

Water & Civil Division

Water AMI (Advanced Metering Infrastructure) Project

GUIDELINES FOR DOMESTIC WATER METER INSTALLATION ON ROOF

IN MULTISTORIED BUILDINGS UP TO FIVE FLOORS

1. For the multistoried building raised up to five floors, the water meter shall be installed on the roof and positioned vertically on the wall plane at suitable location.
2. Water meter should not be installed in the basement of building, pump room or in underground meter chambers.
3. The meters shall be installed after the water storage tank on the roof of the building as shown in the standard installation drawing PEW-STD-AMI-002.
4. A header pipeline from the water tank shall be laid to sufficient length and connected to the branch pipelines to install meters for individual flats/rooms using suitable pipes & fittings.
5. The header pipeline size shall be 80mm dia. as minimum and branch pipelines to install the meters shall not exceed the size 25mm dia. with maximum 6 water meters in a group, and the header pipeline size shall be increased according to the number of meters.
6. If booster pump is to be installed after the storage tank to achieve the required pressure in the flats/rooms, the pump shall be installed on the header pipeline with sufficient distance (Min.10 mtr.) away from the branch connections to the meter to avoid sudden variation of flow/pressure that may affect proper functioning of the meter.
7. Maximum pressure at the meter inlet shall not exceed 2 bar, PRVs with pressure gauge shall be installed, at least 1 mtr. before the meter, to achieve the required pressure.
8. Branch connection lines shall be designed to arrange water meters as groups in one layer.
9. Pipes, Valves, PRVs, NRVs and all other fittings shall be high quality, heavy duty, non-toxic, non-corrosive material approved by DEWA.
10. Pipe size for ½" meter installation shall be ½" to 1" maximum and for 1" meter installation shall be 1" to 2" maximum.
11. ½" meter can deliver up to 10,000 gallons water in 24 hours and 1" meter can deliver up to 20,000 gallons in 24 hours, approximately.
12. Consumer must have water storage tank equivalent to 24 hours' consumption for residential premises and storage equivalent to 48 hours' consumption for labour accommodation and other high consumption premises.
13. Meters shall be installed at a height of 1200mm from the finished floor level. The clearance between the back plate of meter and the wall plane shall be 200mm and the entire meter group must be adjusted as a single layer. Multiple layers and different elevations of meters are not permitted in the water meter room.

14. Sufficient space (at least 200mm.) shall be provided between and around water meters to permit installation, reading, servicing and removal of the meters.
15. The pipework at the meter position should be securely fixed on the wall to support the weight of the water meter and to resist any torsion, bending and tension during the installation and removal of the water meter.
16. The pipes shall be adequately anchored on the wall to avoid displacement of pipes while installing / removing the meter.
17. Gate valves shall be installed upstream and downstream the meter to isolate water flow from both directions.
18. Both valves shall be fully open while the meter is in service and no control of flow shall be made by regulating the inlet and outlet valve.
19. In addition to this a main isolation valve shall be installed on the header pipeline from the storage tank to isolate the supply in case of pipe breakages/maintenance works.
20. A Stopcock shall be installed prior to the meter for locking/disconnection of supply to meter.
21. A threaded joint/union shall be provided after the meter to make length adjustments for meter connection in accordance with the meter length.
22. Meter shall be protected from the risk of damage by shock or vibration induced by the surroundings.
23. Meter installation guidelines shall strictly be followed while installing the meter.
24. Meter shall be installed in accordance with the arrows shown on the body and register shall be arranged in the most convenient position for reading.
25. The meters shall be installed without any obstruction; away from air conditioning units, solar panels, dish antennas, radio masts, transceivers and any other devices/equipment installed on the roof, with sufficient clearance for installation, maintenance and reading of meters.
26. Detailed shop drawing shall be submitted for DEWA approval before commencement of work.
27. Meter should not be allowed to fall or receive impact damage as this may affect the operation and accuracy of the meter.
28. All connections shall be checked thoroughly for leak after installation of the meter.
29. All-time maintenance of the meters shall be taken into account while installing new meters.
30. Meter shall not be installed inside the cabinet or boxes that will prevent communication signals from the meter.
31. Water meter and its associated fittings/pipes shall not be part of electrical earthing.
32. Power socket (13 Amp, waterproof) shall be provided in a secured location on the roof.
33. A GRP Junction Box of dimension 150X150X80mm and IP68 rating (for up to 8 Water meters) shall be installed on the wall and fitted with a DIN rail inside as shown in the standard installation drawing PEW-STD-AMI-002.

34. A GI trunk of dimension 50X50X200mm and IP56 rating with metallic PG-7 glands (equal to the number of Water Meters near it) shall be installed under the Junction box and connected to it through a heavy duty 25mm dia. GI conduit and couplings.
35. In case of multiple Water meter groups located away from each other, their respective Junction Boxes shall be connected with each other through similar GI conduit and couplings as described above.
36. A heavy duty 25mm dia. GI conduit shall be laid between the Junction box installed on the block wall and LV room for Meter communication cable as shown the drawing. In case of multiple Junction Boxes, the nearest Junction box only shall be connected to LV room.
37. A two way GI junction box shall be provided at every 25m interval and each corner (direction change) of the conduit with metallic pulling spring for cable pulling purpose. The connection of conduit to Junction box shall be done with proper couplings/adaptors.
38. The conduit shall be GI if routed along walls/roof or CPVC (with wall thickness of 2.8mm) if laid concealed in concrete/block walls. In any case, while entering the LV room, the conduit shall be transformed to GI at a minimum of 2m distance before entering LV room.
39. A GI Junction Box of dimension 150X150X50mm and IP 56 rating shall be installed inside the LV room on wall at a suitable position at a height of 1600mm from finished floor level.
40. Clamping of the conduit shall be done at every 1m span with appropriate clamps/saddles. Connection of the conduit shall be through appropriate couplings/adaptors.
41. As built drawing of the communication installation shall be submitted for approval.
42. A/c. No. & Flat No. plates shall be affixed on the block work immediately adjacent to the meter (not on the meter) for identification.
43. There shall be provision of adequate drainage to remove flushed water.
44. A permanent Notice/Warning plate "Landlord/Customer is not allowed to install any other devices near the meter and also not allowed to do any modification to meter connection, pipes and fittings without written permission from DEWA" in Arabic and English language shall be affixed near the water meter.
45. Prepare As-built drawings showing the pipelines to the meter and after meter to the customer pipe connection to their storage tank and the PVC Conduit from meter to the building's LV room for communication cabling and submit to DEWA.
46. DEWA is responsible for the supply and installation of water meters for new connections. Meters are installed either by DEWA staff or Contractors acting on behalf of DEWA. Customers and property developers are responsible for supply and installation of all ancillary fittings and pipe-work beyond the meter in accordance with relevant DEWA specifications and standard drawings.

Reference Drawing: PEW-STD-AMI-002

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