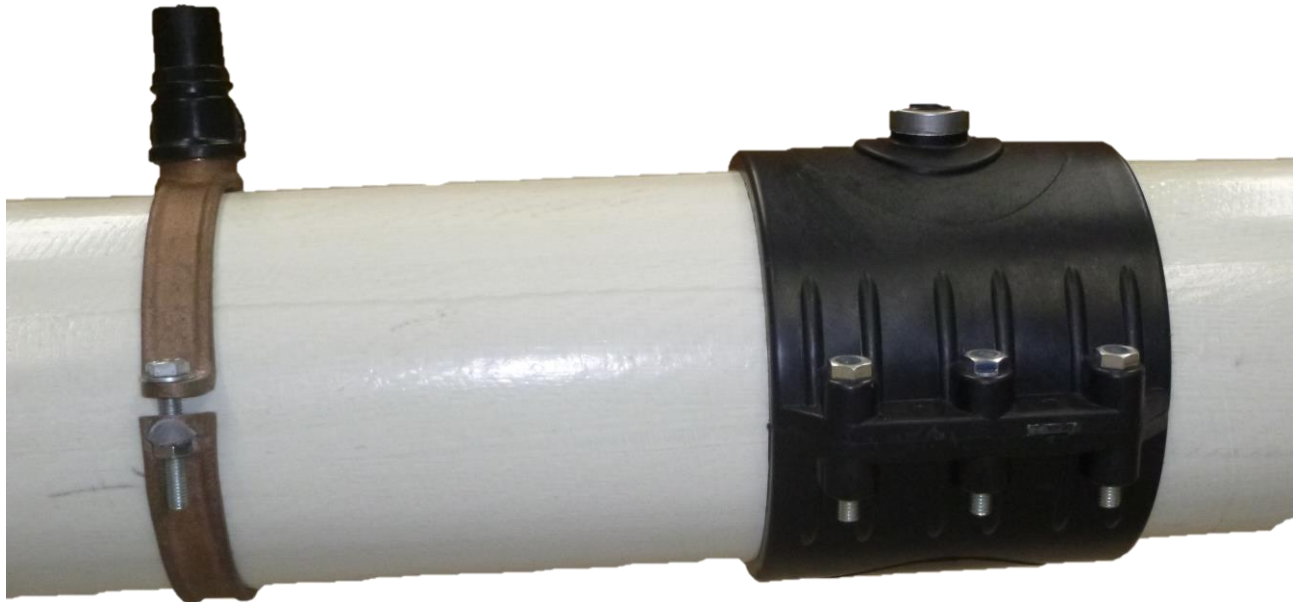


AQUALINER

Intermediate Connections



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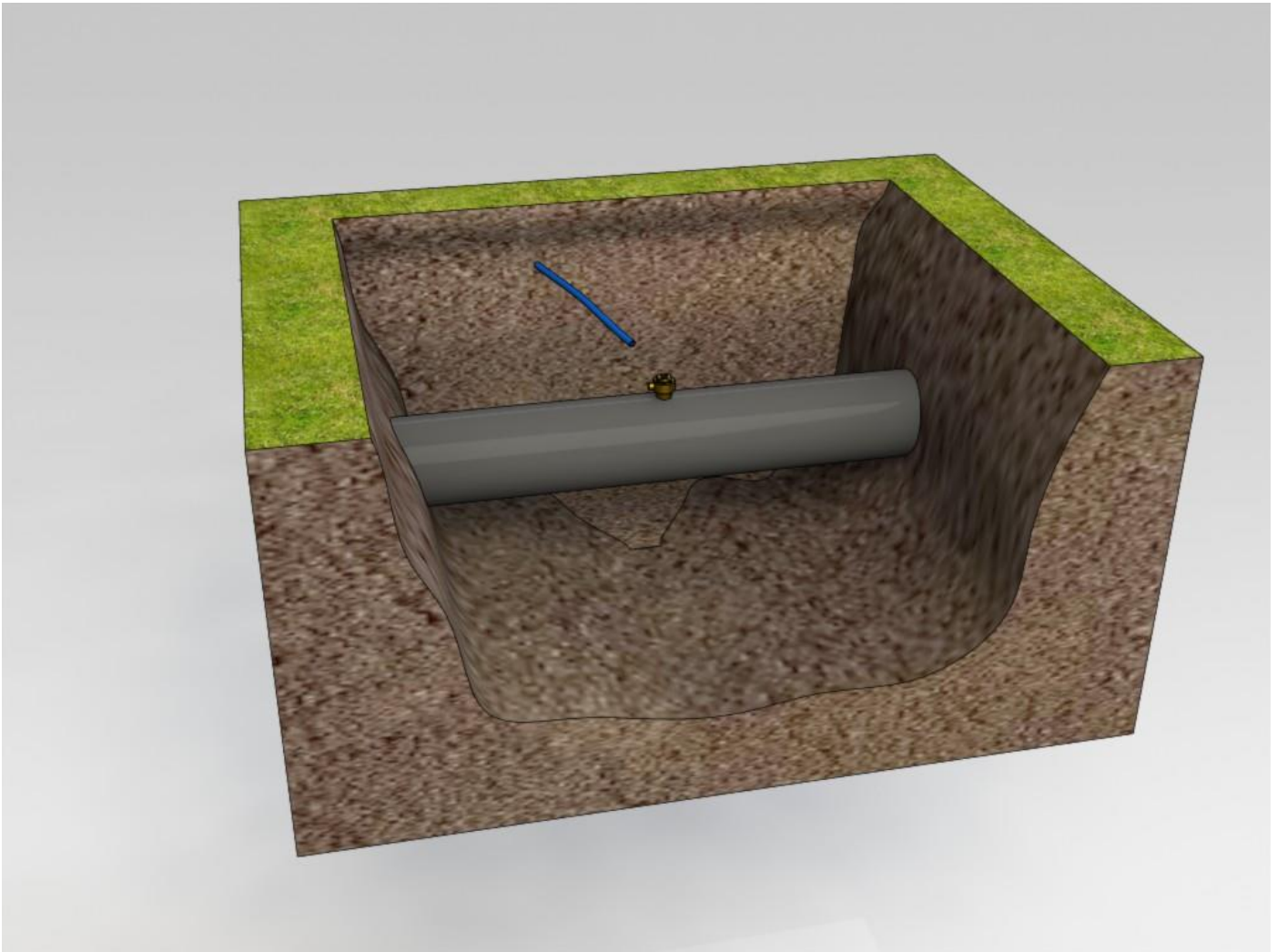
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1.

