

INDIAN INSTITUTE OF TECHNOLOGY INDORE

SIMROL, KHANDWA ROAD, INDORE 453 552

www.iiti.ac.in



TENDER DOCUMENT FOR

IT work of Faculty Housing (FH07) Building at IIT Indore

Tender No. IITI/ ES/ PR/ E/ NIT/ FH-07/ IT/ 2017-18/ 04

INDIAN INSTITUTE OF TECHNOLOGY INDORE

NOTICE INVITING TENDER (NIT)

No. IITI/ ES/ PR/ E/ NIT/ FH-07/ IT/ 2017-18/ 04

Dated: July 11, 2017

Indian Institute of Technology (IIT) Indore invites sealed Quotations from the contractors/agencies satisfying eligibility criteria for **item rate contract**:

Name of work:- IT work of Faculty Housing (FH07) building at IIT Indore

Estimated cost of the work: **Rs. 11.26 lacs** (Based on Non-DSR on market rates.)
(Rupees Eleven lakhs Twenty Six Lakhs)

Earnest Money Deposit (EMD): **Rs. 22,000/-** (Twenty Two Thousand) only

Time for completion of work 30 Days

- 1 Issue of Tender Document** : Blank tender documents consisting of GCC, Technical specifications, price schedule along with BOQ of the work to be executed and the set of terms and conditions can be downloaded from institute website: <http://www.iiti.ac.in/tender.php> **from July 12, 2017 to July 18, 2017.**
- 2 Cost of Tender document** is Rs. 1000/- (One Thousand) only and payable at the time of submission of tender document in the form of demand draft / pay order drawn in favour of "Registrar, Indian Institute of Technology Indore" payable at Indore. (Cost of tender documents is non-refundable)
- 3 Eligibility conditions** for vendor to qualify for participation into the competition bidding. Documentary evidence shall be submitted for:
 - 3.1 Production of the definite proof from the appropriate authority, which shall be to the satisfaction of the competent authority, of having satisfactorily completed similar nature of works of during the last 5 years with following conditions.
 - a) Magnitude costing of one work not less than Rs. 9 lac OR
 - b) Magnitude costing of two works not less than Rs. 6.8 lac. OR
 - c) Magnitude costing of three works not less than Rs 4.5 lac.
 - 3.2 Proof of latest submission of Income Tax returns for the last 3 financial years as on 31/03/2017 along with copy of PAN/TIN No.
 - 3.3 Contractor must have a minimum average financial turnover of Rs. 3.3 lac on Passive Networking work during last three financial years.
 - 3.4 Contractor must have a solvency of Rs. 4.5 lac. Solvency Certificate is need by Scheduled form to be provided.

- 3.5 The contractor should not have incurred loss in more than two years during the last five years ending March 2017.
4. Joint venture companies would not be allowed to participate.
5. The tender(s) shall be accompanied by the Earnest money **Rs. 22,000/-** in the form of demand draft / pay order of a schedule bank issued in favour “Registrar, Indian Institute of Technology Indore” payable at Indore.
6. The each and every page of tender documents should be sealed & signed by authorized person of the firm/ contractor while submitting the tender.
7. The time allowed for carrying out the work shall be one month reckoned from the 2nd day after the date of written orders to commence the work.
8. **Submission of Tenders:** Tender is a two bid system and should be submitted in sealed envelope, superscripting the name of work and due date. The tenders will be received in the **Office of the Superintending Engineer & Project in-charge, Indian Institute of Technology Indore, Khandwa Road, Simrol campus Indore 453 552 (Madhya Pradesh), only up to 15.00 hrs. on July 18, 2017 and shall be opened on the same day at 15.30 hours in presence of the tenderers or their representative** who may be present at the stipulated time & venue of tender opening with proof of representing the company.
9. The tenderer(s) shall submit tenders in three sealed covers.
- The first envelope shall contain the tender fee & earnest money deposit in the manner as indicated.
 - The second envelope should contain the tender document along with the eligibility documents. (Please refer point no.3 in NIT)
 - The third envelope shall contain the financial bid (Price bid/BOQ).
- Note:
- In case, 1st cover earnest money is not in proper form, the tenders shall be out rightly rejected.
 - Financial bid will be opened of that vendor, who qualify in technically & eligible criteria in first bid.
10. **Submission of Queries, if any:** There would be **no Pre-bid meeting** held for this tender, however if there are any queries regarding to this tender, the bidder may mail his queries on the given mail id dhirajv@iiti.ac.in for the same on or before July 15, 2017 (16.00 hrs). IIT Indore reserve the right to modify the tender condition, if need be and which will form a part of tender.
11. **Inspection and examination of the site:** Tenderers are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their tenders as to the nature of the ground and sub-soil, the form and nature of the site, the means of access to the

