

المواصفات الفنية الخاصة بالمناقصة العامة

رقم المناقصة : (٢٠١١/١٣)

الخاصة بشراء وتوريد ملحقات شبكة (كبائن + فريمات

MDF + مقسمات)

المؤسسة العامة للاتصالات السلكية واللاسلكية

الإدارة العامة للمشتريات والمخازن

إدارة المشتريات - قسم العقود والمناقصات

Technical Specifications for Cabinet

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1. GENERAL NOTE

This specification covers the requirements for Cross Connection Cabinets and Cable Terminal Blocks which are designed to provide a flexibility point between Primary and Secondary cables in the Local Line Network.

2. TEMPERATURE REQUIREMENT

The cabinet and terminal block shall, without determinat, maintain the mechanical and electrical characteristics detailed in this specification throughout a temperature range of -10°C to 80°C unless otherwise specified.

3. TECHNICAL REQUIREMENTS

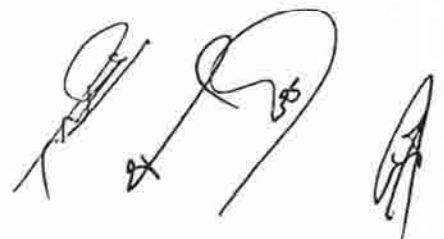
- 3.1 The principle use for the cabinet will be to provide a cross connection flexibility point between external cables which will be frequently accessed. The cabinet housing will be frequently accessed. The cabinet housing and termination assemblies shall be designed for outdoor installation, usually at a roadside or other public place, and will be expected to have a lifespan of at least 40 years.
- 3.2 The cabinet shall provide a controlled environment for its internal connections. It shall be totally impervious to rain and spray. Dessicant will normally be used to control the relative humidity inside the cabinet, which will therefore be reasonably watertight. However, since a fully sealed cabinet might suffer potentially damaging internal pressure changes due to changing temperatures, a very small leak path, sufficient only to allow pressure equalisation, should be provided, but this should not allow the ingress of rain or spray.
- 3.3 The base of the cabinet shall be so designed as to allow access for the cable as shown on the table (1). The entry access point shall be so arranged as to allow easy and continuous access for cabling to the termination points during the expected lifetime of the unit. The entries should also be sufficiently accessible, following cabinet erection, to allow working space for sealing of duct mouths.
- 3.4 The cabinet shall be constructed of glass reinforced polyester (GRP and be physically robust) or gray color coated stainless steel (1.25mm)thickness . During its lifetime it is likely to experience deliberate attacks by vandals and accidental blows from moving vehicles. It should be able to resist these impacts and loadings well.



- 3.5 The cabinets shall not be flammable. It shall be impossible, even by deliberate attack, to set fire to the cabinet and for it to continue burning after the heat source is removed.
- 3.6 The surface finish shall be able to resist the weathering of a 20 year life. It shall also exhibit a good abrasion resistance. The manufacturer shall detail a re-paint procedure which shall be practical under field conditions, and shall provide a desirable finish.
- 3.7 The cabinet shall be provided with:-
- i) Single door for small capacity and double hinged type in the front
 - ii) double door for bigger capacity
 - The door shall be water-tight and fitted with a sturdy and reliable lock device
 - Provision for a door lever to keep the door open while at work.
- 3.8 The cabinet shall be erected by securing to a preconstructed, horizontal concrete base using four (4) foundation bolts or equivalent.
- 3.9 The cabinet internal mounting framework shall be designed to accommodate a range of mountings which will support cross connection termination units and associated jumper rings. Each termination assembly shall have a capacity of one hundred (100) pairs. Connections between feeder and distribution pairs shall be made using individual waterproof wire connections.
- 3.10 The cabinet size shall be such that combined cross connection assemblies of the number of terminations mentioned in the Tender are available.
- 3.11 The Tenderer shall provide drawings indicating the overall shape and size of the cabinets offered, together with detailed installation instructions.
- 3.12 The Tenderer shall submit the weight of cabinets and accessories.

4. EARTH CONNECTION

The cabinet shall be provided with a suitable earth terminal strip, as also a hole of proper size (not more than 10 mm) for connection of an earth wire to an outside earth.