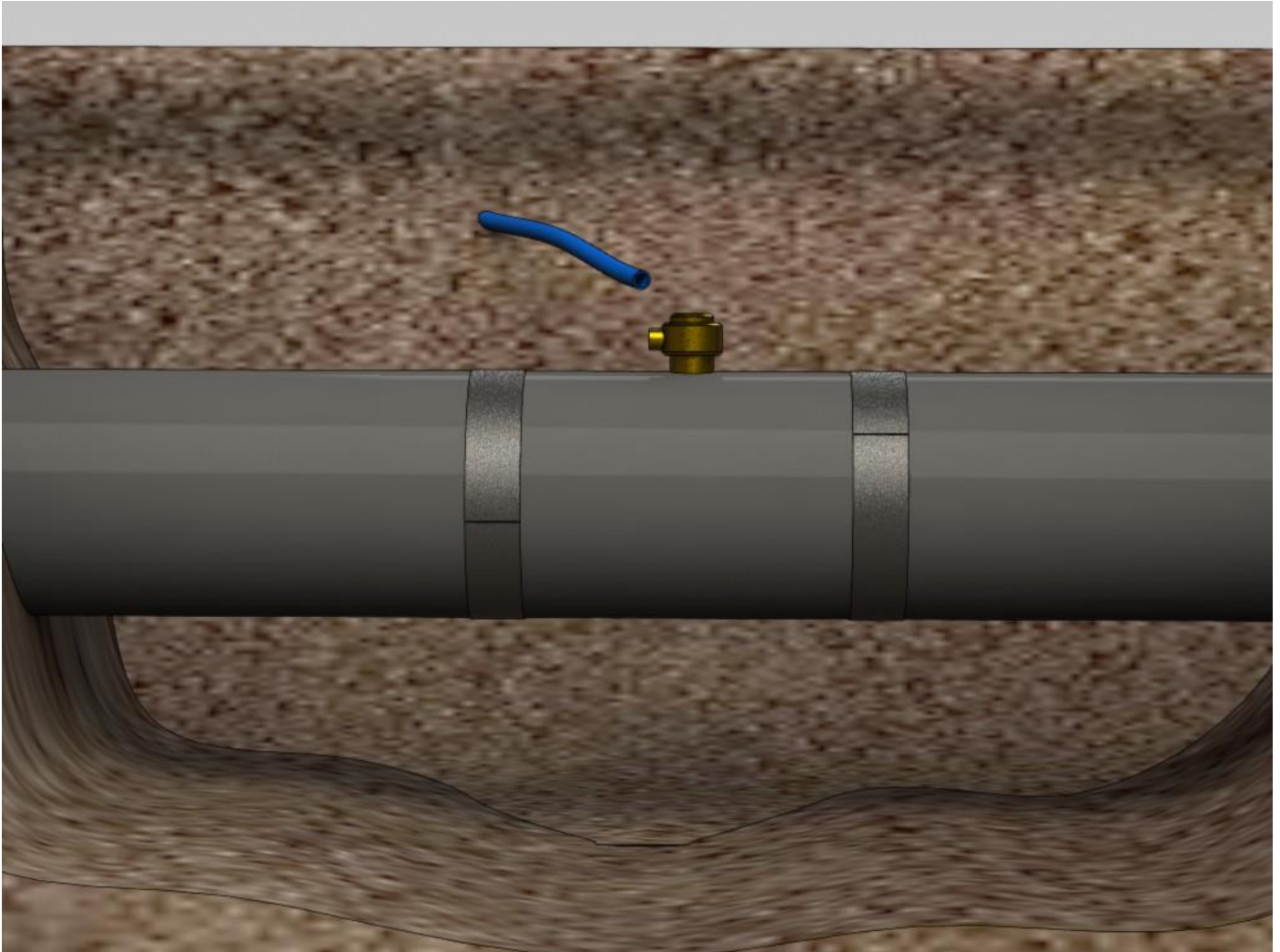
Excavate existing or proposed connection location and disconnect service pipe.



Trainer's notes	Trainee's notes
<i>For the purpose of fitting a saddle connection the excavation only needs to be large enough for a single operative to be able to reach all around the pipe and for a length of approximately 75cm.</i>	

2.

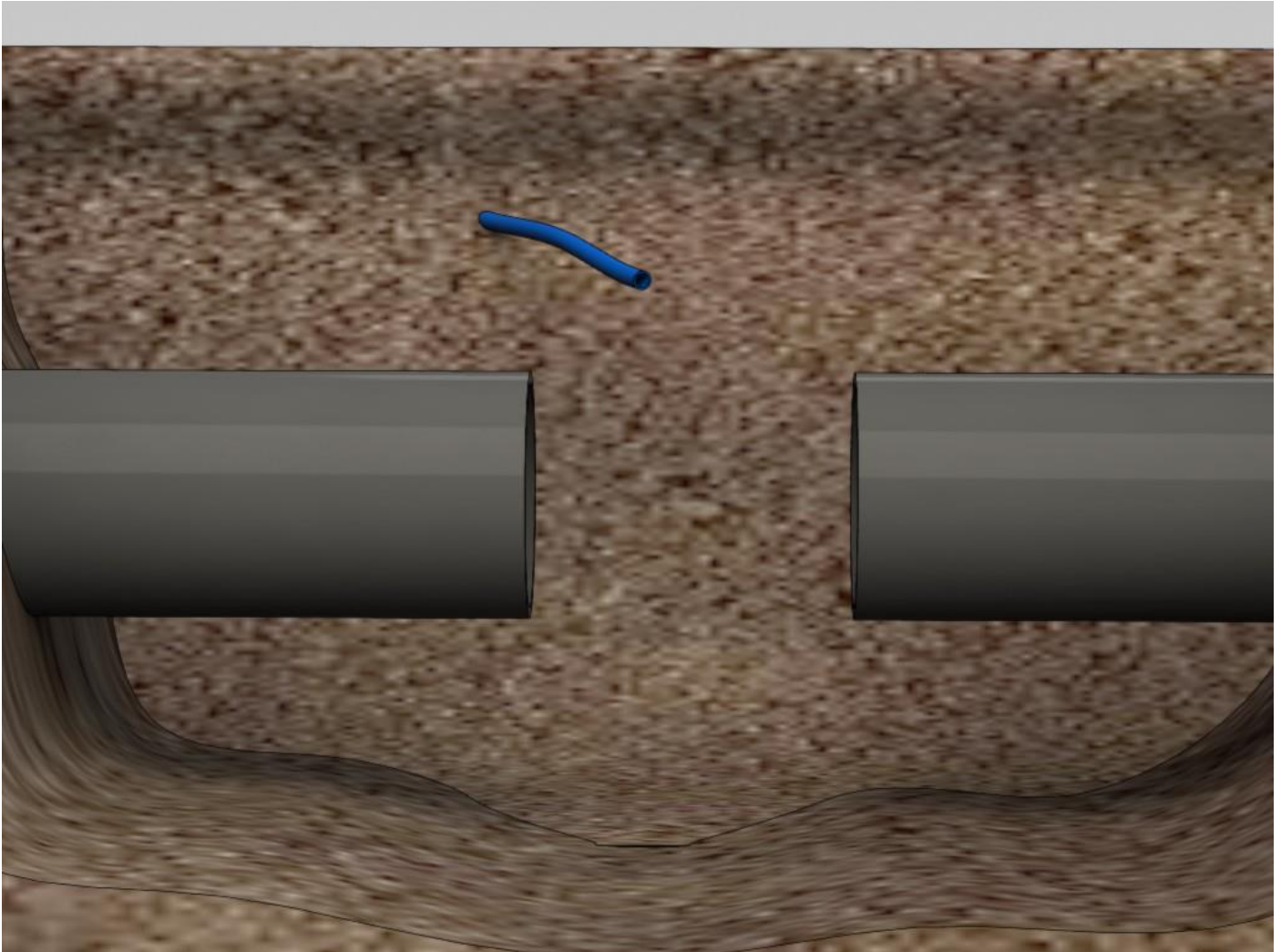
Use tape or other straight sided material to make two perpendicular marks on the host pipe 300mm apart.