site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their tender. A tenderer shall be deemed to have full knowledge of the site once the tender is submitted. No extra charges consequent upon any misunderstanding or otherwise shall be allowed. The tenderer shall be responsible for arranging and maintaining at his own cost all materials, tools & plants, water, electricity access facilities for the workers and all other service required for executing the work unless otherwise specifically provided for in the contract documents. Submission of a tender by a tenderer implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the work to be done and of conditions and rates at which stores, tools and plant etc will be issued to him and local conditions and other factors having a bearing on the execution of the work.

12. The competent authority on behalf of, Indian Institute of Technology Indore , does not bind itself to accept the lowest or any other tender, and reserves the right to reject any or all of the tenders received without assigning any reasons thereof. Tenders in which any of the prescribed condition are not fulfilled or any condition including that of the conditional rebate put forth by the tenderer shall be summarily rejected.
13. Canvassing in any form whether directly or indirectly, in connection with tenders is strictly prohibited and the tenders submitted by the contractors who resort to canvassing will be liable to rejection.
14. The competent authority of IIT Indore reserves the right of accepting the whole or any part of the tender and the tenderer shall be bound to execute the same at the rates quoted.
15. No engineer of gazetted rank or other gazetted officer employed in Engineering or Administrative duties in an Engineering Department of the Government of India is allowed to work as a contractor for a period of two years after his retirement from Government service, without the previous permission of the Government of India in writing .The contract is liable to be cancelled if either the contractor or any of his employees is found at any time to be such a person who had not obtained the permission of the Government of India aforesaid before submission of the tender or engagement in the contractors service.
16. The tender for the work shall remain open for acceptance for a period of 90 days from the date of opening of tenders. If any tenderer withdrawn his tender before the said period or makes any modifications in the terms and conditions of the tender which are not acceptable to the IIT Indore or its authorized representative shall, without prejudice to any other right or remedy be liable to forfeiture of the said earnest money absolutely.
17. Transfer of bidding documents purchased by one individual bidder to another bidder is not permissible.

Address of Communication:

**Superintending Engineer & Project In-Charge
IIT Indore, Simrol Campus, Indore – 453 552**

GENERAL CONDITIONS OF TENDER

1. **Submission of Tender:** Tenders should be submitted in sealed envelopes in two Parts separately, i.e. "Technical bid" (Part-A) and "Price bid" (Part-B). Both the parts should be further sealed in an envelope super-scribing Tender No & name of work, due date for opening, bidders name & address. The tender duly filled in may be sent to above-mentioned address either by post or hand delivered in the tender box.

2. **Technical Bid (Part-A):**In this bid, the bidder should submit his company profile, organizational setup, credentials, copies of work orders (in the field of Institutional Campuses, preferred)for Copper passive networks successfully executed during last three years. No deviations in respect of TENDER conditions are acceptable. It is mandatory on bidder to quote for all items asked for in the scope of work. The bidders are required to attach entire TENDER (except for the price bid part) duly signed & stamped as a token of acceptance to the TENDER conditions with this bid.

The following specific conditions are essential for pre-qualification:-

- **Copies of work orders/ Satisfactory Installation reports of atleast one installations in Campuses or Corporate sector for copper networks placed on the bidder in the last three years.**
- **Entire TENDER (except Price bid) duly signed & stamped by the bidder.**
- **Attach, proposed solution, with the BOQ (if any). If there is any non-compliance, kindly mention the same with requisite justification/ comments. The decision of purchase is duly on sole discretion of IIT INDORE.**
- **A document detailing the organization strength/ turnover of networking projects in last financial year.**

No deviations from the technical specifications listed above will ordinarily be permitted. However, **IIT INDORE** reserves the right of final decision regarding acceptable technical specifications.

