

বশ্রীঝ'বহ'র্ব্ববন্ধুব্'বর্ব্রথ'ক্স্রীম'ঝ্র'র্ক্রব্'বইঝা। Tashi InfoComm Private Limited

TASHI INFOCOMM PRIVATE LIMITED

BIDDING DOCUMENT FOR SUPPLY Of

"Fiber cable for FY-2025 Phase-II"

Reference No: TIPL/PRO-01/2025/16 6

Date: 1 / b2 / 2025

Procurement Officer
Procurement and Inventory Section
Tashi InfoComm Pvt Ltd.
Thimphu:Bhutan









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Tashi InfoComm Private Limited

SECTION-I INVITATION OF BIDS FOR SUPPLY OF

"Fiber Cable for FY-25 Phase-II"

- 1. Tashi InfoComm Private Limited, referred to as "Purchaser" invites sealed bids from eligible Bidders for the supply of fiber cable for FY-25 Phase-II.
- 2. Interested eligible bidder(s) may obtain further information on the bid form directly from our website- www.tashicell.com or Procurement & Inventory Section, Samten Lam, Post Box No. 1502, Thimphu, Bhutan. Contact the Procurement & Inventory Section at the given contact details during office hours only.
- 3. The Purchaser shall not be responsible for any costs or expenses incurred by the Bidder(s) in connection with the preparation or delivery of bids.
- 4. All Bidders/Representatives of the Bidders may be present during the opening of the Bidding Documents.
- 5. All correspondences with regard to the Bidding Documents shall be made in writing or email to the following address. Telephone inquiries shall not be accepted.

Address for communication/contact.

Procurement & Inventory Section, Tashi InfoComm Limited, Samten Lam, Post Box No-1502, Thimphu, Bhutan.

Email:

procurement@tashicell.com/manager.procurement@tashicell.com/procurement.finance@ta shicell.com











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SECTION-II INSTRUCTION TO BIDDERS

A. GENERAL

1. Scope of Bid:

- 1.1. The scope of the Bid shall be the supply of fiber cable and accessories for FY-2025.
- 1.2. All the Bids are to be completed and submitted to the Purchaser in accordance with the Instructions to Bidders.

2. Eligibility:

2.1. The invitation for Bid is open to all interested licensed national and global suppliers.

3. Cost of Bidding:

3.1. The Bidder(s) shall bear all costs associated with the preparation and delivery of its bids, and the purchaser shall in no case be responsible or liable for those costs.

4. Bidding Documents:

- 4.1. The goods/services to be procured, bidding procedures, and terms & conditions are prescribed in the Bidding Documents. In addition to the invitation for bids, the bidding document includes:
 - a) Instructions to bidders
 - b) General terms & conditions
 - c) Detailed list of goods/ and or services to be supplied along with detailed specifications.
- 4.2. The bidder(s) are expected to examine the bidding document, including all instructions, forms, terms, and specifications. Failure to furnish all information required by the bidding document or submission of a bid not substantially responsive to the bidding document in every respect will result in rejection of the bid.

5. Bid Prices:

5.1. The bidder(s) shall complete the appropriate price schedule included herein, stating unit prices, extended amount and the expected countries of origin of the goods to be supplied, if applicable







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- 5.2. Prices quoted by the bidders shall remain fixed and valid for the period stated in **Section II, Clause 6** of the bidding document, and will not be subject to variation on any account.
- 5.3. The bid currency shall be Ngultrum (Nu) for this bidding document. Except for third-country bidder(s), the bidder(s) from the rest of the countries are not allowed to quote in US Dollars.

The third country bidder(s) who quoted in US Dollars shall be converted into Ngultrum at the prevailing exchange rate (Selling TT rate of any financial institution) as on the date of tender opening for evaluation purposes.

5.4. Trade Terms shall be:

Unless otherwise stated, the following shall be the trade terms for this bidding document:

- a) CIF, TIPL Warehouse, Thimphu for local bidders.
- b) CIF, TIPL Warehouse, Phuentsholing for Indian and other third-country bidder(s).