Trainer's notes	Trainee's notes
<i>The distance between the marks is governed by the length of the half-shells that are to be used. These in turn relate to the type and length of the saddle tee that is going to be fitted. A 300mm cut out section and a 280mm long pair of half-shells will be sufficient for most saddle tees but other lengths can be used if required.</i>	

3.

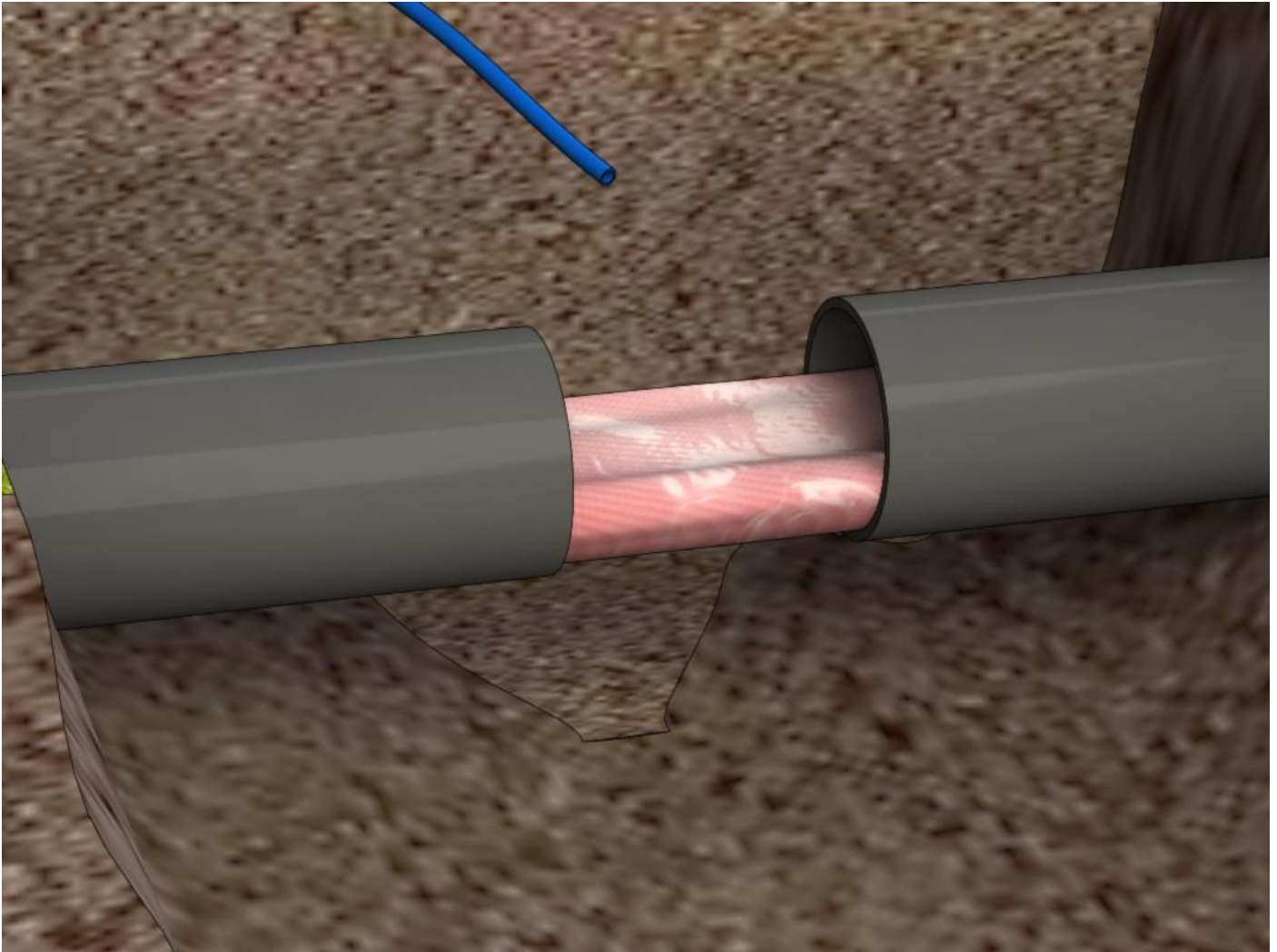
Cut pipe along marks. Remove and discard old ferrule for access if required and discard cut piece. Lightly grind cut ends to remove any internal sharp edges. Wrap cloth or tape over ends to protect the lining during insertion.



Trainer's notes	Trainee's notes
<i>Check that no debris from the cutting has entered the ends of the host pipe. Clean if necessary.</i>	

4.