Price Bid (Part-B): In this bid the bidder is required to quote his items rates/prices for the works mentioned in the scope of work & technical specifications. The rates / price should be inclusive of all material cost, freight, insurance, Govt. duties, taxes, and levies up to IIT INDORE site basis. It is mandatory on bidder to quote all items rate as asked for in the scope of work. Failure to adhere to this condition will lead to rejection of tender. The bidders should quote unconditional rates, neatly written without any overwriting and duly signed & stamped on all pages.

3. **Validity of Tender:** Tender shall be valid for our acceptance without any change in rates and TENDER conditions for a period of 90 days from the date of opening of price bid.

4. **Completion time:** The time shall be the essence of this contract and entire work as titled above is to be completed in all respects within a period of four weeks from the 2nd day of issue of LOI / Purchase order by **IIT INDORE**. Under the force-majeure conditions or delay due to reasons beyond control of the contractor, **IIT INDORE** may grant suitable time extension for which the contractor has to request along with the justification / reasons well in advance to the Director, **IIT INDORE** for approval without any prejudice to price escalation.

No time extension request shall be considered after the expiry of completion period / contract. The decision of the Director will be final and binding on the bidder / contractor.

5. **Correspondence** : All correspondence in respect of tender / contractual obligation shall be made to

Engineer in-Charge

Superintending Engineer & Project In-charge
IIT Indore, Simrol Campus, Khandwa Road
Indore 452 553

6. **Terms of Payment** :

- All quoted rates should be inclusive of all taxes and transport etc.
- Payment shall be made in form running bill once in a 25 days.
- Full & final payment will be made one month after the completion of satisfactory work and submission of all necessary guarantee/warranty certificates.
- No advance would be paid by IIT.
- Income tax and other necessary taxes will be deducted at source.

7. **Performance Guarantee**

- The Contractor shall submit an irrevocable Performance Guarantee of 5% (Five percent) of the tendered amount in addition to other deposits mentioned elsewhere in the contract for his proper performance of the contract agreement in favour of Registrar, IIT Indore.
- This Guarantee shall be in form of deposit at call receipt of any Schedule Bank/Banker's Cheque/Fixed Deposit Receipt.
- The performance guarantee shall be initially valid up to the stipulated date of completion plus 30 days beyond that. In case the time for completion of work gets extended, the contractor shall get the validity of Performance Guarantee extended to cover such extended time for completion of work.

8. **Guarantee/Defect liability period**: The contractor should guarantee for the works / items executed / supplied by him from manufacturing / engineering defects and bad material / workmanship for a period of at least **12 months** from the date of acceptance by IIT INDORE. During this period if any replacement of items and / or repairs / rectification is needed, he shall make the same free of cost.

During this period, and on instructions from the Project team, the Contractor shall, at his own expense, promptly replace all defective fixtures and materials supplied and installed by him to the full satisfaction of the Engineering in-charge.

The Contractor shall also be responsible for all costs associated with damage to the work of this Contract arising from defective materials, equipment or faulty workmanship supplied or performed under the Contract until the end of the defects liability period.

During the defects liability, the Contractor shall provide 24-hour emergency service with a maximum response time of 2 hours.

9. Technical Support: Contractor / System Integrator, would enable onsite support for the period of at-least 03months after the go-live of the property.

10. Recovery of Security Deposit:

The person/persons whose tender(s) may be accepted (hereinafter called the contractor) shall permit IIT Indore at the time of making any payment to him for work done under the contract to deduct a sum at the rate of 2.5% of the gross amount of each running bill till the sum along with the sum already deposited as earnest money, will amount to security deposit of 2.5% of the tendered value of the work. Such deductions will be made and held by IIT Indore by way of Security Deposit unless he/ they has/have deposited the amount of Security at the rate mentioned above in the form of Government Securities or fixed deposit receipts. In case of fixed deposit receipt of any Bank is furnished by the contractor to the IIT Indore as part of the security deposit and the Bank is unable to make payment against the said fixed deposit receipt, the loss caused thereby shall fall on the contractor and the contractor shall forthwith on demand furnish additional security to the Director IIT Indore to make good the deficit.

11. Selected Supplier Must Agree: to supply all the technical details, service and user manuals to IIT INDORE free of cost.