6. Bid Validity:

6.1. The Bids shall be valid for 12 months from the date of bid submission.

7. Taxes/Duties & other levies:

- 7.1. Unless otherwise stated, the applicable taxes/duties/any other levy both within and outside Bhutan shall be under the scope of the bidder.
- 7.2. The third country bidder(s) or bidder(s) from India may exclude applicable taxes/duties within Bhutan while submitting the bid. The applicable taxes including customs clearance within Bhutan shall be under the scope of the purchaser. However, applicable taxes/duties, etc shall be factored in during the time of evaluation to determine the final landing cost.

8. Evaluation:

- 8.1. The purchaser shall evaluate the quotations based on specifications given in the bidding document to ascertain the lowest evaluated bidder(s).
- 8.2. The evaluation shall not only be based on the quoted unit rate but the specifications and complete datasheet of the fiber cable and accessories against the purchaser's requirement.
- 8.3. The Evaluation Team & Management Tender Committee's evaluation decision shall be final and binding, without thereby incurring any liability to the affected bidder or bidders or any obligation to inform and explain the affected bidder or





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bidders on the grounds of the evaluation team & Management Tender Committee's evaluation decisions and reports. In addition, the performance of previous tenders with the purchaser, if any shall also be factored in during the time of evaluation.

- 8.4. The lowest quoted unit rates alone do not guarantee the award of contract or Purchase Order.
- The evaluation shall be based on lot-wise/package. 8.5.

9. Award of Purchase Order/Contract:

9.1. The purchaser shall award the PO or supply contract to the successful bidder against the respective lot.

10. Delivery:

- 10.1. Delivery should be completed as per the given schedule:
 - a) Within 60 days from the date of confirmed PO depending on the nature of the items(s) awarded to the respective successful bidder(s).
 - b) The detailed terms & conditions shall be mentioned in the confirmed Purchase Order/Supply Contract.
- 10.2. The purchaser (TIPL) may provide a delivery time extension beyond the actual delivery date taking into account the actual need-by-day and project schedule of TIPL. However, subject to the approval of the Management Tender Committee after levying the Liquidity Damaged (LD) Penalty.
- 10.3. The Time Extension request/provided may not exceed 15 days at the maximum OR depend on the approval granted by the Management Tender Committee of the purchaser. The supplier has to send an email/in writing requesting a time extension with genuine reasons (along with supporting documentation).

11. Inspection of Goods:

The goods are subject to Physical Inspection upon delivery at TIPL Warehouse and testing & commissioning in due course of time. The Goods found to be faulty, DOA, not meeting specifications/requirement of TIPL after the final inspection, installation, and testing shall be rejected at the cost of the bidder.

12. Warranty (If applicable):

The Warranty shall be minimum 12 months from the date of delivery OR standard manufacturer's warranty, whichever is longer







rashintocommentary P.O Box 1502, Samten Lam, Thimphu, Bhutan Thimphu:Bhutan



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13. Payment:

- 13.1. The Payment shall be made 100% against delivery within 7 working days from the date of receiving of Bill/Invoice.
- 13.2. Advance payment up to a maximum of 30% of the total PO value may be released at Purchaser's discretion against furnishing equivalent amount of bank guarantee for the advance payment valid 6 months beyond the delivery deadline.

14. TDS/FCT:

14.1. TDS (Tax Deduction at Source) and or FCT (Foreign Contract Tax) shall be deducted as per the existing Rules and Regulations of the Department of Revenue & Customs, Bhutan (wherever applicable).