5. CABLE TERMINAL BLOCKS

- 5.1 The terminal blocks shall be designed for installation in the cabinet specified in the above paragraphs.
- 5.2 Terminal blocks shall be provided in sizes of 10X10 pair or 100 pairs for moisture-tight termination of plastic-insulated cables.
- 5.3 The springs shall provide a high and even contact pressure on the protection elements.
- 5.4 The springs shall be designed so that they can not be deformed when protectors are inserted or exchanged.
- 5.5 The earth bar shall be electrically connected to the earth terminal of the cabinet.
- 5.6 The earth bar shall allow connection of an earth wire of at least 3 mm diameter.
- 5.7 The blocks shall be manufactured with slot type terminals both for the incoming cable and the jumper wire.
- 5.8 The slot terminals shall be designed to meet the following requirements.
- 5.8.1 Accept insulated conductors of 0.32 to 0.65mm diameters including the insulation which will be 0.34mm approximately.
- 5.8.2 Accept wires of 0.4 mm and 0.5 mm diameter at the jumper wire side.
- 5.8.3 The additional resistance in the connecting point shall not exceed 10 milliohms when measured.
- 5.8.4 The contact quality shall be such that the resistance during normal usage shall not be greater than 20 milliohms.
- 5.8.5 The insulation resistance between adjacent terminals shall be not less than 10,000 megohms when tested according to MAT-061.
- 5.8.6 The dielectric strength shall be at least 2 KV without breakdown when tested.

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6. INSERTION TOOLS

Each cabinet shall be supplied with two insertion tools for inserting conductors into slots and must suit terminal blocks fitted.

7. COMPLIANCE

The Tenderers shall state their compliance with this specification. Any deviation suggested by a manufacturer, shall be fully documented and presented in the form of an alternative offer.

8. INSPECTION

Inspection shall be performed as per specification. The manufacturer shall keep suitable summary records of all the test data.

9. PACKING & MARKING

Packing and marking shall be performed as per P.T.C. standards.

* MUST CLAUSE

(I) Drawing and catalogue submission as mentioned in the specification in different paragraphs is must.

(ii) Filling of tables attached is must.

(iii) In addition to filling in tables clause by clause compliance with technically required details is must.

* * * END OF SPECIFICATION * * *

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Table (1)

S/N	Capacity of cabinet	H(mm)	W (mm)	D(mm)	Terminal Block		Entry hole for cable	No Of Door
					Hor	Vertcl		
1	3000p							
2	2400p							
3	1600p							
4	1500p							
5	1400p							
6	1200p							
7	800p							



Table 2

SINo	Item	Tender offer for all capacity
1	Mechanical characteristics of ccp	
1.1	Minimum life of cabinet and assemblies	
1.2	Impervious to rain and spray	
1.3	Entry for cable ducts	
1.4	Raw material for cabinet	
1.5	Fire proof	
1.6	Door fitting	
1.7	Drawing	
1.8	Insertion tools	
1.9	Marking on cabinet	
2	Accessories quantity (material & dimension) for each pcs according to order tender quantity cabinets	
3	Physical construction characteristics of terminal blocks	
3.1	Raw material of terminal block	
3.2	Type of material connection slide and thickness	
3.3	Conductor diameter	
3.4	Method of connection	
3.5	Dimension H * W * D (mm)	
4	Electrical characteristics of terminal blocks	
4.1	Insulation res.	
4.2	Res. of contact	
4.3	current	
4.4	Dielectric strength	
5	Mechanical char.	
5.1	Temp. range	
5.2	Relative humidity	
5.3	Corrosion resist.	
5.4	Cycle connection test	

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Technical Specification
For
MDF Terminal Bloc

**GENERAL TECHNICAL SPECIFICATIONS
FOR
MDF TERMINAL BLOCK UNITS**

1. General:

The terminal block units for MDF are used for terminating cables on exchange of the main distribution frames in telephone exchanges.

2. Requirements:

- 1- Terminal block of 100 pairs.
- 2- Bracket for fixing the terminal on the aluminum strip.
- 3- Ring Jumper guide.
- 4- Plastic strip (2-strips).
- 5- Insulation tape.
- 6- Earthing Wire set.
- 7- Insertion displacement (IDC).

3. Connection Requirements:

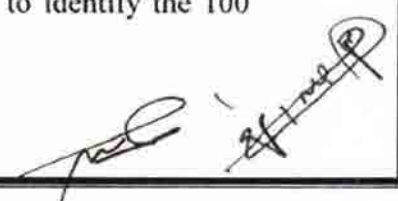
- 1- Should provide for terminating 100 pairs of cable.
- 2- Connection shall be possible.
- 3- For IDC, double pronged contacts should be used.
- 4- Two-wire connection should be possible for a T-connection.
- 5- Wire diameter are from 0.4 mm to 0.6 mm.
- 6- Connection of cable wires is from rear.
- 7- Connection of jumper wires is on the front plane.