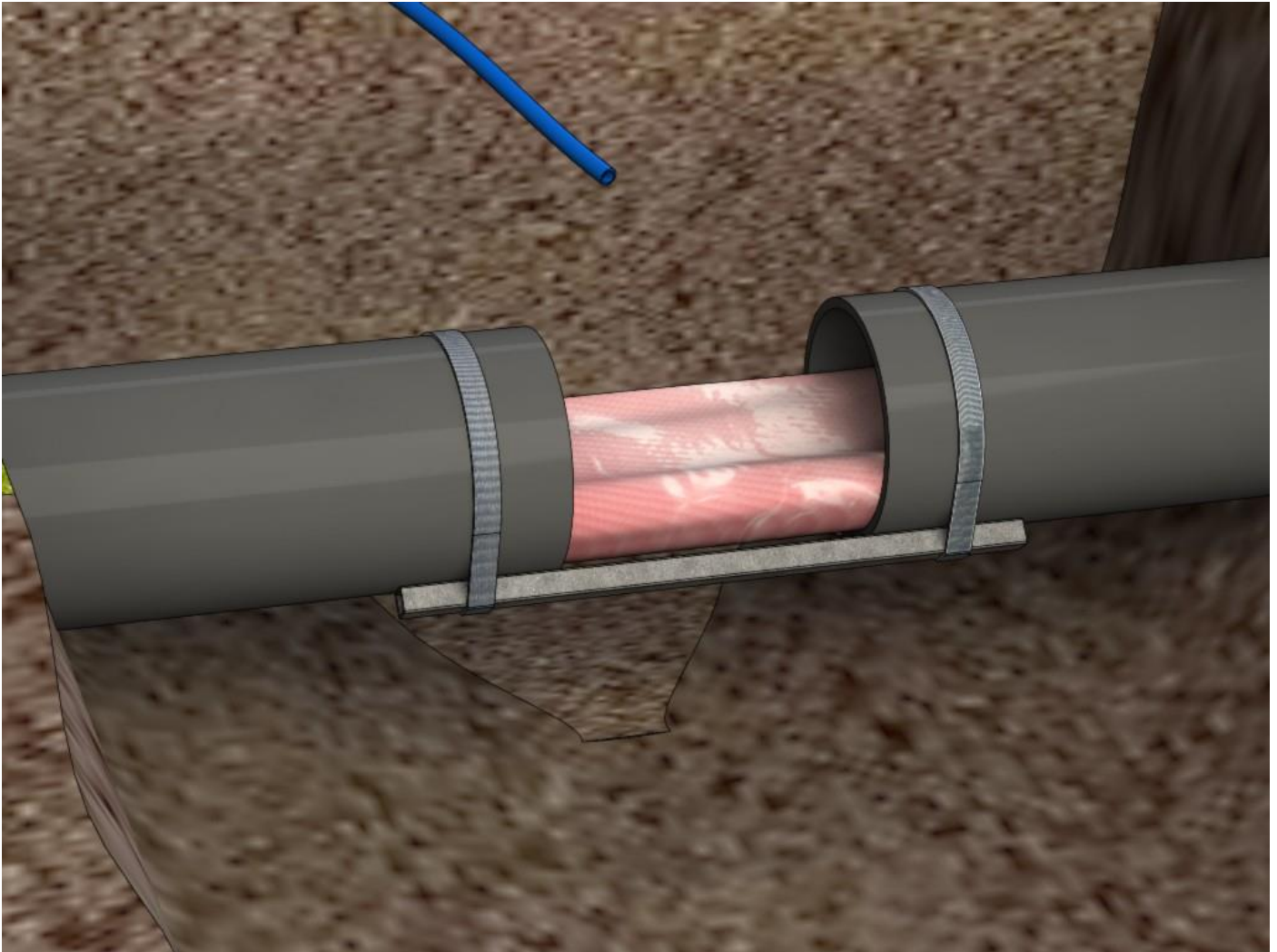
Lining and preliner will be pulled into position.



Trainer's notes	Trainee's notes
<i>The towing nose and the lining may require gentle guidance whilst being pulled through the host pipe.</i>	

5.

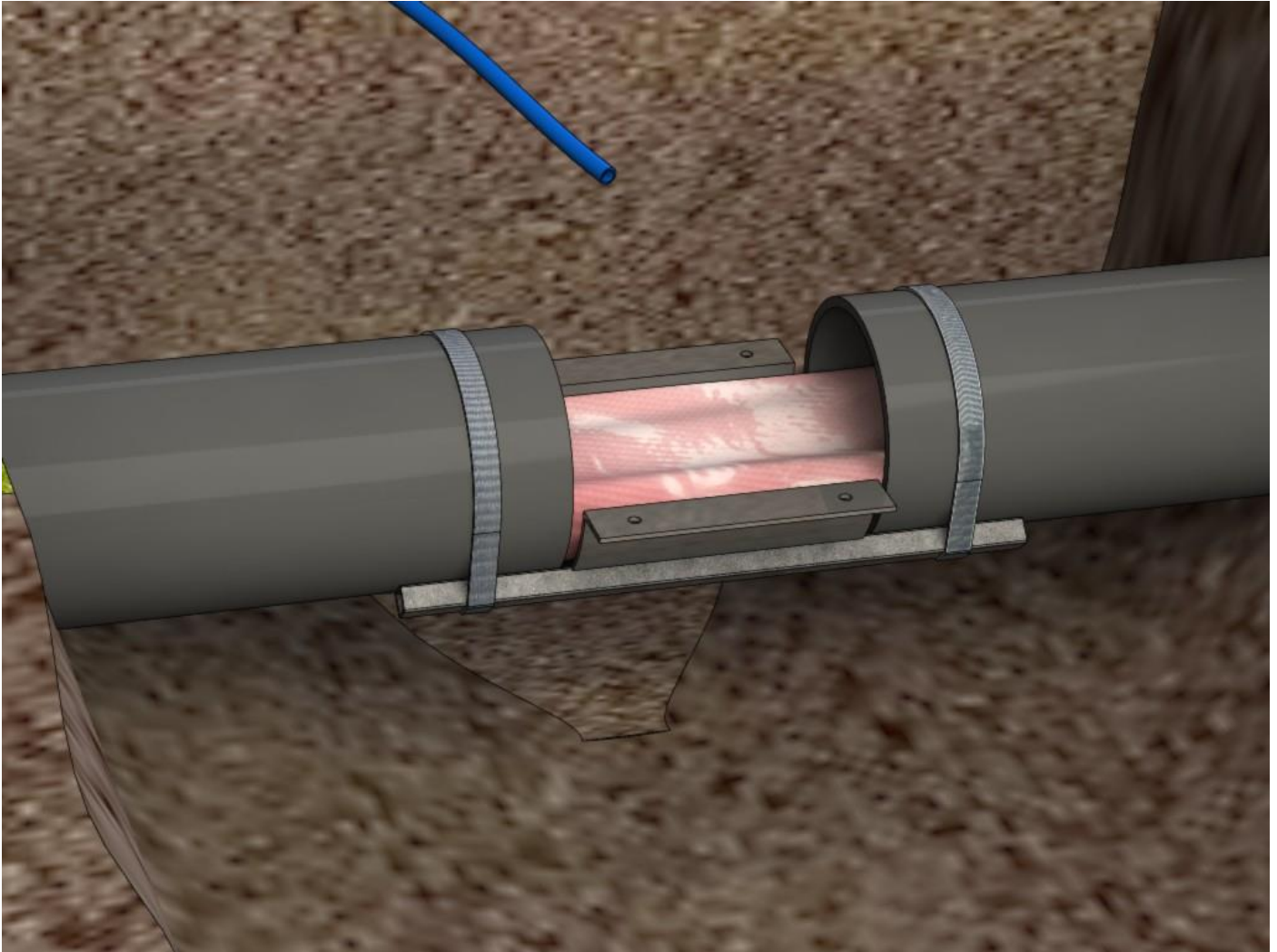
Place two support bars across the lower half of the gap and strap them to the host pipe.



Trainer's notes	Trainee's notes

6.

