



IEC 60417-6182:
Installation,
electrotechnical expertise



IEC 60417-6183:
Installation,
mechanical expertise



To be fixed with Earth Rod



EN 62561-5

Applicable for Part nos.

1. 138315 2. 138316 3. 138320 4. 138321 5. 138322

Suitable for.

1. 3/4" & 5/8" Copper Bonded Earth Rods
2. 15 / 16 / 20 mm Solid Copper Earth Rods
3. 16 / 20 mm Stainless Steel Earth Rods

Introduction

DEHN Earth Rods Seals are designed to use in concrete foundation slabs of thickness up to 3000 mm and tested to withstand a pressure of 87 psi (6 Bar) confirming to the latest version of IEC/EN 62561 – 5. Supplied in Double Flange configuration, with optional use as Single Flange. Sealing kits are provided to suit the different diameters of the earth rods. The Earth Rod Seals are used in conjunction with DEHN PVC inspection earth pits which are rated to withstand loads up to 5000 kgs exceeding the standard requirement of 30 kN (Approx. 3000 Kgs) as per latest version of IEC/62561 – 5 for heavy duty use.

Parts

- | | |
|---|-------------------------------|
| 1. Plastic Inspection Pit (Sold Separately) | 11. Top Flange |
| 2. Seal Cap | 12. Earth Rod Seal Housing |
| 3. Earth Pit Lock Nut | 13. Earth Rod Seal "O" Ring 5 |
| 4. Compression Collar 1 | 14. Earth Rod Seal Cap |
| 5. Earth Rod Seal "O" Ring 1 | 15. Earth Rod Seal Tube |
| 6. Compression Collar 2 | 16. Bottom Flange |
| 7. Earth Rod Seal "O" Ring 2 | 17. Bottom Flange "O" Ring 1 |
| 8. Earth Rod Seal "O" Ring 3 | 18. Bottom Flange "O" Ring 2 |
| 9. Compression Collar 3 | 19. Earth Electrode |
| 10. Earth Rod Seal "O" Ring 4 | |



EARTH ROD SEAL DOUBLE AND SINGLE FLANGE

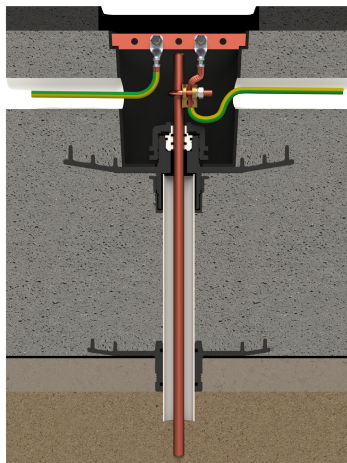
Note: DEHN Earth Rod Seals comes with 1200mm long Earth Rod Seal Tube. Upon request we can supply 3000mm long Earth Rod Seal Tubes.

Tools Required

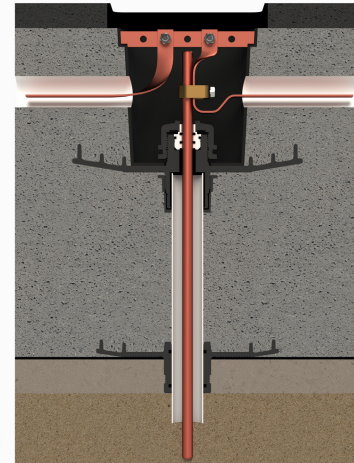
Hole Saw Cutter, Spirit Level, Sharp Knife.

