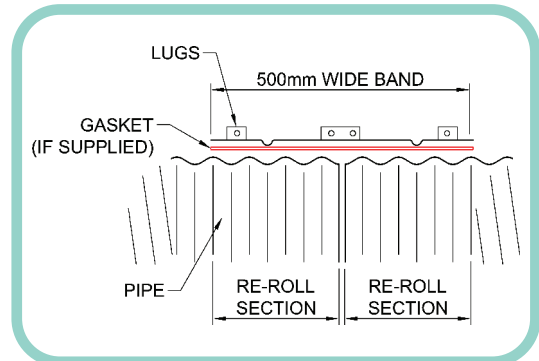
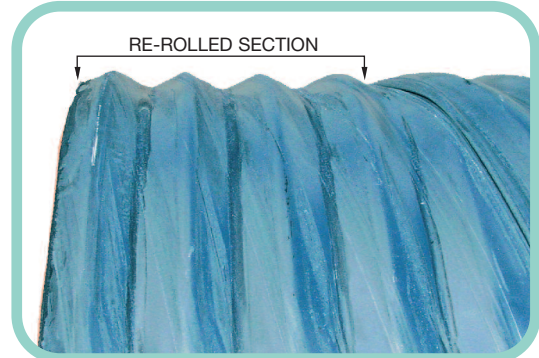


HELIBORE INSTALLATION GUIDE

1. Bed pipe on pre-shaped bed.
2. Where gaskets are being used, the gaskets should be placed around the pipe ends, equally over the joint. Overlap the gasket at the crown of the pipe and fix in place with double-sided tape. Lightly grease the inside face of the coupling band with the pipe grease provided.
3. Place bottom segment of the band with the band dimple seated into the second corrugation of the re-rolled section of the pipe.
4. Bed next pipe so that its second re-roll corrugation seats into the band dimple.
5. Place the second part of the band over the pipe ensuring a good and even seating of the band dimple into the second re-roll corrugation of each pipe.
6. Locate the M12 studs provided through the lugs and loosely tighten the nuts ensuring that the curved face of the saddle washers sit into the radius of the lugs.
7. Tighten down the nuts on the studs, evenly on each lug at both sides of the pipe. If necessary "dress" the band with a small rubber mallet while tightening.
8. Inspect internally to ensure uniform contact with the gasket, if gaskets are used.

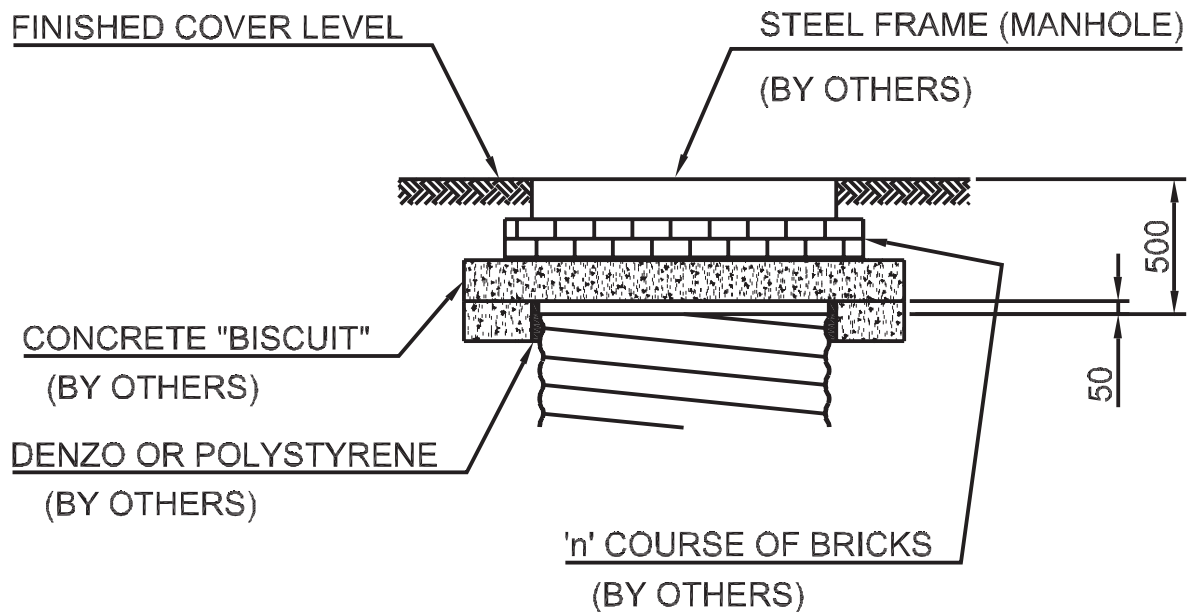


It is important that the pipes are laid at a constant grade and line relative to each other. Any significant deviation from line and level will create problems in locating and tightening the coupling band. The larger the pipe diameter, the more important true line and level will be.

Where bitumen paved inverts are installed, there might be a tendency for the pipes to assume a slightly egg-shaped profile during lifting and handling. This should be monitored when the pipes are placed end to end prior to positioning the second or third segments of the coupling band. If there is a poor match in terms of shape then the pipe ends should be jacked into shape by the use of Acrow props or similar and held in a true circular profile whilst the coupling bands are placed and tightened and if needed be left in position until backfill is placed.

All pipes over 1.2m diameter have match marked ends and each pipe is marked with a pipe sequence number.

Please read in conjunction with HANDLING GUIDE and EXCAVATION & BACKFILL REQUIREMENTS.

TYPICAL ACCESS SHAFT FINISHING DETAIL**NOTES:**

1. When calculating access shaft heights Tubosider allow 500mm between finished cover level (FCL) and top of shaft.
2. The 500mm is typically made up of a concrete "biscuit" 'n' course of bricks and a steel manhole frame. Any discrepancy can be taken up within the brickwork.
3. Prior to placing the "biscuit" the top of the shaft should be wrapped with denzo or polystyrene and the concrete ring should be cast with the top approx. 50mm above the top of the shaft. The "biscuit" should then be bedded onto the concrete ring.
4. Concrete ring, "biscuit", bricks and steel frame supplied by others