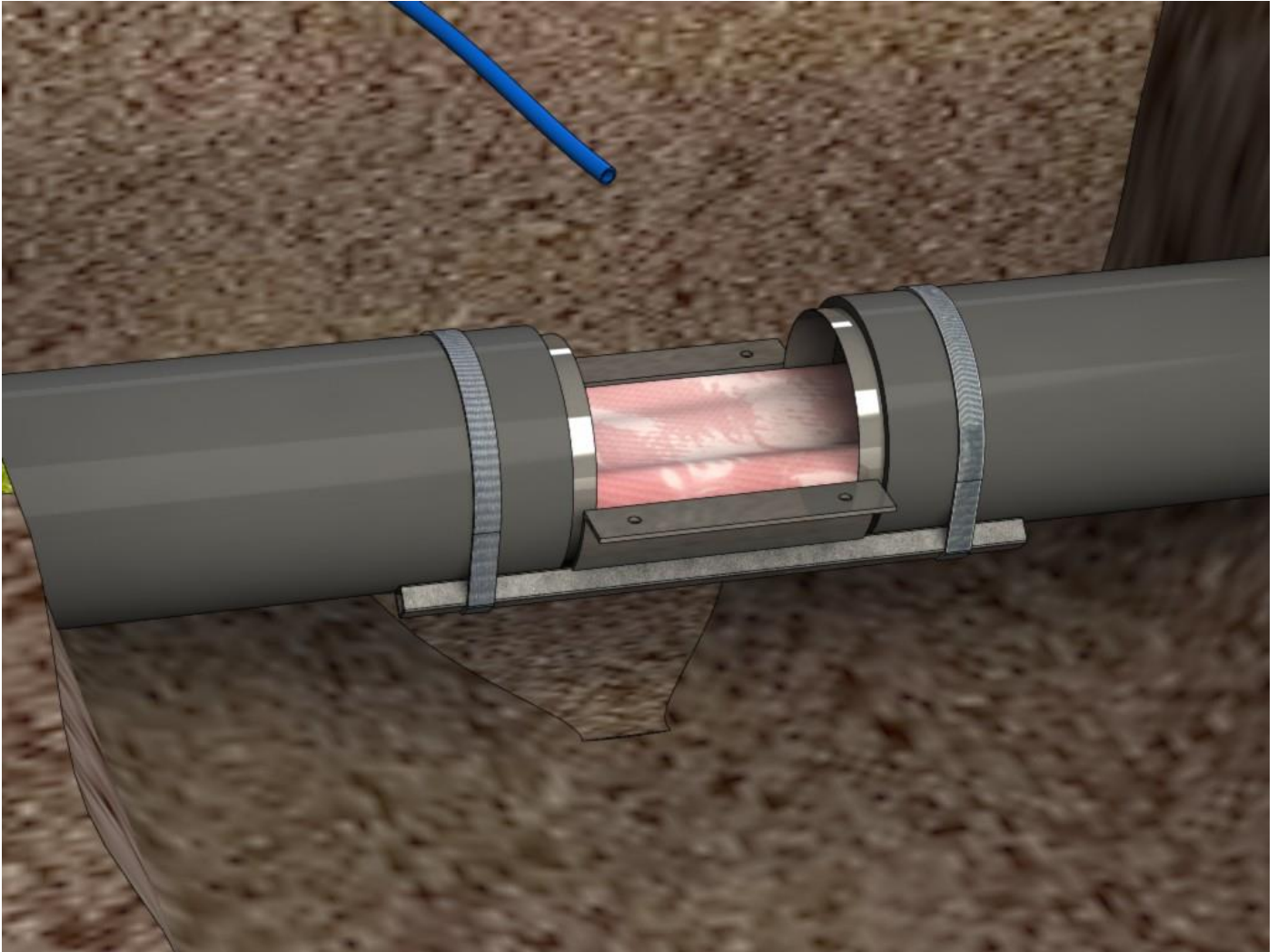
Place the lower half-shell on the supports using packing if required to centre the shell to the host pipe.



Trainer's notes	Trainee's notes
<i>The half shells are made to an internal diameter that is compatible with commonly available plastic pipe saddle fittings.</i>	

7.

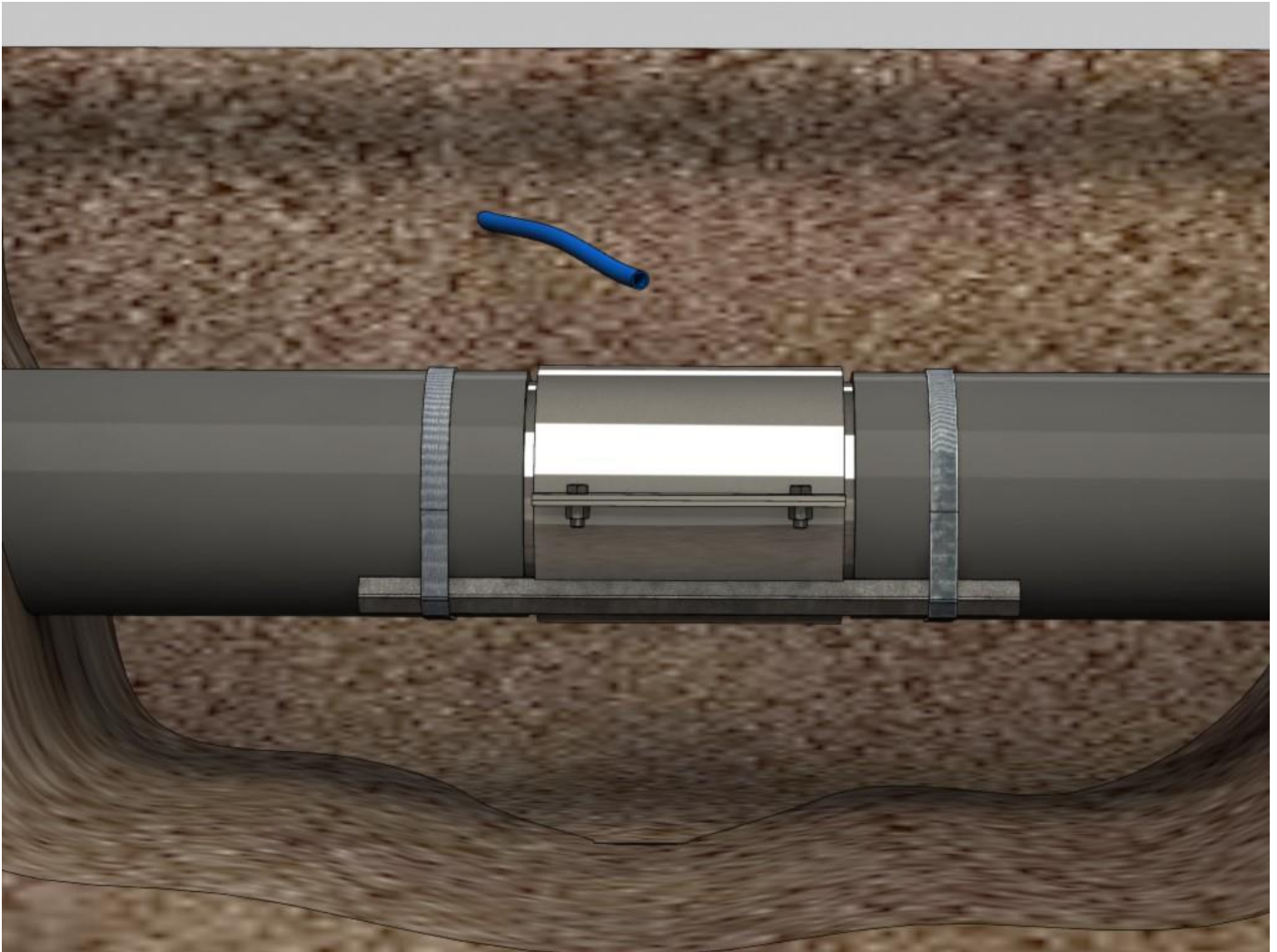
Feed shims around the outside of the lining and preliners and push them partly into each end of the host pipe.