12. IIT INDORE reserves the right: to change the quantity and specifications and also to accept or reject any or all the tenders in full or in part without assigning any reasons whatsoever, and the decision of IIT INDORE in this regard will be binding on all the bidders. Tenders not complying with any of the provisions stated in this tender document are liable to be rejected. Director, IIT INDORE reserves the right to accept or reject any tender without assigning any reason and does not bind himself to accept the lowest tender.

13. Tender once submitted will remain with the IIT INDORE and will not be returned to the bidders.

14. BOQ & Basic design report can be changed by IIT at any point of time before awarding the tender, to incorporate latest technical trends.

15. Measurement of Item: Procedure of measurement of all the items will be done by contractor in presence of authorized representative of Engineering in-charge in the prescribed format as per instruction of Engineering in-charge.

16. Extra Item: Extra items, if deemed to have requirement, may be requisitioned to Engineering in-charge with appropriate justification for his approval. No extra item would be deployed without appropriate approval from Engineering in-charge. The rate for such extra item would be determined by Engineering in-charge as per DSR and/or market rate as decided by Engineering in-charge.

17. Addition/Deletion of Item:

Institute reserves the right at the time of award of the contract to cancel purchase/Execute of any of the items mentioned in the schedule of quantities.

18. Foreclosure of Contract to Abandonment or Reduction in Scope of Work:

If at any time after acceptance of the tender, IIT Indore shall decide to abandon or reduce the scope of the works for any reason whatsoever and hence not require the whole or any part of the works to be carried out, the Engineer-in-Charge shall give notice in writing to that effect to the contractor and the contractor shall act accordingly in the matter. The contractor shall have no claim to any payment or compensation or otherwise whatsoever, on account of any profit or advantage which he might have derived from the execution of the works in full but which he did not derive in consequence of the foreclosure of the whole or part of the works.

19. Power Supply: The contractor will have to make his own arrangement for electricity, either by taking Temporary Electric connection from the local authority or by using DG sets.

20. Tools & tackles: All machinery, tools and tackles required for the work shall be arranged by the contractor on his own cost. No machinery & tools shall be supplied by the Institute.

21. CPWD General Condition of Contract (GCC) with up to date slip would be applicable in the contract. Successful tenderer shall sign CPWD-GCC and agreement with Engineering-in-charge. Schedules are given from next page.

22. Dispute Resolution: Any dispute arising out of this contract will be subjected to jurisdiction of INDORE, MADHYA PARDESH..

Accepted

(Signature of Bidder)

SCHEDULES

SCHEDULE- 'A'

Attached as Bill of Quantities along with tender document

SCHEDULE -'B'

Schedule of material to be issued to the contractor

S. n o	Description of Item	Quantity	Rates in Figure & words at which the material will be charged to the contractor	Place of issue
1	2	3	4	5
----- Nil -----				

SCHEDULE- 'C'

Tools and plants to be hired to the contractor

S N	Description	Hire charges per day	Place of issue
1	2	3	4
----- IIT Indore will not provide any tools and plants-----			

SCHEDULE- 'D'

Extra schedule for specific requirement /document for the work if any:- NIL

SCHEDULE- 'E' -

Reference to General Conditions of contract. 2014

- Name of work: IT work of Faculty Housing (FH07) building at IIT Indore
 Estimated cost of work: Rs. 11.26 lacs
 (i) Earnest money: Rs. 22,000/- (Twenty Two Thousand) only (to be returned after receiving performance guarantee).
 (ii) Performance Guarantee: 5% of tendered value to be deposited within 5 days of work award.
 (iii) Security Deposit: 2.5% of the gross amount of each running bill and to be deducted from each bills
 (iv) Schedule of Rates: based on Market Rates.
 (v) Time of Completion: **1 Months** from the date of commencement.

SCHEDULE- 'F'

GENERAL RULES & DIRECTIONS:-

Officer inviting tender: - Project In-charge, IIT Indore

Maximum percentage for quantity of items of work to be executed beyond which rates are to be determined in accordance with Clauses 12.2 & 12.3. See below

Definitions:

2(v)	Engineer-in-Charge	Project Incharge
2(viii)	Accepting Authority	Director, IIT Indore
2(x)	Percentage on cost of materials and labour to cover all overheads and profits.	15%
2(xi)	Standard Schedule of Rates	Upto date
2(xii)	Department	Estate Section, IIT Indore
9(ii)	Standard CPWD contract Form GCC 2014, CPWD Form 7/ 8 as modified & corrected upto 2014	

Clause 1

- (i) Time allowed for submission of Performance Guarantee from the date of issue of letter of acceptance 5 days
- (ii) Maximum allowable extension with late fee @ 0.1% per day of Performance Guarantee amount beyond the period provided in (i) above 10 days*

Clause 2

Authority for fixing compensation under clause 2. Director, IIT Indore

Clause 2A

Whether Clause 2A shall be applicable No

Clause 5

Number of days from the date of issue of letter of acceptance for reckoning date of start 2 days

Mile stone(s) – work to be completed in one month and on initial basis - 2BHK side work shall be taken up on priority along with 24U Rack and OFC.

