

ASSEMBLY AND INSTALLATION NOTES

FOR ROMOLD I PP DN 600

ROMOLD

1. TRANSPORT AND STORAGE

Store chamber elements vertically on level ground. In case of extended outdoor storage, protection of the chambers against the sun is vital. All supplied element seals have to be stored in their packaging, protected from frost and direct sunlight.

2. GENERAL INFORMATION

ROMOLD PP manholes are delivered ready to connect. Deliveries must be checked for completeness. All components must be checked for damage or contamination before installation and cleaned or replaced if necessary. Damaged components must not be installed!

3. CHAMBER ASSEMBLY AND INSTALLATION

All of the installation parameters listed below must be permanently ensured!

For example, avoid rinsing out fine material with appropriate measures (by using fleece, cross-beam out of clay or similar).

3.1 BEDDING (GRANULAR SUB BASE):

The minimum depth required below the base is 10 cm. The thickness of the lower bedding layer (granular sub-base), must be "bedding type 1" in accordance with EN 1610, Section 7.2.

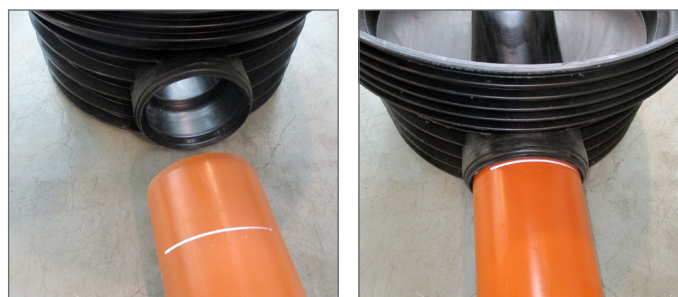


The support area of the manhole base must be load-bearing and completely levelled. The support area of the manhole base must be established in accordance with the planning specifications (difference between base and channel level = 5 cm).



3.2 BASE/PIPE CONNECTION

The base shall be positioned on the prepared support area in accordance with the connecting pipes. All pipe connections are joint so-



ckets. The connecting sockets are designed for direct fitting of PVC pipes in accordance with EN 1401, PP pipes in accordance with EN 1852 or plain plastic pipes. For the connection of other pipe materials, adapters or short pipes and cuffs should be used.

(Note: changing material or using special connection-adapters consider a created bed drop). The inserted seals should be checked for correct fitting and inspected for damage, cleaning may be necessary.

Apply sufficient lubricant on the connecting pipe in the socket as well as at the end of the spigot and fully insert the pointed end in the socket.

For all sockets horizontal angles of $\pm 7.5^\circ$ and gradient changes up to 13 % are possible. Direction and gradient changes at the same time

will reduce the indicated maximum values accordingly.

No connectors (short pipes or joints) are required between ROMOLD PP/PE-manholes and pipes. If fittings are used, check insertion depths and seal position.

3.3 CHAMBER FLOOR – RISER PIPE CONNECTION



To make the plug-in connection, stretch element seal ES 60 INC across the cleaned first trough of the riser pipe. Thoroughly clean the element seal if necessary and apply sufficient lubricant.

Clean the plug-in area of the chamber floor and coat with lubricant before pushing the riser pipe in fully without tilting.



3.4 BACKFILLING MATERIAL

It is important to ensure that non-cohesive, well-graded (all sizes of material), compressible materials are used for backfilling. The maximum particle size shall not exceed 16 mm. The backfilling material must meet the requirements G1 or G2 in accordance with ATV-A 127, section 3.1. The requirements of EN 1610, Section 5.3, or DWA-A 139, Section 7.1, must be followed.

3.5 BACKFILLING AND COMPACTING

The width for backfilling around the manhole must be in accordance with DIN EN 1610, Table 1 at any point at least 40 cm. When installing the manholes in groundwater, a backfilling width of at least 50 cm is to be maintained all around to prevent uplift.