Trainer's notes	Trainee's notes
<i>The shims are open ended and rolled to a size that will spring out to the inner surface of the host pipe once in position.</i>	

8.

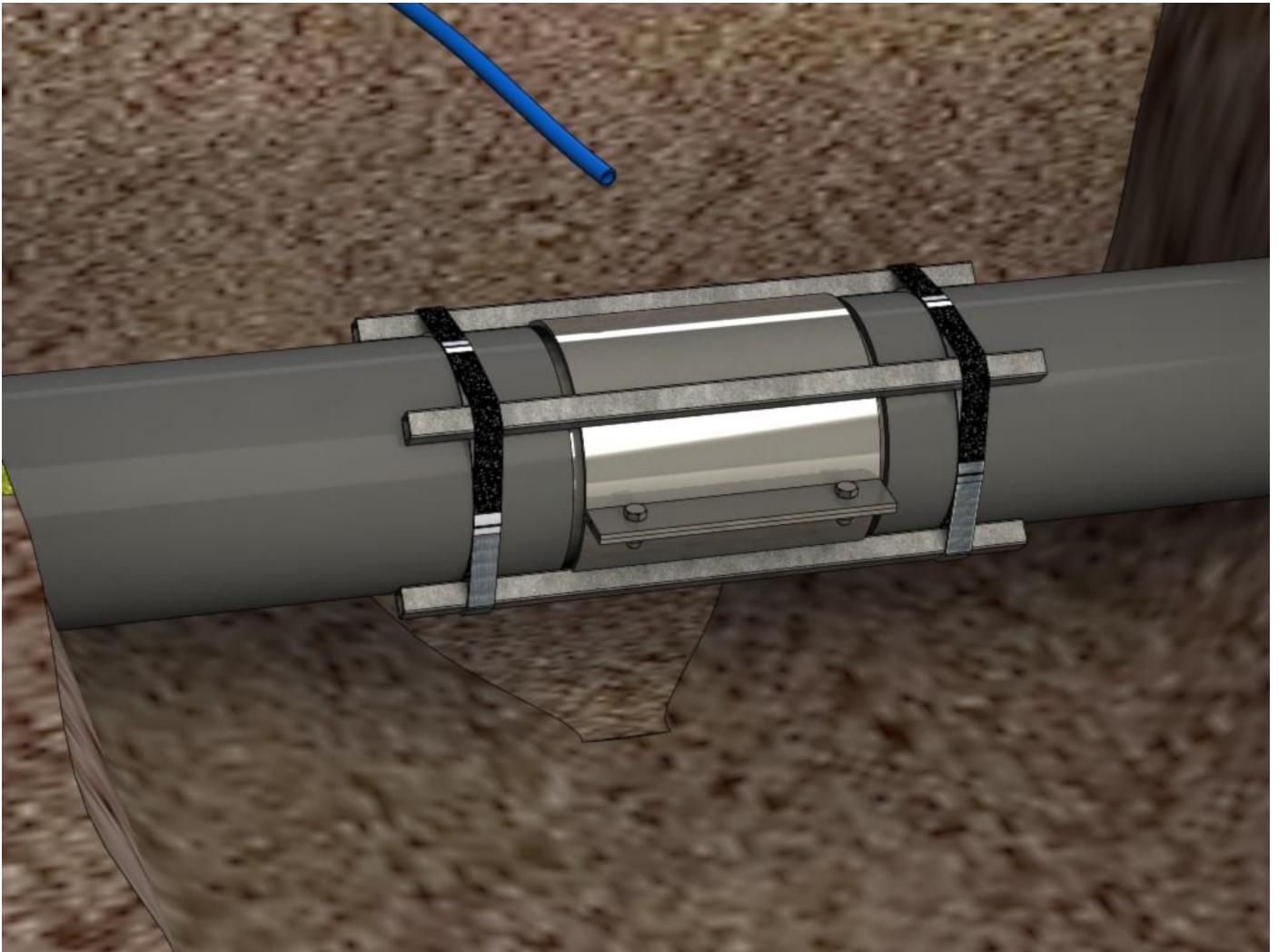
Add the upper half-shell and clamp both halves together.



Trainer's notes	Trainee's notes

9.

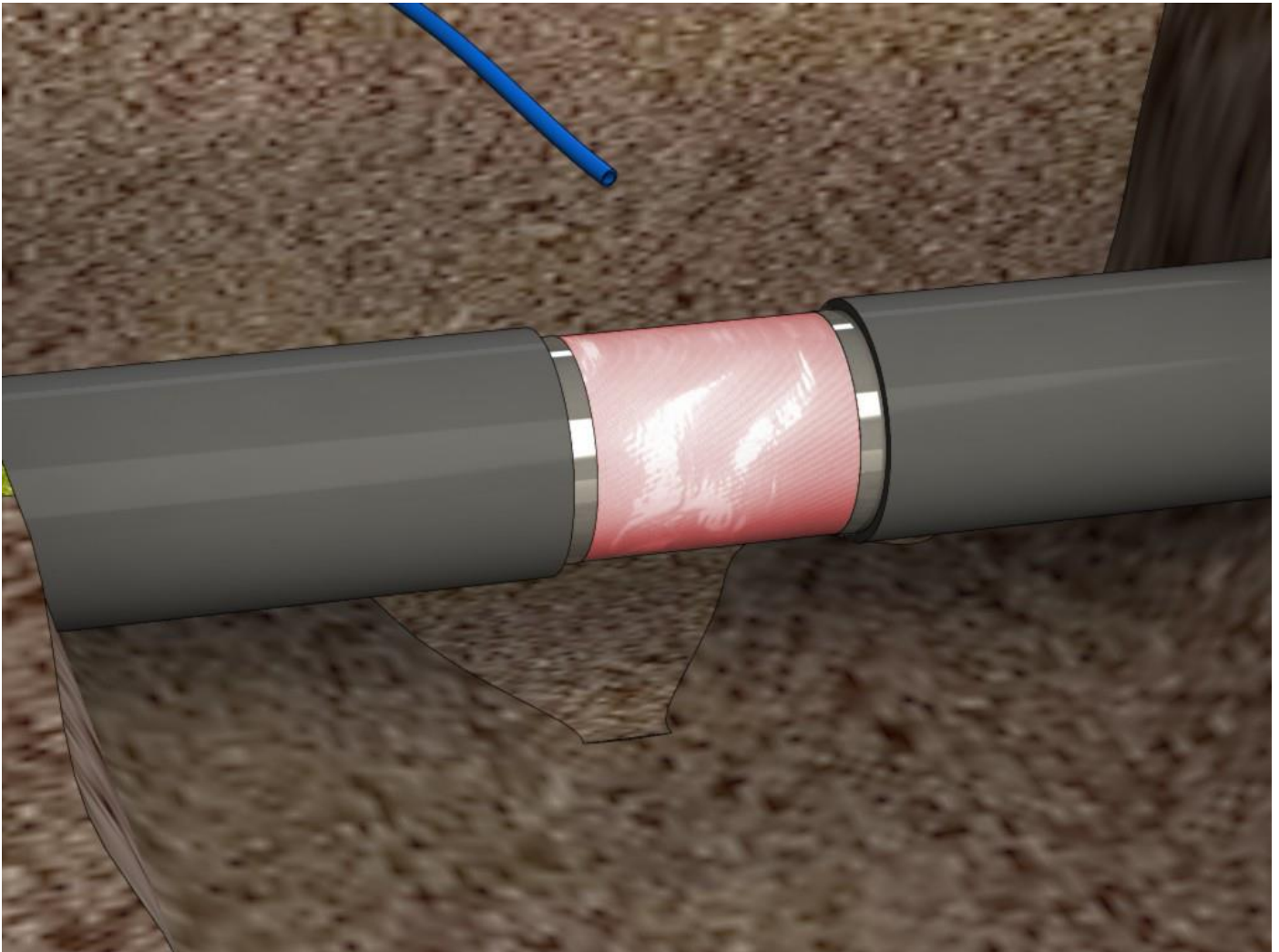
Add upper support bars and clamp the whole assembly tightly. Additional straps can be used if required. The pipe is now ready for the lining to be formed.