15. EMD (Earnest Money Deposit):

- 15.1. The bidder should submit **not less than 2% of the total quoted value** as part of the EMD along with the quotation in the form of a Demand Draft or Bank Guarantee from any of the financial institutions located in Bhutan. The bidder(s) other than Bhutanese national can furnish EMD from the financial institutions in their respective countries OR from any of the Bhutanese Financial Institutions. The EMD may be directly deposited into the Purchaser's bank account (please contact the Purchaser requesting bank details via email).
- 15.2. The bidder(s) failing to submit the EMD as per the requirement shall result in the rejection/cancellation of their bid.
- 15.3. The EMD shall be valid for 60 days beyond the submission/submission deadline of the bidding document. The EMD should be drawn in favor of "Tashi InfoComm Private Ltd., Samten Lam, Thimphu, Bhutan".
- 15.4. EMD of unsuccessful bidder(s) shall be returned promptly after the finalization of the quotation.
- 15.5. EMD shall be forfeited if:
 - a) A bidder withdraws its bids prior to the finalization of the bids in every respect.
 - b) The successful bidder fails to submit Performance Security as per the terms specified in the bidding document.
- 15.6. EMD of the successful bidder shall be returned promptly upon submission of Performance Security.





Procurement Officer
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Procurement and Inventory Ltd

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16. Performance Security:

- 16.1. The successful bidder should submit not less than 10% of the total PO/contract value as Performance Security within 1 week from the date of PO/signing of the supply contract.
- 16.2. Performance Security shall be drawn in favor of "Tashi InfoComm Private Ltd, Thimphu" in the form of a Demand Draft or Bank Guarantee or can be deposited directly into the purchaser's bank account (contact purchaser via email requesting bank details).
- 16.3. Performance Security shall be valid for the period of 1 YEAR from the date of Purchase Order/Supply Contract.
- 16.4. If the successful bidder fails to submit the performance security within 1 week, the EMD shall be forfeited and the purchase order shall stand canceled and awarded to the second lowest evaluated bidder.
- 16.5. Performance Security shall be returned within 1 week from the date of successful completion of all obligations under the issued Purchase Orders or signed supply contract.
- 16.6. Performance Security shall be forfeited if:
 - a) The successful bidder fails to execute the supplies/works as per the terms and conditions stated in the purchase order in any manner deemed unsatisfactory by the purchaser (TIPL) or the end-user(s).
 - b) The successful bidder fails to deliver the goods on the given deadline and is not recommended by the end-user(s) for a time extension or replacement.
 - c) The goods supplied do not conform to the specifications/brands/requirements, etc stated in the purchase order/BOM.

17. Liquidity Damage (LD) Penalty:

17.1. The LD penalty shall be charged at 0.01% per day up to a maximum of 10% of the total PO value should the supplier fail to deliver on the specified deadline.

18. The purchaser Right:

- 18.1. The purchaser reserves the following rights without thereby incurring any liability to the affected bidder or bidders or any obligation to inform and explain the affected bidder or bidders on the grounds of the purchaser's action:
 - a) The right to accept or reject any bid and reject all the bids at any time prior to issuance of Award Notification and or Purchase Order.





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- b) The right at the time of award of the purchase order to increase or decrease the quantity of goods specified in the bidding document, without any changes in the price or other terms & conditions.
- c) The right to reject all or in part, the item supplied during the time of physical inspection/testing or found to be non-standard/non-specific/unreliable in terms of quality/not meeting specification.
- d) The right to direct negotiation, call quotations and receive the same via email from the manufacturers; authorized distributors; authorized dealers; and frequent supplier(s) of similar goods in Bhutan/India/China/Other countries to compare the rates with those offered by the vendors through this Bidding Document. If need be, to procure directly. The Purchaser also reserves the right to negotiate with the lowest evaluated bidder(s) or all of the bidders at any time prior to the award of the Purchase Order/Signing of the Supply Contract.
- 18.2. Should the selected Bidder(s) fail to supply the full order quantity within the given deadline, the purchaser reserves the right to cancel the quantities not supplied and place the order to the Second Lowest Evaluated Bidder. In such a case, the Purchaser shall recover as part of Liquidated Damages, the difference amount between purchase order rate and the actual rate paid to the second-lowest evaluated bidder for the quantities not supplied. The amounts shall be either adjusted from the Performance Security or bill/invoice amount of the supplied quantity.