The area of the pipe connection to the manhole has to be carefully under-packed e.g. with a narrow hand stamper. The backfilling materi-

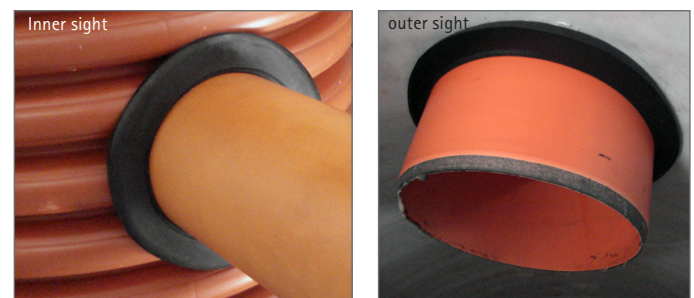
al is to be inserted carefully and in layers of 20–40 cm layer thickness and compacted with a medium vibrating stamper (approx. 50kg).

The number of required compacting passes per layer depends on the backfilling material, the dumping height and compacting device are to be taken from table 2 from DWA-A 139 or table 6 from DIN EN 1046. A minimum degree of compaction of $DPr = 97\%$ in accordance with DWA-A 139, section 11.1 is to be established for the entire depths of the manhole. In road foundations at road level a deformation module EV2 of at least 100 MN/m² in accordance with ZTVE-StB 94 is necessary for supporting the cover Class D 400 (compare section „Installation of the cover“).

3.6 HEIGHT ADJUSTMENT

To adjust the height shorten the riser pipe. The shortening is to be done with a saw (electric jigsaw or sabre saw). If a chamber neck seal is used, the cut must be at the crest of the riser pipe. The crests are 66 mm apart. The resulting cut needs to be deburred.

3.7 SUBSEQUENT CONNECTION TO THE ELEVATION ELEMENT

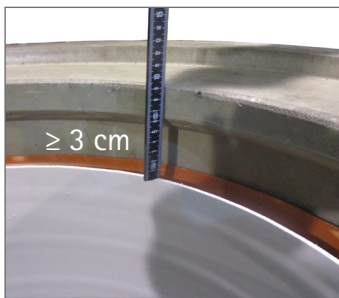


Drill with an electric hand drill at the desired position with a ROMOLD cup saw the total possible drilling depth. Drilling in the area of the base – riser pipe connection is not allowed. Deburr hole and insert the seal from the outside without using lubricant, the collar of the seal is up to the ribs at the outside of the riser pipe. Lubricate the spigot end of the pipe as well as the inside of the seal and insert the pipe creating an inner overlap afterwards.

4. INSTALLATION OF THE COVER

4.1 LOAD DISTRIBUTION RING MADE OF CONCRETE WITH COMMERCIAL COVER

The ROMOLD concrete or polymer load distribution ring conducts traffic loads to the road foundation and away from the PP/PE-manhole. Below the support ring, an EV2 module of at least 100 MN/m² must be achieved. The bedding of the concrete support ring must be level and free from point loads (possibly using grit, sand or poor concrete). Ensure that there is no direct load contact between the support ring and riser pipe (distance ≥ 3 cm).



If needed, the seal is to be mounted on the chamber neck before assembling the concrete ring and seal with sufficient lubricant. The concrete support ring must be set up centrally without affecting the bedding. The concrete support ring is covered with a steel plate until the



installation of the cover. The total height of the concrete support ring and commercial cover class D 400 is about 30 cm (without using a height adjustment ring AR-V 625 x 60 mm) from the upper edge of the PP riser pipe.

4.4 ODOUR FILTER

In case of odour nuisance a ROMOLD activated carbon filter can be installed in the frame of the cover.

5. LIABILITY FOR DEFECTS

Liability for defects is excluded, if the mounting and installation does not comply with instructions, unless the customer is able to prove evidence that he is not responsible. This also applies if after a certain period installation parameters are not met anymore. The installation instructions must be ensured permanently.

INSTALLATION SKETCH

FOR ROMOLD I PP CHAMBERS DN 600

ROMOLD

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