Trainer's notes	Trainee's notes

10. After lining works are complete.

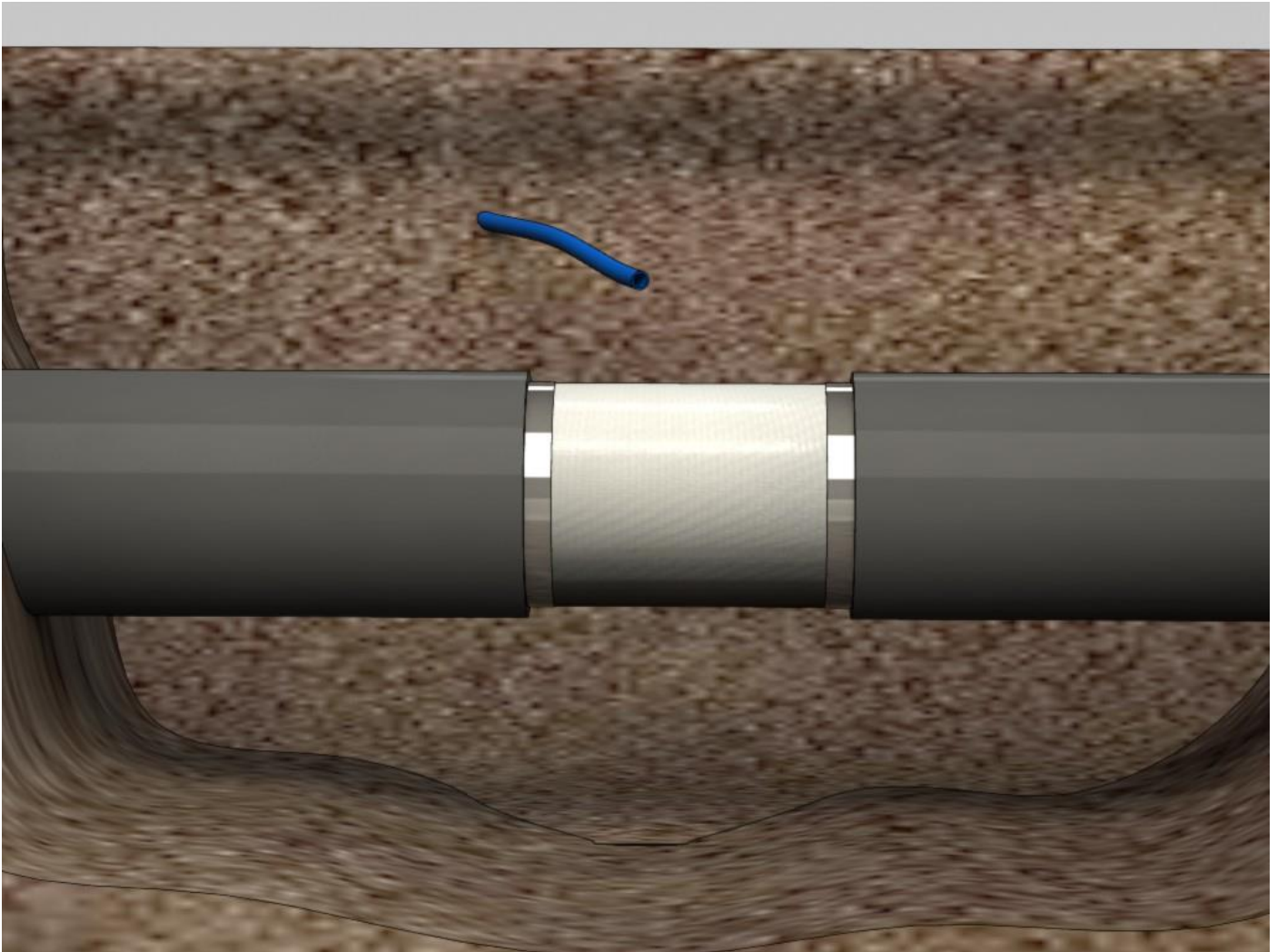
Remove the support bars and the upper and lower shells after the lining has been formed, cooled and the inversion tube retracted. The shims will be held between the lining and the inside of the host pipe and do not need to be removed.



Trainer's notes	Trainee's notes
<i>On occasion it may be possible to remove the shims, in which case there is no harm in doing so provided they are taken out without damaging the lining.</i>	

11.

Carefully cut away any preliner to expose the outer surface of the lining.



Trainer's notes	Trainee's notes
<i>Do not scratch or score the outer surface of the lining since this may make it difficult to achieve a seal to the saddle tee.</i>	

12.

Install saddle tee in accordance with the instructions given by the fitting supplier.

Note that the nominal size of a saddle tee is generally given as the outside diameter of the pipe that it is meant to fit. Care must be taken to select a tee that is manufactured to fit the outside of the lining and not the outside of its host pipe.

Testing of saddle fittings is ongoing but the experience so far is that any compression fitting designed for a PCV or PE pipe will be suitable when fitted correctly.

A few examples of fittings from different manufacturers are illustrated in APPENDIX A but there are many more available on the market.