4. Electrical requirements:

- 1- Contact resistance of wire connection should not exceed (20 milliohms).
- 2- Insulation resistance between to limbs of a pair and with earth plate greater than (10000 mega-ohms) at 500 VDC.
- 3- Dielectric strength better than (1000 V) effect at 50 Hz during one minute.

5. Mechanical requirements:

- 1- Material should of the self-extinguishing plastic type.
- 2- 10 pairs base modules assembled on extruded aluminum suitable for fixing horizontally on MDF.
- 3- Label holders with labels to identify each pair and to identify the 100 pair block.



6. Environment :

Should be capable of operation as per specification.

While in use in conditions of temperature up 45 °C and humidity 95%.

7. Information to be Furnished :

- 1- Technical description.
- 2- Compliance statement on the technical specification.
- 3- A schematic drawing showing the construction, assembly and fixing details with dimension.
- 4- Product sample.

8. Notes:

- 1- The tenderer shall state their compliance with this specification. Any deviations suggested by a manufacturer, shall be fully documented and may be presented in the form of an alternative offer.
- 2- The offer should be quoted with two options. The first option with fuses, and the second option without fuses.

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Republic of Yemen
Ministry of telecommunication and information technology

GENERAL SPECIFICATION
FOR
DISTRIBUTION POINTS



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1. GENERAL

This specification covers the external distribution points used for terminating subscribers' service lines.

2. TEMPERATURE

The boxes and terminal blocks shall be without detriment maintain the mechanical and electrical characteristics detailed in this specification throughout the temperature range of -20°C to $+80^{\circ}\text{C}$ unless otherwise stated.

3. EXTERNAL DISTRIBUTION POINTS

3.1 Boxes for overhead distribution of drop wires

3.1.1 The box shall be designed for termination of 10 pairs or as ordered.

3.1.2 The box shall be made of a weatherproof, corrosion, impact resistant The material shall be aluminum, stainless steel, strong plastic or fiber glass.

3.1.3 The box shall be ventilated and the ventilation holes provided with screens to prevent entry of insects.

3.1.4 The box shall be suitable for attachment to walls and steel poles by means of a fixing bracket made of corrosion-proof material.

3.1.5 The box shall be designed for connection to plastic-insulated cables

3.1.6 Holes, protected by grommets, shall be provided in the base for installation of drop wires. These grommets shall be capable of re-insertion to seal any remaining space after drop wire installation.

3.1.7 The box shall be allow the subscribers' service lines to be inserted from below.

3.1.8 The hood shall be attached to the body by chain, or by other means.

3.1.9 The body of the connecting (terminal) blocks shall be made of plastic material with high insulation properties.

3.1.10 If screw terminals are used not fully extractable screws shall be used for the subscribers' service lines and soldering tags or other method, approved by the P.T.C, for the cable conductors.

3.1.10 If screw terminals are used not fully extractable screws shall be used for the subscribers' service lines and soldering tags or other method, approved by the P.T.C, for the cable conductors.

3.1.11 It shall be possible to seal-off the cable side, once the conductors are terminated, to attain a fully moisture proof construction.

3.1.12 The connecting terminals shall be permit connection of drop wire.

3.1.13 The insulation resistance between adjacent terminals shall not be less than 10,000 megaohms.

3.1.14 An earth bar shall be electrically connected to the frame of the box.

3.1.15 The earth bar shall be allow connection of at least one earth wire of 3 mm diameter.

4. EXTERNAL DISTRIBUTION POINTS

4.1 Boxes for pole & wall mounting

4.1.1 Boxes are required with a capacity of 10 pairs, 20 pairs and the dimensions 10p -(220L * 170 W*80 D)
20p -(270L * 240 W*80 D) .

4.1.2 The boxes shall be consist of rear section, which is fixed to the wall by means of screws and a cover which shall be removeable. The cover shall be attached to the rear section by chain or by other means.