19. Force majeure:

- 19.1. Force Majeure shall mean such unforeseeable occurrences beyond the control of the Purchaser and Bidder which occur after the date of issuance of Purchase Order or signing of Supply Contract and which were not reasonably foreseeable at the time of issuance of Purchase Order or signing of Supply Contract and which effects are not capable of being overcome without the unreasonable expense and/or loss of time to the Purchaser and the Bidder concerned, including, provided that the aforementioned conditions are met, but not limited to:
 - i) Natural catastrophes, earthquakes
 - ii) Strikes and blockages
 - iii) War or war-like conditions, mobilizations, revolutions or riots, an act of Public enemy, sabotage, terrorism.
 - iv) Restriction by or actions, omissions, or interventions from Public Authorities (including but not limited to changes in laws, regulations or import/export, security restrictions).
 - v) The Party who wishes to plead Force Majeure shall inform the other party of the First party's perception of the effects of such force majeure on the fulfillment of issued purchase order/signed Supply Contract. Should any event of force majeure cause an increase in the time required for the performance of any part of the purchase order/signed Supply Contract, an equivalent adjustment shall be made in the time required for performance.











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However, if the force majeure situation continues for more than two months, the purchaser and bidder shall decide whether the contract should be terminated.

20. Termination:

20.1. In the event of any failure by the Bidder to perform any of its obligations under the issued purchase order or signed Supply Contract or upon unsatisfactory performance, the purchaser shall terminate the purchase order or signed Supply Contract by giving a prior written notice of Fifteen (15) days, without any obligation to the Bidder. However, the purchaser shall pay the actual due amount for the quantity supplied and accepted by the Purchaser to Bidder on termination of the issued purchase order or signed Supply Contract.

21. Indemnity:

21.1. The bidder(s) shall comply with all the laws in force in Bhutan and outside. The laws will include all national, provincial, municipal, or other laws that affect the performance of the issued purchase orders or signed Supply Contract and bind upon the Bidder(s). The Bidder(s) shall indemnify and hold harmless the Purchaser for and against any and all liabilities, damages, claims, fines, penalties, and expenses of whatever the nature arising or resulting from the violation of such laws by the Bidder(s).

22. Dispute Settlement:

22.1. If any dispute should arise in connection to the issued purchase order or signed Supply Contract, the Parties shall try to settle any such dispute through good faith and negotiations including escalation to senior Management where each party deems it appropriate. If negotiations fail, the matter shall be referred to the Court of Law.

23. Governing Law and Jurisdiction:

23.1. The terms and conditions in this Bidding Document or issued Purchase Order or signed Supply Contract shall be read and construed in accordance with the laws of the Kingdom of Bhutan and the District Court of Thimphu, Bhutan shall have jurisdiction over any disputes arising out of the Contract.











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SECTION-III

GENERAL TERMS & CONDITIONS:

In this Bidding Document, the following terms shall be interpreted as indicated below:

"The Bid" means the proposal submitted by the Bidder

"The Purchaser" means the organization purchasing the Goods. In this case, M/s. Tashi InfoComm Private Limited (TIPL).

"Day" means a calendar day.

- 3. Bid Opening Time: 1:10 PM : 120 2025 at TIPL conference hall. Interested Bidder(s) may attend the bid opening on the given deadline and place.
- 4. Bidding Documents received after the deadline (time & date of submission) shall not be accepted and opened during the bid opening. The quotations shall automatically stand as "Rejected".
- The Purchaser shall not be responsible for any damages, losses, breakages, or shortages of any items while in transit for delivery of Goods to TIPL Store/warehouse.
- 6. The Bidder should enclose a Xerox copy of valid Trade License, Tax clearance, Power of Attorney, and other relevant documents.
- 7. Clarification on Bidding Document: The bidder(s) are expected to examine the Terms and Conditions stated in the Bidding Document, Bill of Materials, Specifications, Drawings, etc furnished along with the Bidding Document. Once the bids are submitted by the bidder(s), It shall mean:
- a) The bidder(s) have examined, read, and accepted all the terms and conditions stated in the Bidding Document, the specifications of the goods/services, Drawings/Designs, etc furnished in the Bidding Document. Thereafter, no grievance, complaints, etc (whatsoever nature may be) shall be accepted.
- b) The bidder(s) can seek clarification (through email/in writing) with regard to the terms & conditions of the Bidding Document, the specifications of the goods/services, Drawings/Designs, etc furnished in the Bidding Document before the submission of the Bids.