Authority to decide:

- | | | |
|-------|--|------------------------------|
| (i) | Extension of time | Dean, Planning of IIT Indore |
| (ii) | Rescheduling of mile stones | Project In-charge |
| (iii) | Shifting of date of start in case of delay in handing over of site | Project In-charge |

Clause 6, 6A

Clause applicable - (6 or 6A)

6 A (Computerized Measurement Book)

Clause 10A

List of testing equipment to be provided by the contractor at site lab.
Refer Conditions of Contract

Clause 10B

Whether Clause 10 B (ii) shall be applicable **No advance**

Clause 10C

Component of labour expressed as percent of value of work =% Not Applicable

Clause 10 CA & 10 CC

Not Applicable

Clause 12

Type of work I T work (Passive)

12.2 & 12.3

Deviation Limit beyond which clauses 12.2 & 12.3 shall apply for work 30%

Clause 16

Competent Authority for deciding reduced rates Project In-charge

Clause 25

Constitution of Dispute Redressal Committee (DRC)

Chairman – Dean, Planning

Member - Project In-charge

Member - Institute Computer Committee, Convener

DESIGN DESCRIPTION

IITINDORE is coming up with New Building namely “**Faculty Housing (FH07)**”. It has Ground + 6 Floors consisting of 54 Flats and one community hall.

STRUCTURED CABLING & PASSIVE COMPONENTS:

Building is divided into two parts. Each part is served by an ELV shaft. Structured CAT 6 UTP cabling is distributed through the Rack installed on each shaft. The shafts on each floor will be connected through optical fiber cable to main rack installed in main distribution room on ground floor of the building.

INSTALLATION PROCEDURES

- Time is the essence of the contract.
- Please be sure of all connecting joints. There should not be any loose joints / gaps. They should be securely jelly filled.
- Use of OEM tools / certified tools is mandatory.
- Contractor has to do the labelling and termination as per industry standards.
- All the optical passive components should be of any one chosen brand.
- Periodic & final inspections certificates (detailing the completion of work) are mandatory for clearance of payments. Periodic Inspection & Completion check will be done by the OEM/ IIT team.
- Within one week of award of the Contract, the Contractor shall submit a material list. This list shall contain all the categories of materials required and the names of the manufacturers of each, which the Contractor shall subsequently submit as material submissions.
- Any deviation in the specifications of the product must be informed prior to the award of tender for approval. No changes will be accepted after the award of tender.
- Coordination of work, with the other vendors, will be sole responsibility of the vendor approved and awarded this complete work.
- Upon award of Contract, submit the details which Indicate milestones for completion dates and delivery dates. Update the project schedule for each project meeting or every two weeks whichever is more often.

INSTALLATION

1) GENERAL

Prior to all work of this Contract, carefully inspect the installed work of all other trades and verify that all such work is complete to the point where this installation may properly commence. Verify that the work of this Contract may be completed in strict accordance with all pertinent codes and regulations, the approved shop drawings and the manufacturer’s recommendations.

2) METHOD STATEMENTS & CHECKLIST

The Contractor shall submit to the Engineering in-charge, detail of test procedures and checklist for all testing and commissioning that will be carried out during the in-plant test and the site acceptance test. These must be submitted as a total package to the Engineering in-charge, at least 2 weeks prior to the earliest schedule test, for comments and approval.

As part of the test procedures, the Contractor shall submit full details of the proposed test equipment.

On completion of all testing in each phase, the manufacturer will submit the completed test sheets, signed off by the Contractor's authorized engineers.

On handing over of the system the tender will provide complete set of all test sheets and commissioning certificate stating that the system has been installed and commissioned to the requirement of the specification. OEM site certification is mandatory. This would be one of the major documents, for release of final payment.

