

Making the Mechanical Joint

The Mechanical joint employs a moulded tongued thermo plastic elastomer olive which is 'keyed' to the pipe by a patented technique and takes, on average, only about half a minute to make. Once the nut is tightened and the joint is made, the pipe is locked into the fitting to give a lasting leak-free connection. The joint is demountable for maintenance or system re-design purposes, and can be made and re-made.

Note: always tighten the nuts as work progresses. They should not be left until the job is completed. When installing any chemical waste drainage system it is imperative in order to ensure that joint integrity can be maintained, in line with the design criteria of the system, grooving tools and spanners must be used to make the joint.

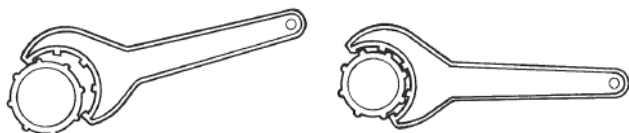
While the general principles of waste drainage still apply when jointing Vulcathene chemical waste drainage, considerable care must be taken in making the joint. When tightening a fitting made from Polypropylene the two 'dry' surfaces of the material tend to 'bind' against each other preventing the nuts on the joints being fully tightened.

To overcome this, either lubricating grease or petroleum jelly should be smeared onto the threads of the joint. This will enable the nut to be tightened to its full thread capacity.

M36 Series Spanners

The M36 spanner, moulded from a polycarbonate, is made specifically for use with the Vulcathene Mechanical range and should always be used to tighten the Vulcathene joint as it will not distort, damage or scar the nut. A standard spanner or strap wrench should not be used as the 'squeezing' action can distort the fitting and the pressure applied is only effectively in contact with two of the lugs on the nut.

The M36 spanner has been designed with a profile that matches the moulded shape of the nut on the Vulcathene joint. The toe of the spanner should be located over a convenient lug on the nut and the action of tightening, or loosening, the nut will ensure that the spanner maintains full contact grip evenly against 5 of the nut lugs.



It is also important to remember that the nut should not be overtightened and the leverage length' of the hands will provide sufficient force to tighten the nut and produce full joint integrity. At no time should the 'handle' of the spanner be lengthened, with a pipe or other tool, to increase the leverage when tightening a nut.

We suggest that two spanners are used when tightening the nuts. One should be placed on the nut on the opposing end of the joint to counter the force applied, enabling the nuts to be tightened to their fullest capacity.

M26 Series Groove Cutting Tools

The major factor in the joint integrity of the Vulcathene Mechanical waste drainage system is the 'tongued olive'. Therefore, we have designed a tool which very simply enables a groove, of the exact depth and width, to be cut in the correct location from the end of the pipe.

The groove cutting tools for this purpose are specific to each size of pipe. While each of the cutting tools for 76 and 102mm pipe is provided with two handles, and requires the pipe to be held in a vice, the cutting tool for 38 and 51mm pipe, can be used by holding the pipe with one hand and operating the grooving tool with the other.

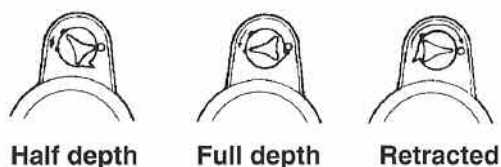


When securing the pipe in a vice, care must be taken to ensure that the pressure applied is sufficient to hold the pipe without distorting it. On all the groove cutting tools the depth of the grooving blade can be changed from full to half depth and we recommend that the first few turns should be made with the blade setting at half depth.

38mm (1½") and 51mm (2")



76mm (3") and 102mm (4")



With the groove cutting tool for the large size pipes, it is important to grip the handles with both hands to ensure that it remains square to the end of the pipe, and cuts a uniform groove round the pipe. Note: Groove cutting tools need to be in good condition in order to cut grooves of a constant and correct depth.

Making the Joint

Clamp the pipe in a pipe vice. Cut to length using a rotary plastic pipe cutter as shown. This is favoured over the use of a hacksaw as the finish is clean (no loose swarf or burr on the pipe) and, more importantly, it is square and does not require further preparation. If a saw is used, it is essential that all burrs and loose material are removed.



To achieve full joint integrity it is necessary that a groove, into which the 'tongued' olive locates is cut around the pipe with the special grooving tool. Insert the pipe into the grooving tool to its total depth and adjust the depth cutting blade to half depth and revolve the cutting tool anti-clockwise around the pipe. Then adjust to full depth, again revolving it anti-clockwise. When completed retract the blade and remove the tool making sure that any swarf created by the grooving action is removed. Never try to cut the groove with the blade at full cut first time.



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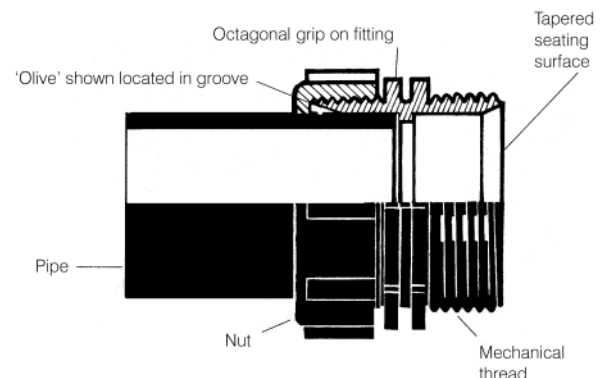
New no-heat olives (yellow colour) have been developed for Vulcathene making joint assembly even quicker. To assemble the joint place the nut onto the pipe and slide the new no heat olives wide end first into place, with the tongue locating into the groove in the pipe. Note: Use lubricant on 76mm & 102mm Olives to aid installation.

Having made sure that the fitting is clean, smear lubricant or petroleum jelly onto the threads of the fitting.



Loosely assemble the joint and proceed to hand tighten the knurled nut. Using two spanners further tighten the joint. The nut must be tightened to its full thread capacity.

38mm (1½") and 51mm (2")



76mm (3") and 102mm (4")