Procurement Officer
Procurement and Inventory Section
Procurement and Inventory Section
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P.O Box 1502, Samten Lam, Thimphu, Bhutarashi Info Comm Pyt Ltd.

Thimphu: Bhuhttps://www.tashicell.com



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- c) Clarification can be sought through email or in writing to any of the given officials during office hours. Email ID: manager.procurement@tashicell.com OR procurement@tashicell.com OR procurement@tashicell.com.
 - Address: Manager, Procurement & Inventory Section, Tashi InfoComm Private Ltd., Samten Lam, Post Box No. 1502, Thimphu, Bhutan.
- 8. The Bids not substantially responsive to the Bidding Document in every respect will result in the rejection of the Bids.
- 9. For any complaints or grievances, the bidder(s) may write directly to the Management Tender Committee of the Purchaser through email. The Email ID is procurement@tashicell.com.
- 10. Product samples, catalog/brochures containing details of technical and functional specifications shall be submitted along with the Bids wherever applicable. Failing which, shall result in rejection of the Bidding Document.
- 11. The decision of the Corporate/Management Tender Committee shall be final and binding.











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SECTION-IV

The complete Bill of Materials (BOM) is as stated in Annexure-I. The Bids should be submitted in the below format in your company Quotation Form.

Appendix-I:

| S/L 1. | Description | UoM | Qty | Unit Rate | Amount |
|---------------|-------------------------------|-----|-------|-----------|--------|
| | Detail as given in Annexure-I | | 1 - 1 | | |
| | | | | | |

Total

Note:

- Please attached details of the technical and functional specifications along with the Bidding Doc. Failing to do so, will result in the rejection of your bidding document.
- 2. Mention the Country of origin of goods in the bidding document.