APPENDIX A

1. Identify the point of installation and make sure the external surface of the pipe is free from soil, imperfections or indentations in the area of contact with the gasket. Position the gasket in the saddle seat.



2. Place the lower part of the saddle (i.e. the base) in the chosen point. Couple the upper part of the saddle (i.e. the branch) with the lower one.



3. Insert the screws from below (the bottom part of the saddle has a recess to receive the head of the screws). Tighten the nuts alternately.

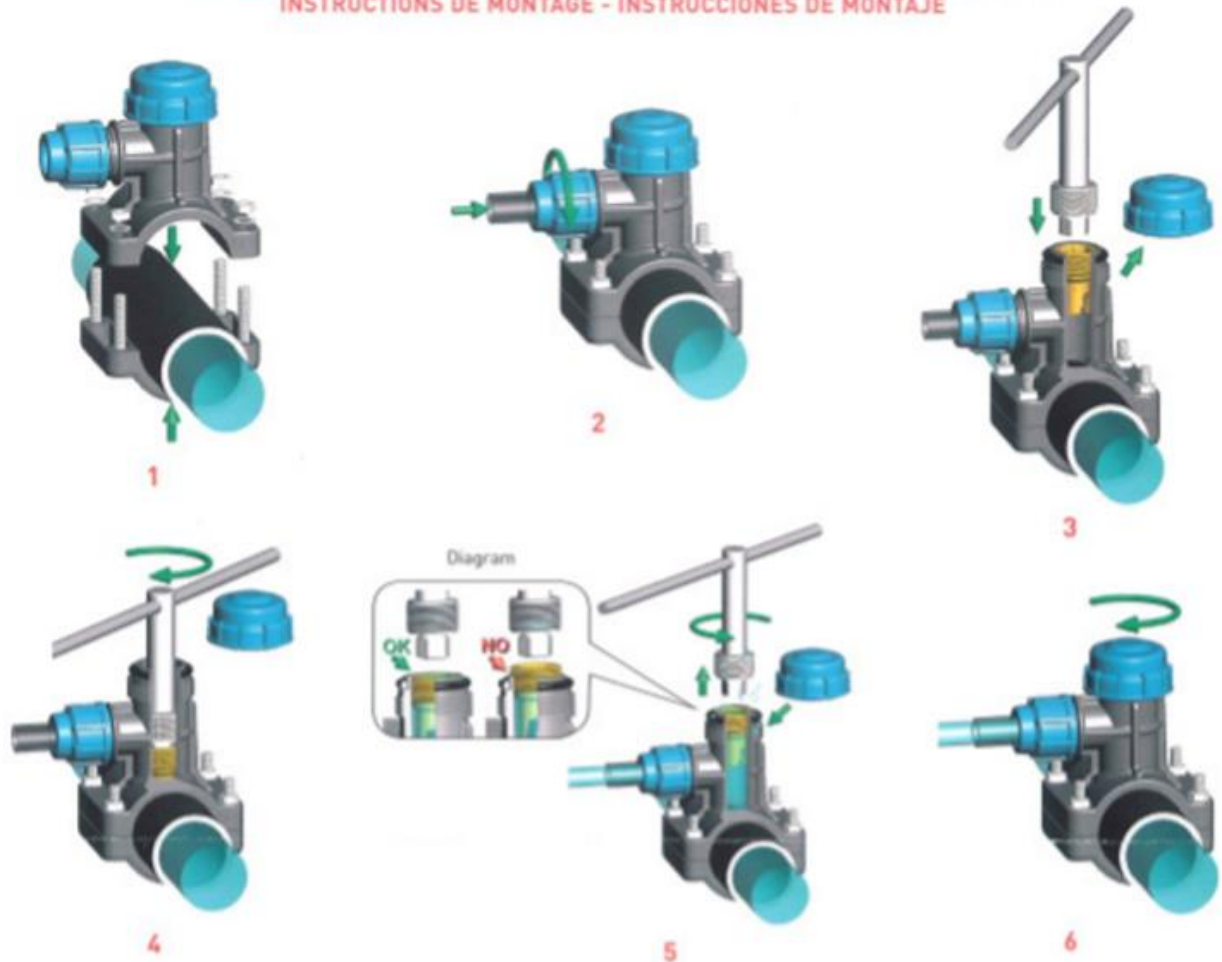


4a. Drill a hole in the pipe wall being careful not to damage the saddle screw head and the O-ring. Use a spacer to avoid drilling the other side of the pipe. It would be better use a milling drill not to damage the saddle screw thread and the O-Ring and in order to reduce the scraps into the pipe.



APPENDIX A continued George Fischer

INSTRUCTIONS DE MONTAGE - ASSEMBLY INSTRUCTIONS - MONTAGEANLEITUNG
INSTRUCCIONES DE MONTAJE - INSTRUCCIONES DE MONTAJE



Data sheet

valid from: 10/9/17

+GF+



Rm

654 - Blue clamp saddles with stainless steel reinforcing ring, flat gasket and galvanized bolts and nuts (PN16-PN10)

- bolts and nuts : galvanized
- colour: blue
- B= N° of bolts
- M= bolt type
- (*) with O-ring gasket
- water PN16-10
- suitable for PE and PVC pipes
- female thread: ISO 7 (parallel)
- gasket: O-ring with flat lip (NBR)
- material: PP
- reinforcement ring: stainless steel AISI430

APPENDIX A continued

GPS

PROTECTA-LINE

FERRULE OFF-TAKES

Joining Instructions for 25mm and 32mm Protecta-Line Gunmetal Self-Tapping Ferrule Off-Takes

For use on GPS Protecta-Line pipe only.

Gloves and safety glasses must be worn during the whole assembly process.

Do not remove cutter or sleeve from this product before use.

The ferrule strap cutter includes a sealing sleeve that prevents water contact with the aluminium barrier layer.

1. Clean the surface of the Protecta-Line main where the self-tapping ferrule strap is to be installed, avoiding areas which appear damaged. Ensure that the sealing "O" ring is in place under the upper ferrule strap and take care not to damage this on the protruding sleeve.



3. Fit the Protecta-Line service pipe into the compression fitting on the outlet, as described in the instructions overleaf. After aligning the outlet to the desired position, tighten the securing collar and compression fitting.



2. Fit the self-tapping ferrule squarely around the main and tighten the two strap bolts evenly and symmetrically.



Caution: Do not remove cutter or sleeve from this product before use.

4. Remove the plug from the top of the ferrule cap, and, using an 8 or 11mm square section key (depending on service pipe size), wind down the cutter assembly all the way until hard and solid resistance is felt. Note that before the solid resistance is felt there may be a temporary drop in resistance, followed by an increase as the sleeve around the cutter enters the main.



APPENDIX A continued

FERRULE OFF-TAKES



5. Withdraw the cutter all the way up to the top of the stem, employing a final counter-clockwise torque of approximately 15Nm to ensure a good seal. Some leakage through the plughole is normal before the cutter has been fully unscrewed.



6. Replace the plug.