Typical Arrangements

EARTH ROD SEAL WITH CABLE CONNECTIONS

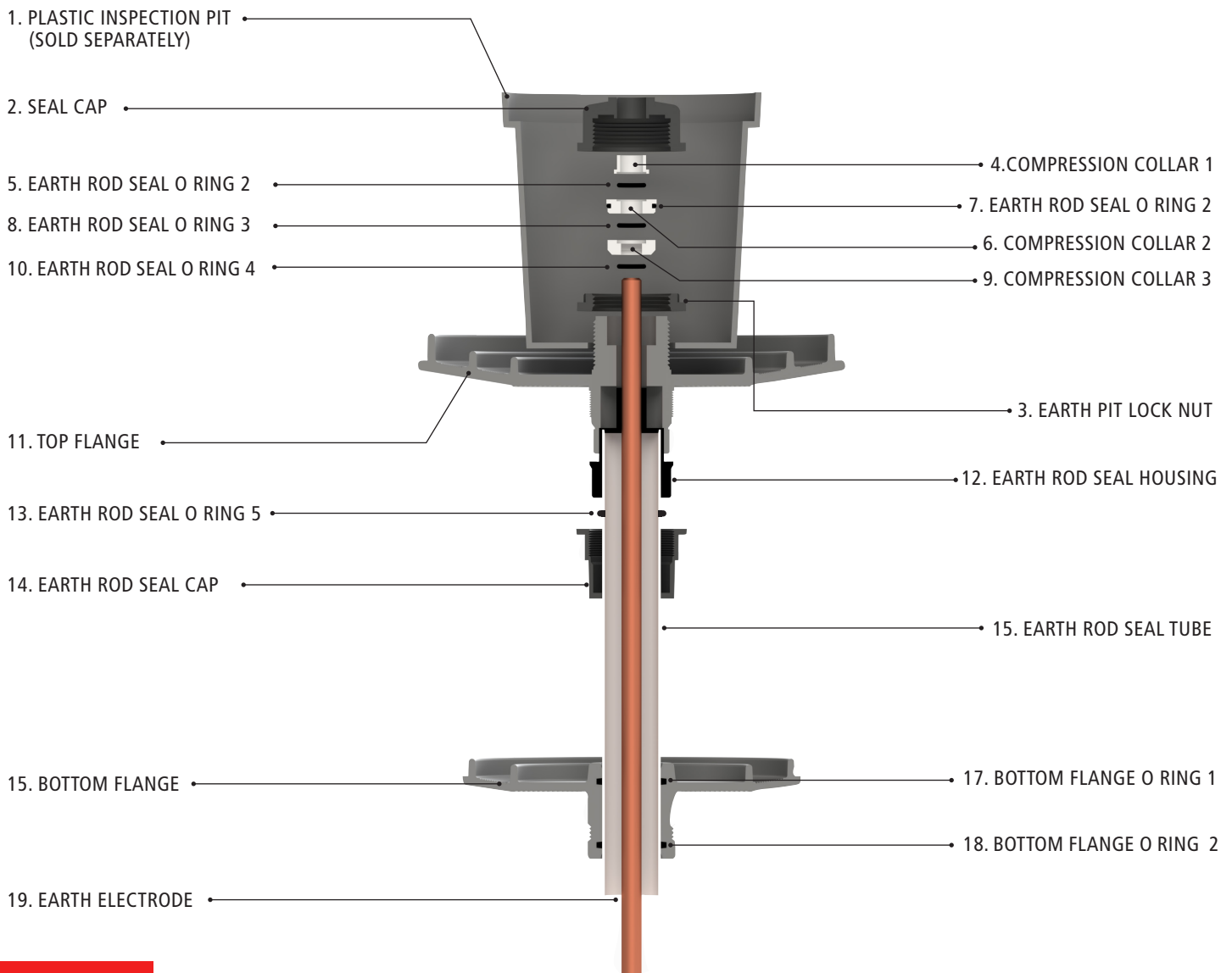


EARTH ROD SEAL WITH TAPE CONNECTIONS



Pre - Installation Checklist

1. Approved earthing drawings are available prior to installation of earth rod seals.
2. Correct earth rod seal has been ordered to suit the earth rod diameter.
3. Check all parts of earth rod seal are available before commencement of installation.
4. Identify the earth pits location at site as per the approved earthing drawings.
5. Measure and record the resistance of the Earth Electrodes installed at the earth pit locations.
6. Ensure the measured values comply with the standards, project specifications.
7. Local HSE requirements shall be adhered to.
8. DEHN recommends having an offsite mockup installation with DEHN or DEHN authorized distributors product specialist for easiness of installation at site locations.



Maintenance

When installed correctly according to the manufacturer recommendation the earth rod seal should require little or no maintenance other than the Seal Cap remaining tight.