Thimphu:Bhutan

Annexure-I Bill of Materials

| SL | Description | UoM | Qty | Rate | Amount | Lot |
|------|--|---------|------|-------|--------|-------|
| 1 | ADDS Fiber Cable 24 Core | KM | 75 | | | |
| 2 | Armoured UG Fiber Cable-96C, Single mode | KM | 4 | | | |
| 3 | Armoured UG Fiber Cable-24C, Single mode | KM | - 10 | | | |
| | Anti-Rodent ADSS double sheath single mode | | | | | |
| 4 | fiber cable Dia. 14mm with flat FRP armor-24C | KM | 2 | | | Lot-I |
| | with 2 ripcords in each sheath | | | | | |
| _ | | ******* | | | | |
| 5 | Outdoor Cabling Bow Type drop cable, 1 core 2km | Nos | 3 | | | |
| | Total for LoT-I | | | | | |
| 1 | | Nos | 50 | | | |
| 1 | Fiber patch cords, SM LC-LC/UPC-0.5 mtr, dia.2mm | INUS | 30 | | | |
| 2 | | Nos | 50 | | | |
| _ | Fiber patch cords, SM LC-LC/UPC-1 mtr,dia.2mm | 1105 | 50 | | | |
| 3 | | Nos | 50 | | | |
| _ | Fiber patch cords, SM LC-LC/UPC-2 mtr,dia.2mm | | | | | |
| 4 | Fiber patch cords, SM,LC-LC/UPC-5 mtr,dia.3mm | Nos | 50 | | | |
| | | | | | | |
| 5 | Fiber potch cords SM LC LC/UDC 10 mtm dia 2 mm | Nos | 50 | | | |
| | Fiber patch cords, SM, LC-LC/UPC-10 mtr,dia.3mm | | | | | |
| 6 | Fiber patch cords, SM, SC-LC/UPC-0.5 mtr,dia.3mm | Nos | 50 | | | |
| | | | | | | |
| 7 | Fiber patch cords, SM SC-LC/UPC-1 mtr,dia.3mm | Nos | 50 | | | |
| (22) | | BATE 1 | | | 1 | |
| 8 | Fiber patch cords, SM, SC-LC/UPC-2mtr,dia.3mm | Nos | 50 | | | |
| _ | | | 50 | 11.00 | | |
| 9 | Fiber patch cords, SM,SC-LC/UPC-5 mtr,dia.3mm | Nos | 50 | | | |
| 10 | | NI | 50 | | | |
| 10 | Fiber patch cords, SM,SC-LC/UPC-10mtr,dia.3mm | Nos | 50 | | | |
| 11 | | Nos | 50 | | | |
| 11 | Fiber patch cords, SM,SC-SC/UPC-0.5 mtr,dia.3mm | 1105 | 30 | | | |
| 12 | | Nos | 50 | | | |
| 12 | Fiber patch cords, SM,SC-SC/UPC-1 mtr,dia.3mm | 1105 | 50 | | | |
| 13 | | Nos | 50 | | | |
| 200 | Fiber patch cords, SM,SC-SC/UPC-2mtr,dia.3mm | | | | | |
| 14 | Fiber noteb conde SM SC SC/LIDC 5 - 1 - 1'- 2 | Nos | 50 | | | |
| - | Fiber patch cords, SM,SC-SC/UPC-5 mtr,dia.3mm | | | | | |
| 15 | Fiber patch cords, SM,SC-SC/UPC-10mtr,dia.3mm | Nos | 50 | | 2 | |
| 0 | riber paten cords, Sivi,SC-SC/OPC-10mtr,dia.3mm | | 8 | | | |
| 16 | Fiber patch cords, SM,SC-FC/UPC-0.5 mtr,dia.3mm | Nos | 50 | | | |
| - | | | | | | |
| 17 | Fiber patch cords, SM,SC-FC/UPC-1 mtr,dia.3mm | Nos | 50 | | | Lot-I |
| - 12 | , i.e. paren colas, orașe a crea e a ma janas min | 252 | 72.0 | | | |
| 18 | Fiber patch cords, SM,SC-FC/UPC-2mtr,dia.3mm | Nos | 50 | | | |
| | First State of the | | | | | |
| 19 | Fiber patch cords, SM,SC-FC/UPC-5 mtr,dia.3mm | Nos | 50 | | | |
| 20 | | M | 50 | | | |
| 20 | Fiber patch cords, SM,SC-FC/UPC-10mtr,dia.3mm | Nos | 50 | | | |
| 21 | Fiber patch cords Outdoor, SC/UPC-SC/UPC 5 | N1- | 50 | | | |
| 21 | meters, with self support(metallic). | Nos | 50 | , | | |



| 34 | Total for Lot-II | INOS | 10 | | |
|----------|---|------------|------|--|----|
| 33 34 | ACS Cable Slitter blade(fiber) Unismar Compatible Label Tape 9mm | Nos Nos | 10 | | 35 |
| 32 | Drop cables Helix | Nos | 1000 | | |
| 31 | FODP/12, ports with loaded SM 1 mtr. Pigtail-colour | Nos | 25 | | |
| 30 | FODP/24, ports with loaded SM 1 mtr. Pigtail-colour | Nos | 10 | | |
| 29 | FODP 48, ports with loaded SM 1 mtr. Pigtail-colour | Nos | 5 | | |
| 28 | SC pigtail simplex Single mode G.652, SC/UPC 1 mtr Nos 150 | | | | |
| 27 | Joint closure fo Radius 6-8mmdia. drop cables with 4 cables entry port | Nos | 250 | | |
| 26 | Fiber patch cords Outdoor Single mode, SC/UPC-SC/UPC, 100 meters with self support(metallic). | Nos | 50 | | |
| 25 | Fiber patch cords Outdoor Single, SC/UPC-SC/UPC, 50 meters with self support(metallic). | Nos | 50 | | |
| 24 | Fiber patch cords Outdoor Single mode, SC/UPC-SC/UPC, 30 meters with self support(metallic). | Nos | 50 | | |
| 23 | Fiber patch cords Outdoor Single mode, SC/UPC-SC/UPC, 15 meters with self support(metallic). | Nos | 50 | | |
| 22 | Fiber patch cords Outdoor Single mode, SC/UPC-SC/UPC, 10 meters with self support(metallic). | Nos | 50 | | |



