المواصفات الفنية الخاصة بالمناقصة العامة

رقم المناقصة : (٢٠١٣/١٦)

الخاصة بشراء وتوريد

عدد (٣٠) Optical Distrbution Frame

(ODF)

المؤسسة العامة للاتصالات السلكية واللاسلكية

الإدارة العامة للمشتريات والمخازن

إدارة المشتريات - قسم العقود والمناقصات

OPTICAL DISTRIBUTION FRAM(ODF)

Rack mounted , modular ODF Units with high capacity at least 720 up to 1000 FC/PC fiber Integrated Splicing and Distribution ODF

Functions:

- **Optical cable fixation and protection**
- **Optical cable termination**
- **Patching**
- **Protection of optical fiber and pigtail**

General description for the ODF

1- **The ODF should be consist of shelves mounted in a RACK .**
2- **The Rack should be stainless steel have a front and back doors for easy access to the ODF units .**
3- **The front side of the Rack should be divided into two parts :**
   - **standard width (19") , the height divided to RU for ODF units mounting**
   - **a large space for extra fiber batch cord rolling .**
4- **The back of the Rack should have area for cables fixing in the both sides with parts to clamp the cable strength member to prevent pulling out the cable from the Rack , also should have paths for loose tubes protection and large space for extra fiber patch cord rolling .**
5- **The Rack should have big entries in the upper side for fiber batch cord entering , also should have big entries in the lower side for cables or fiber batch cord entering (at least 20 cables entrance space) in comfortable , safe and fixed way , inside each entries there should be a protection rubber around for safe passing for the cables or fiber patch cord .**
6- **The Rack should be easy to install on false floor or on paved floor and should come with all materials needed for installation .**
7- **The Rack dimensions should be ((900mm(W)x600mm(D)x2200mm(H))) ± 10% .**

8- The ODF unit should be divided into modules designed as drawers could be pulled out and pushed in easily , To facilitate splicing process and maintenance .

9- The ODF units (shelves)should come in a standard width (19") ,could be installed in any standard Rack , stainless steel or aluminum with door in the front for easy access to the front panel of the ODF modules .

10- it should have entries in the back and the sides of the ODF unit for entering the loose tubes to the splicing trays .

11- Each ODF module consists of two connected parts :

- a tray for cable splice with the pigtails .
- a front panel for FC/PC adaptors holding and connecting with fiber patch cords .

12- The modules should be high quality plastic , fixed in the DOF units by metallic screws , have FC/PC adaptors in horizontal way , marked by the port number and should allow 30 degree oblique installation for FC/PC adaptors , the trays should have holders for the extra loose tubes and pigtails .

13- The modules should be separated from each other by a plate covering the tray to Safe fiber .

Specifications of the Rack

1- The Rack material should be Stainless steel .

2- The Rack dimensions should be ((900mm(W)x600mm(D)x2200mm(H))) ± 10% .

3- Large space for optical fiber cables entry in upper and lower sides (up to 20 cables)in comfortable , safe and fixed way .

4- The cables must have easy access to the ODF shelves and its trays , with bending at least > 15 times of its diameter when it enters the rack .

5- The Rack must come with all the installation parts for fixing the Rack on the false floor or on paved floor especially :

- changeable height metallic base for holding and supporting the rack when fixed on false floor .
- supporting rods for fixing the rack to the wall .
- metallic parts for connecting the rack with adjacent racks .

the Rack should have holes in the upper surface to enable fixing it and fixing ladders or fiber trunks over it .