Installation Instructions

1. After the soil is compacted, install the (19) earth electrodes to the required depths at the approved locations as per the project specifications / applicable standards and the resistance values should be recorded.
2. The site contractor should carry out the installation of the PCC and/or waterproofing layer with a suitable hole of diameter (80mm to 100mm) around the (19) earth electrode in PCC and/or waterproofing layer and securely fix the stem of the (16) bottom flange in it.
3. The disc section of the (16) bottom flange should rest on top of the water proofing and/or PCC layer. Prior to installation, the surface below the bottom flange should be clean and free from debris.
4. Insert the (15) Earth Rod Seal Tube around the earth electrode through the (16) bottom flange penetrating into the compacted soil to a depth of 100mm. Ensure that the earth rod seal tube is at right angle to the PCC and/or waterproofing layer using a spirit level.
5. If waterproofing membrane is used, the bottom flange is adhered to the below waterproof membrane using proprietary adhesive mastic. The mastic layer should be applied in a heavy circular formation so that the grooved bottom face of the (16) bottom flange can 'bed' down without causing radial breaks and leakage paths.
6. It is recommended to have an additional layer of waterproofing membrane adhered to the earth rod seal tube encapsulating the bottom flange using the proprietary adhesive mastic at site.
7. Insert the (13) earth rod seal "O" ring 5 inside the (14) earth rod seal cap. Make sure the "O" ring 5 is tightly pressed inside the (14) earth rod seal cap.
8. Insert the (14) earth rod seal cap on to the (15) earth rod seal tube and (19) earth electrode and hold it in its place. The (15) earth rod seal tube should be adjusted by cutting to a length equal to 230mm from the FFL (i.e. finished floor level - height of the earth pit and thickness of the top flange). Ensure the cut section on the top of the earth rod seal tube is smooth and free from debris and sharp tips/edges. The cut section of the earth rod seal tube should be at level and checked using a spirit level.
9. Fix the (12) Earth Rod Seal housing on top of the (15) earth rod seal tube and the (19) earth electrode until the (15) earth rod seal tube top is completely slid into the (12) earth rod seal housing.
10. Position the (11) top flange and push it on top of the (15) earth rod seal tube and (12) earth rod seal housing till the top section of the (12) earth rod seal housing sits below the (10) earth rod seal "O" ring 4 slot inside the (11) top flange. Tighten the (14) earth rod seal cap to the bottom of the (11) top flange. Ensure that the (11) Top Flange is at level.
11. Place the (1) Plastic Inspection Earth Pit on the (11) top flange and use the (3) earth pit lock nut to tighten the pit to the (11) top flange. Using a hole saw, make a suitable size hole on the wall side(s) of the (1) Plastic Inspection Pit to accept the plastic cable duct (to be purchased separately) for the earth conductor/ tape. Position of the cable duct should allow for a minimum covering of 50mm concrete.
12. Insert the (10) Earth rod seal "O" ring 4 in the slot provided inside the (11) top flange above the (12) earth rod seal housing. Ensure that it sits correctly in the slot provided.
13. Insert the (9) Compression Collar 3 on top of (10) Earth Rod Seal "O" ring 4.
14. Insert the (8) Earth Rod Seal "O" ring 3 on top of (9) Compression Collar 3.
15. Insert the (6) Compression Collar 2 which houses the (7) Earth Rod Seal "O" Ring 2 on top of the (8) Earth Rod Seal "O" ring 3 and (9) compression collar 3.
16. Insert the (5) earth rod seal "O" ring 1 on top of the (6) Compression Collar 2.
17. Insert the (4) Compression Collar 1 on top of the (5) earth rod seal "O" ring 1.
18. Screw and hand tighten the (2) Seal Cap to (11) top flange section inside the (1) earth pit.
19. Connect the earth conductor/tape to the earth electrode using suitable clamps. DEHN inspection pit 5-hole earth bars are placed in the slots provided inside earth pits facilitating connections to the adjacent earth pits/earth electrodes.

Notes

DEHN earth rod seals shall be used and installed as indicated in DEHN earth rod seal product installation manual. Improper installation, misuse, misapplication, or other failure to completely follow DEHN instructions will result in loss of product warranty and may cause damages. Installation Manual is available along with the Product. Dehn Standard warranty of 24 months is applicable for the product. Ingress of water from anywhere other than around the Earth Rod Seal is the responsibility of the installation contractor. The Earth Rod Seal flange and components must be free from dust/debris/grease/paint before pouring the concrete.

Due to continuous product development, specifications are subject to change without notice. We reserve the right to make technical changes or modify the contents of this document without prior notice. DEHN takes every precaution to ensure the performance of its earth rod seal, notes and installation instructions, recommendations given are in good faith. However, DEHN cannot control the installation of our product, therefore cannot give any warranty for the entire installation. It is the responsibility of the customer to assume all risks and liabilities incurred in the use of DEHN earth rod seal whether used alone or in conjunction with other products.