3) CLIENT TRAINING

The Contractor shall furnish the services of competent instructors to give full instruction to personnel in the adjustment, operation, and maintenance of systems and equipment, including pertinent safety requirements. Each instructor shall be thoroughly familiar with all parts of the installation and shall be trained in operation theory as well as practical operation and maintenance work.

Instruction shall be given continuously during the first three months after the equipment or system has been accepted and turned over the Employer/ Operator, for regular operation. During this period the Contractor shall provide two full time personnel on site to enable practical type training in an operational environment.

All personnel put forward by the Contractor for training purposes shall be fully conversant with the works and must have been involved during the execution of the works on site.

SITE MANPOWER:

The System Integrator shall provide skilled manpower at site for the duration of the installation and commissioning of the project. A list of the workforce dedicated to the project will be provided within a week of being awarded the contract. The number of manpower requirement should be such that the work gets completed in time.

THE MANPOWER RESOURCE INCLUDES:

1. A Project Manager (PM). This person should be a Certified Installer (Holding the OEM Training certificate), having experience in installation, commissioning and site acceptance tests of copper networks. The PM will be the one point of contact for all stakeholders on the project, the Consultants, the Customer, and the end users and

hence should have good communication skills. The PM must be dedicated to the project till handing over and not be assigned any other work by the System Integrator. It will be the PM's responsibility to ensure smooth progress of the installation and that the rules and regulations of the site are adhered to. In case of planned absence or leave for more than one day, the System Integrator will ensure that an equally responsible person is placed in charge of the site till such time as the PM returns.

2. A Supervisor in charge of the workforce. The supervisor should be a Certified Installer (Holding the OEM Training Certificate). In case of an unavoidable absence of the PM, the supervisor will take temporary charge till such time the alternative person, as mentioned above, comes to site or the PM. The supervisor himself will be an experienced installer of passive networks. He too should have good communication skills. In any case, both the PM and the supervisor will never be absent from site during any working day.
3. Sufficient skilled labor for laying and terminating of the cables. The quantity of laborers will be decided after examining the schedule of work with the Customer and the Consultants. The workers will be dedicated to the project and will not be shuffled between other projects.

WORKMANSHIP:

The laying of all cables will be done in accordance with best practices in the industry. Pulling force shall not exceed the rated specification of the cable in order to avoid damage or deterioration of the cable. Cables will be neatly laid in the trays / conduits designated by the Consultants. The cables, after laying on trays, should be firmly tied.

Cable tagging and identification markings will be jointly agreed by the IT Consultant and the System Integrator. The points below show the method of marking and not the content.

Each port of the 24 port patch panels should be identified predetermined markings using the labels and plastic shields packaged with the patch panels. There should be no handwritten identification on any port of the patch pane

Technical Specifications:

CAT6 PATCH PANEL

Specifications

Operating Temperature Range: - 40° to 70°C (-40° to 158 °F)

Transmission Performance and Reliability:≥ EIA/TIA 568-B.2-1 Category 6 / ≥ ISO 11801 Class E Standard

Number of Plug Insertion Cycles:.....≥750

Wire Diameter Range for Solid and22-26 AWG

Stranded Copper Conductors:.....0.40 mm to 0.65 mm (0.016" to 0.025")

Wire Insulation Diameter Range (PE,PVC):0.70 mm to 1.70 mm (0.028" to 0.067")

Contact Resistance: ≤ 1 mohm typical

Contact Re-terminations: ≥ 200

Insulation Resistance at 40 oC (104 oF) and 93% RH:.....≥ 500 Mohm

Safety Rating: UL 1863

FIBRE CABLE SINGLE MODE 9/125µm OUTDOOR ARMOURED 12CORE

Maximum Individual Fiber Attenuation at:

1310nm ≤ 0.33 dB/km

1490nm ≤ 0.21 dB/km

1550nm ≤ 0.19 db/Km

Zero dispersion wavelength 1300 to 1324nm

Cable cut off wavelength ≤ 1260 nm

Cladding diameter (µm) 125

Core diameter (µm) 8.2 – 9.0

Coating diameter (µm) 245

Type of fiber G.652D

Cable properties

No. of fibers 12

Tight Buffered with central strength member, Plenum (2Hr rated)& armored

Cable diameter (mm) ≤ 10