Specifications of the ODF UNITS(shelves)

1- neat appearance, reasonable structure , easy access from front and back .
2- the ODF should be made of stainless steel or aluminum , modules should be made of strong plastic .
3- any components made from plastic or metal should be of excellent anti-corrosion resistant , all components made from metal should be static plastic sprayed ; the physical and chemical capabilities of the material should be stable and should be compatible with each other .
4- The ODF units should be (72) FC/PC adaptors .
5- Fiber Optic Splice Tray must have capacity of 12 fiber splice , enough space to allow bending the fiber with radius not be less than 32mm and for operation of re-splice fibers .
6- The tray must have 12 protection sleeve slots line next to each other, and must not allow sleeves to be stacked one on top of the other .
7- The ODF units should come with Splicing sleeves , pigtails , FC/PC adaptors for the full ODF unit capacity .
8- The Racks should come with the full capacity of ODF units .
9- Pigtails are single mode fibers 9/125µm , 1meters length , connector insertion loss: ≤0.3dB - Return loss: PC≥45 db , Re-insertion life >1000 times mechanical performance comply with the ITU Recommendation G.671 .
10- Totally metallic adaptors FC/PC single mode .
11- Insulating resistance between the ODF and the earthing device:1000MΩ/500V_{DC}
12- Full ODF capacity good quality adhesive labels for ODF shelves , cables and patch cords .
13- The front door of the ODF shelf should come with table illustrating the ports names and notes .
14- The ODF units should Come with cable fixing materials .

Environment specifications

1- Working temperature: -10℃~+80℃
2- Storage temperature: -25℃~+85℃
3- Relative humidity : ≤85%(+30℃)
4- Air pressure: 70KPa~106Kpa .

GENERAL REQUIRMENTS

1- The RACK & ODF should be designed for a life expectancy of at least 30 years .
2- The tender should offer catalogues for each type which clear the mechanical construction details , dimensions , drawing of the product offered and the installation construction and should be in English language .
3- The tender should offer one sample of the ODF .
4- Information to be supplied : manufacturer name – country of origin – Model/code no. – ODF contents – materials used – international standards obeyed - operating environments .
5- Test certifications should be in English language and must be enclosed with your offer .
6- The factory test shall be performed at the manufacturer facilities with presence of PTC representative to verify that the equipment meets the performance requirements ,,the test should include the following :
   a- insertion loss , return loss .
   b- torsion tests , Insulating resistance test , temperature check , load check , etc ... .

These minimum requirements are in general and you can offer any extra features or different design for the same purpose .

item	spec. of Y.T	spec. of company
1- RACK		
Rack material	Stainless steel	
Rack capacity	≥ 720 Up to 1000 fiber	
Rack dimensions (mm)(HXWXD)	900(W)x600(D)x2200(H)	
Rack fixing	indoor stand alone on false floor or paved floor	
Construction of the Rack and conformability of entering cables	2 doors in Front and in back , entries up and down,cable curvature >15 times of its diameter .	
No. of cable entries	≥ 20	
the clamping and sealing of the inlet fiber and patch cords	rubber loop	
the clamp parts of the cable strength member	fixed interface	
the cable clamp	suitable and strong clamp	
Providing installation materials	Installation base – supports - …etc	
Rack locking	found	
2- ODF unit		
ODF unit material	Stainless steel or aluminum	
Construction of the ODF unit	Front door , openings in the back and in the sides	
ODF unit capacity	72	
ODF unit dimensions	19" width	
ODF fixing	Inside the Rack	
3- ODF modules		
ODF Modules material	High quality strong plastic	
No. of module per ODF unit	6	
module capacity	12 fiber splicing , 12 FC/PC adaptors	
Material and type of adapter	Metallic FC/PC	
Adaptors position	30 degree oblique installation	
adapter arrangement	Horizontal	
diameter of pigtail	3mm	
the length of pigtail	1Meter	
type of pigtail	FC/PC(sm)	
Insertion loss	≤0.3dB	
Return loss	PC≥45 db	
the length of splice sleeves	40 to 60mm	
store area for:-		
1-fiber	enough area > 32mm radius	
2-pigtail	enough area	
3-loose tube	enough area	
4-patch cord	enough area	
Life expectancy	30 years	

Bill of Quantities for Optical Distribution Frames (ODF) with Racks

الصنف	السعة	التكلفة التقديرية للوحد (US$)	الكمية المطلوبة	اجمالي التكلفة التقديرية (US$)
Optical Distribution Frame (ODF)/Every one with full capacities of ODF units (720-1000), and every ODF unit should be (72) FC/PC adapter.	720 – 1000		30