| 1. | Fiber properties | | |
|-------------|--|-------------------------|---|
| SI.No | Characteristics | Unit | Value |
| 1 | Attenuation @ 1310 nm | dB/km | ≤ 0.36 |
| | @1550 nm | | ≤ 0.23 |
| 2 | Chromatic dispersion between | | ANTE-23 |
| | 1270 - 1340 nm | | ≤ 5.3 |
| | 1285 – 1330 nm | ps/(nm ² km) | ≤3.5 |
| | 1550 nm | | ≤ 18 |
| | 1625 nm | | ≤ 22 |
| 3 | Zero dispersion wavelength | Nm | 1300 to 1324 |
| 4 | Zero dispersion slope | ps/(nm ² km) | ≤ 0.092 |
| 5 | Cut off wavelength | nm | ≤ 1320 |
| 6 | Mode field diameter at 1310 nm | μm | 9.3 ± 0.5 |
| 7 | Core-clad concentricity error | μm | ≤ 0.6 |
| 8 | Cladding non circularity | μm | ≤ 1.0% |
| 9 | Cladding diameter | μm | 125 ± 1.0 |
| 10 | Coating diameter | μm | 245 ± 10 |
| 11 | Polarization mode dispersion | ps/\sqrt{km} | ≤ 0.20 |
| 2. | Mechanical & Environmental properties | | |
| A | Tensile Strength | KN | 13.0 |
| 7. | Crush resistance | Newton/100mm | 2000 (200Kg load on 100x100mm |
| В | Clush resistance | | plate for one minute), change in loss \le |
| В | | | 0.05dB (IEC-60794-1-21-E3 standard) |
| С | Bending radius | mm | 280 (IEC-60794-1-21-E11 standard) |
| В | Strain Margin | % | ≤ 0.25 |
| | Impact Resistance | N | 50, |
| С | | | Change in loss ≤ 0.05dB (IEC-60794- |
| - | | | 1-21-E4 standard) |
| | Torsion resistance | N | 75, (10 cycles, ±180degre |
| D | | | Change in loss ≤ 0.05dB (IEC-60794- |
| | | | 1-21-E7 standard)) |
| Е | Max. operating /installation temperature | C | -30 to +70 |
| 3. | Physical & dimensions properties | | |
| I | Number of fibers | | 24F |
| II | Numbers of loose tubes | | 4 |
| | Number of filler/Dummy | | 2 |
| | Number of fibers per tube | | 6 |
| III | Type of fiber | | SM G652D |
| IV | Central strength member | | FRP rod |
| V | Peripheral strength elements | | Aramid Yarn − 12.6 kg/km ✓ |
| VI | Sequence of loose tubes (as per EIA/TIA | | Blue, Orange, Green, Brown, Slate & |
| 10250 | 598) | | White |
| VII | Color of fiber | | Blue, Orange, Green, Brown, Slate, & |
| | | | White |
| VIII | Inner & Outer sheath material | | UV resistant (Black) polyethylene |
| ORDINATED I | | | (H.D.P.E) |
| IX | Inner sheath thickness | mm | ≥ 1.2 |
| X | Outer sheath thickness | mm | ≥ 2.0 |

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| XI | Outer cable diameter | mm | 14.8 ± 0.5 mm |
|------|----------------------|--|--|
| XII | Cable weight | Kg/km | 165 ± 20 |
| XIII | Printing on cable | Labelled Year of 1 Sequenti Two ora mm v continuo | cturer name 1 "24F ADSS Tashicell" manufacture ial length marking in meter inge colour (UV stabilized) lines of minimum width diametrically opposite to each other, bus over the length of the cable shall be applied) for easy identification of this cable from bles. |
| XIV | Standard length | 2km | + 5% |