4.1.3 The boxes shall be designed so that the connecting blocks can be installed and removed easily.

4.1.4 Both the rear section and the cover shall be made from an impact resistant material.

4.1.5 The box shall be have no sharp edges. Small dimensions are an advantage.

4.1.6 The boxes shall be corrosion resistant dust and insect-proof.

4.1.7 The connecting blocks shall be 10 pairs, designed for two-sided connection.

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4.1.8 If screw terminal are used not fully extractable screws shall be used for the internal wires and soldering tags or other method, approved by the P.T.C. for the cable conductors.

4.1.9 The body of the connecting block shall be of plastic material with good insulation properties.

4.1.10 Under the connecting screws there shall be slots permitting the wire end to be inserted straight without being looped.

4.1.11 The insulation resistance between the terminals of the terminal blocks shall not be less than 10,000 megaohms.

4.2 Boxes for flush (recessed) Mounting

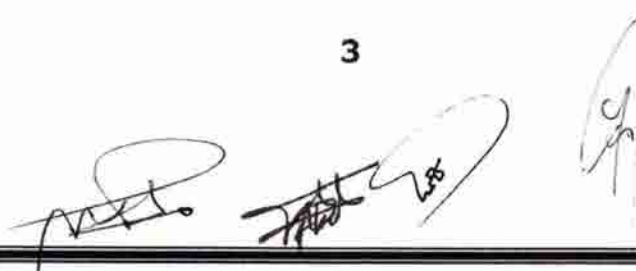
4.2.1 Boxes are required with a capacity of up to 10&20 pairs.

4.2.2 The boxes shall be designed to be installed in a wall& pole

4.2.3 The boxes shall be consist of a box or a frame, a racking to which the connecting blocks can be attached, and a door.

4.2.4 The boxes shall be designed so that the connecting blocks described under paragraph 4.1.7. and 4.1.8 above can easily be installed and removed.

4.2.5 All metallic parts shall be treated against corrosion.

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5. COMPLIANCE

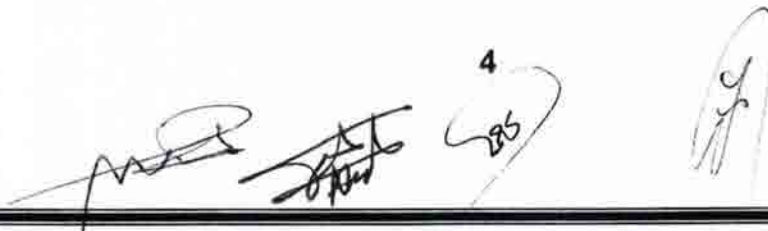
The tenderer shall be state their compliance with this specification. Any deviation suggested by a manufacturer shall be fully documented and presented in the form of an alternative offer.

6. INSPECTION

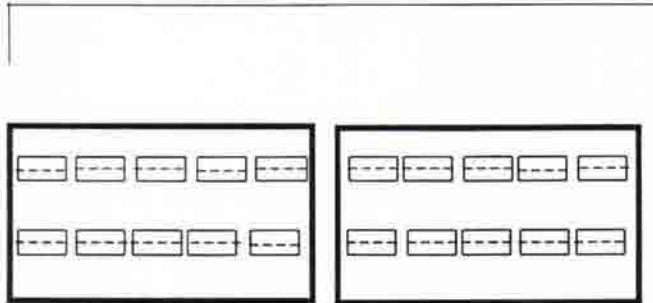
Inspection shall be performed as per specification. The manufacturer shall keep suitable summary records of all test data according to P.T.C. standards and mat 0.61 .

7. PACKING AND MARKING

Packing and marking shall be performed according to P.T.C. standards and mat 0.62 .

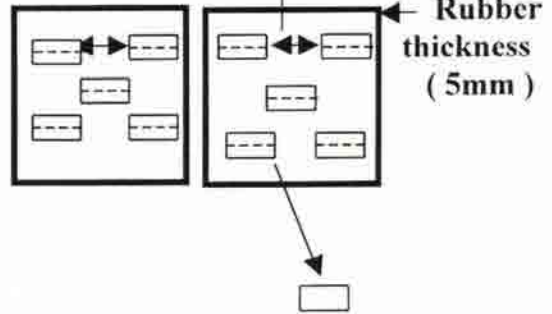
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For (20 pair DP)



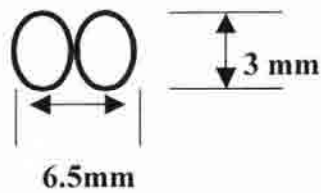
For (10 pair DP)

Distance between hole to hole
(3 mm)

