

AFRITEL - TELECOM CHAMBER TC 800

PE CABLE CHAMBERS FOR TELECOMMUNICATION

1. Scope

AFRITEL TC800 is a flat bottom chamber and provide access for installation, cleaning and inspection by personnel (as per EN 476: 1997) to be used in buried telecommunication system to a maximum depth up to 1m from ground level. It provides for all maintenance works with access for personnel as well introduction of cleaning / inspection and test equipment.

It is made of PE material in accordance with European norms and is intended for electrical power cable, telecommunication cables and other cable junctions for installations in pedestrians or vehicular traffic areas outside building structures such as carriage ways, hard shoulders and parking areas.

2. Product description

- AFRITEL TC800 telecom chambers are manufactured of black UV stabilized PE as a monoblock structure with integrated ribbings which enhance the product resistance to compression.
- It has a flat base and conical riser shaft of internal dia. 800mm ID with a top (near-surface) cylinder of 600mm ID.
- It is manufactured in 500mm height from bottom to top of riser.
- AFRITEL telecom chamber allows for height extension with AFRITEL Handhole Extension chamber with height 500mm.
- The height of AFRITEL Handhole Extension chambers is adjusted by shortening the top cylinder. On the outside, there are marking rings at a distance of 1cm that allow an exact horizontal cut up to 300mm from the nominal height .
- AFRITEL TC800 telecom chambers allow connection of pipes according to IEC 61386 standard requirements. Standard connections from pipes Ø 32mm to Ø 160mm with various types of duct, smooth or corrugated PE / PVC / PP.
- The inlets and outlet pipes can be connected with a rubber seal joint at required level and can be manually extrusion welded directly to the chamber
- Water tightness of rubber seal joints to pipes connection according to EN 1277. No water infiltration up to 0.5 bar with pipes deflection of 5%.

Table 1. AFRITEL DN800 product coding

Product Code	Height mm	Wall Thickness mm	Top Opening mm
TC 800/500	500	10	600

The general dimensions of the chambers are shown in Fig. 1*

3. Manufacturing process

AFRITEL DN800 telecom chambers are manufactured by rotational molding process out of virgin polyethylene compound (in powder form). The PE compound contains incorporated required additives (carbon black) and no further treatment is required prior to use.

4. Handhole covers / rubber seal joints

- 4.1) AFRITEL TC800 cable chamber can be used with standard commercial CI manhole covers and precast concrete based ring (installation drawings are provided on request).
- 4.2) For use of the chambers in backyard connections or in green areas, AFRITEL TC800 can be supplied with "walkable PE" with labyrinth seal for direct shift-free assembly on the PE-chamber. For water tightness of AFRITEL PE cover, a rubber sealing joint can be used.
- 4.3) For connection of the pipes to the chamber wall, specially designed rubber seals (EPDM or SBR as per EN 681-1) are used which provide complete tightness with the pipes produced to IEC 61386.
The rubber seals can be used also to any position on the riser shaft, after drilling a hole with special size cup saw.
Water tightness of the seal at pipe deflection up to 5°, thus eliminating the risk of water ingress.

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5. Product properties and quality control

Raw material and finished products are subjected to quality control as per Quality Assurance Plan

Properties	Test Method	Requirements	Frequency
1) Raw Material (incoming raw material control)			
1.1) PE-powder compound			Each lot of PE compound
1.1.1) Bulk density, g/cm ³	ISO 60-1977	> 335	
1.1.2) Pourability, sec	ISO 6186	< 15 (Ø10mm)	
1.1.3) Granulometric (sieving) %	ISO 2591-1	> 70 (Ø.5mm)	
1.1.4) Humidity, %	ISO 1269	< 0.3	
1.2) PE-molded compound			
1.2.1) Density, g/cm ³	ISO 1183	≥ 0.937	
1.2.2) Melt index (190°C, 2.1kg)	ISO 1133	3 ÷ 6	
1.2.3) Tensile stress & yield, MPa	ISO 527	> 17	
2) Finished Product (in-process control)			
2.1) Outside diameter	Int. spec.		100%, each molded product
- Riser shaft, mm		820 ± 5	
- Top		613 ± 3	
2.2) Avg. wall thickness, mm ¹⁾ points T1 to T6 as per drawings No. 2 attached	Int. spec.	≥ 10.0	
2.3) Height of chamber, mm	Int. spec.	± 3	
3) Mechanical properties (final product inspection)			
3.1) Stiffness of riser shaft, kN/m ²	ISO 9969	≥ 2	Each lot of raw material or wall thickness change
3.2) Resistance of base (vacuum test) to ground water pressure at -0.1 H bar (but min. -0.2 bar), 100hrs where H = depth in meters	EN 1277	No damage to the base structure and deformation of the riser and cone	
3.3) Water tightness of sealing ring joints @ 23°C, 5° pipe deflection	EN 1277		
Water pressure 0.05 bar		No leakage	
Water pressure 0.5 bar		No leakage	
3.4) Impact resistance	(EN 744)	No cracks or other damages impairing the function of the base	
1 kg, 2.5 meters; r = 50mm;			
T = (23 ± 2)°			

Notes: 1) Wall thickness measurement by ultrasonic measuring device calibrated with the same molding material.

6. Identification

AFRITEL DN800 telecom chambers are marked in compliance to BS EN 13598-1 requirements including manufacturer's name, material, date of manufacture, nominal size, height, application area code and product standard.

7. Handling, storage, delivery

The low weight of AFRITEL TC800 allows to be handled manually by few persons during loading / unloading operations.

The chamber can be handled / stored in horizontal position. Care should be taken during storage and transportation to avoid scratches to the chamber base.

There are no particular requirements for storage of the AFRITEL TC800 chamber. They can be stored in any open storage in direct sunlight up to 12 months. However, it is recommended to take necessary precaution to avoid deformation under load during long term storage.

8. Utilization

The utilization of AFRITEL TC800 telecom chambers should respect the same code of practices as that of plastic pipes & fittings for telecommunication systems with regard to excavation, embedding, assembly and covering. STR provide installation procedure and technical support on request.

In case of ground water during installation a provisional ballast weight are to be provided to keep the chamber in place before final covering of excavation works

Reference Projects:

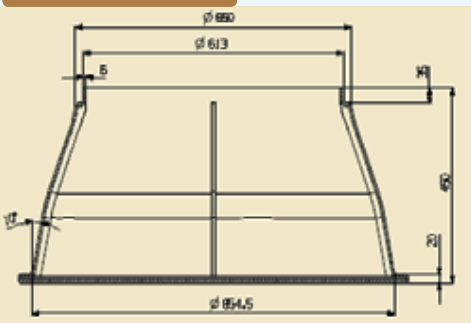
- Trou aux Biches Hotel
- Les Allées d'Helvetia
- Athena Villas
- St Regis Hotel
- Belle Rivière Hotel
- West Rock
- Jeetoo Hospital
- Bagatelle Mall of Mauritius
- Azure Villas
- La Mivoie commercial center
- Long Beach Hotel
- Villas Tamarin
- Beach House Hotel
- MCB Ebène

STR

*Figure 1

Product drawing & general dimensions

TC 800



CHAMBER ASSEMBLY



LID 600