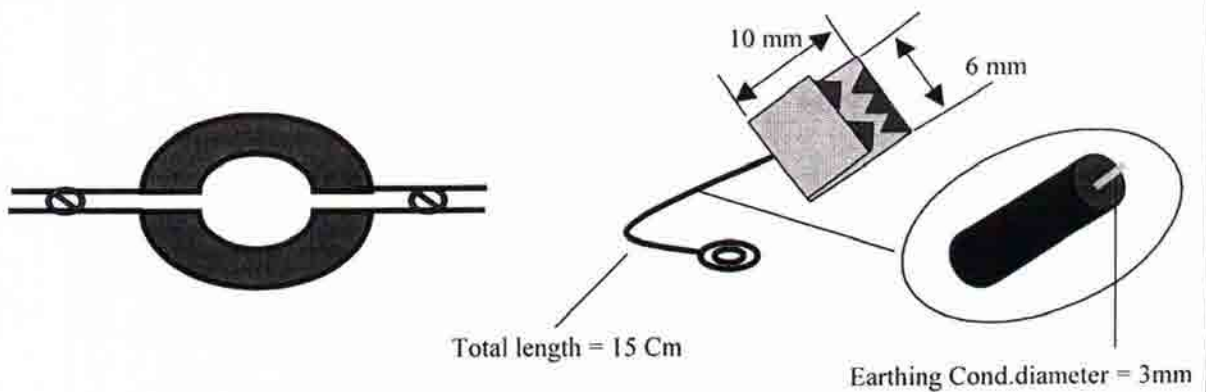


The entry of Drop wire
must be expanded from (4 mm)
to (6.5mm) while installation

Outer diameter of drop wire : (6.5* 3 mm)



Drope wire's entry holes



Cable clamp

earthing slide

5
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Information must be submitted with the tender :

S/N	Requirement of PTC	Capacity of DP		Notes :
		10P	20P	
1	Dimensions (mm) 10 P - (220L*170 W*80 D) 20 P - (270L*240 W*80 D)			
2	Type of Boxes material			
3	Conductors diameter (0.4 - 0.65mm) at back terminals (0.9 - 1 mm) at front terminals			
4	Mainly used in Pole & wall			
5	Terminals nuts are bright nicklebrass or (S.steel) which resist corrosion			
6	Cable clamp (as in figure)			
7	Connecting cable on terminal strep at the back			
8	Cable entry holes : 10 P (18 mm) 20 P (20 mm)			
9	Type of lock			
10	Wire guide inside the box higes			
11	Type of cover (hinged)			
12	Water & insect proof by complet rubber inside the cover			
13	Easy to assemble			
14	Simple to operate & maintain			
15	Earthing slide : conductor diameter Wire's length			
16	Drope wire's entry holes (as in figure)			
17	Temperature & humidity			
18	Impact			
	Electerical charac.			
1	Insulation resistance (10000 M Ω)			
2	Contact resistance (3 m Ω)			
3	Dielectric strength			
-	Samples must be found			
-	Catalog & document must be found			

** Any suggestion by manufacturer shall be fully in the table above

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**Schedule to tender No. 13/2011
for the supply of
Cabinets + Terminal Blocks (MDF) + Distribution Boxes**

No.	Item descriptions	Quantity	Unit Price	Total Price
1.	Cabinet 1500P Capacity with Connection Modules	20		
2.	Terminal Block Units for MDF with Fuses	980		
3.	Distribution Boxes of 10 Pairs	8,000		

NOTES: -

The tenderers must reply to the following points, otherwise this offer will be rejected: -

1. Statement of complete form manufacturing company regarding the compliance with PTC specifications.
2. Respond to and comply with PTC Technical schedules.
3. Catalogs and documents, containing instructions on how to install Cables.
4. Manufacturer's brand name must be embossed on samples, which must be applicable to the submitted offer, as per PTC specifications.
5. Manufacturer must submit company profile and experience.

ملاحظات:-

- ١- الإجابة العملية من الشركة المصنعة على كل مواصفات المؤسسة (عروض الاستجابة).
- ٢- الإجابة على المواصفات الفنية الموضحة في الجداول الفنية.
- ٣- الكاتلوجات والوثائق التي توضح تركيب الكابلات المطلوبة.
- ٤- العينات المقدمة يجب أن تكون مطابقة للعرض المقدم وأن يكون محدد عليها بحرف اسم الشركة المصنعة.
- ٥- الخبرة التزويدية للمصنع.