Cross Section diagram of ADSS cable

| ORANGE COLOUR STRIPE | |
|-------------------------|------|
| OUTER SHEATH (H.D.P.E.) | |
| INNER SHEATH (H.D.P.E.) | (°.) |
| WATER SWELLABLE TAPE | |
| LOOSE TUBE WITH FIBRES | |
| F.R.P. ROD | |
| W.S. YARN | |
| FILLER/DUMMY - | |
| ARAMID YARN — | |
| RIP CORDS | |
| | |
| | |
| | |
| | |
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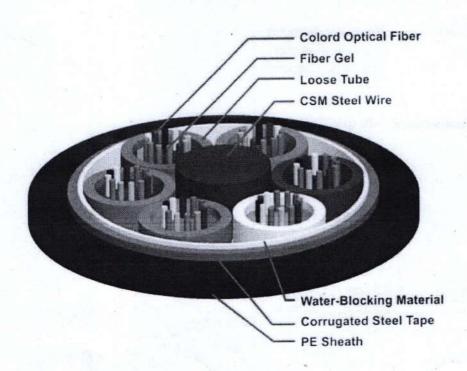


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Item 2: Armoured UG Fiber cable-96C, Single mode & Item 3: Armoured UG Fiber cable-24C, Single mode.

PHYSICAL DESCRIPTION



Products: Fiber optic cable single mode Tube Filling Compound: Thixotropic jelly Fiber Type: ITU-T G.657A1/A2,G.652D

Tube material: PBT (Polybutylene Terephthalate)

Armored: Corrugated steel tape

Packing Detail

Fiber Count: 6,8,12,24,48,96,128

Tube Outer/Inner Diameter(mm): 3.0/2.0 ±

Cable Diameter(mm): 7.2*-12-14.8 + 6.5 mm . 10 mm.

Cable Weight(kg/km): 45±

Length/ Drum: 2000 m Drum ±5%

Ripcord: Polyester cord

Outer Jacket: PE, MDPE, LSZH

Mechanical and Environmental Properties

Physical tests

Standard

Tensile Strength

Value

2700 N (during Installation) 1700 N (during Operation)

10J, 3 impacts

Impact Resistance



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220 N/cm Crush Resistance -40 to +70 °C Temperature Cycling

Cable Bending Radius

20x cable diameter Bend Radius (during installation) 0x cable diameter Bend Radius (during Service) 1 20x cable diameter Repeating Bending

Temperature Range)

-40 to +70 C Operation Temperature Storage and Transportation Temperature -40 to +70 C -30 to +60 C Installation Temperature

Optical Characteristics

ITU-T G.652D Fiber type

0.25 dB/km (1550 nm) 0.40 dB/km (1310 nm) Attenuation (max)

 $10.1\pm0.5 \,\mu\text{m} \,(1550 \,\text{nm})$ $9.0\pm0.4 \, \mu m \, (1310 \, nm)$ **MFD**

 $125 \pm 0.3 \, \mu m$ Cladding diameter

 $\leq 0.5 \, \mu \text{m}$ Core/Clad Concentricity error 1300nm < < 1324nm Zero dispersion wavelength

< 0.7 % Cladding non-circularity $245 \pm 10 \, \mu m$

Coating diameter ≤ 1260nm Cut Off Wavelength

 \geq 1% (100kpsi or 0.7GPa) **Proof Test**

Macro bending Attenuation: (10 turn on a 15 mm radius mandrel) $\leq 0.25 \text{ dB } @ 1550 \text{ nm}$







Technical particulars of 24F SM G652 D ANTIRODENT ADSS OFC

| 1. | Fiber properties | | |
|-------|---|-------------------------|--|
| SI.No | Characteristics | Unit | Value |
| 1 | Attenuation @ 1310 nm @1550 nm | dB/km | ≤ 0.36 ≤ 0.23 |
| 2 | Chromatic dispersion between 1285 – 1330 nm | | |
| | 1550 nm | ps/(nm ² km) | ≤ 3.5 |
| | | | ≤ 18 |
| 3 | Zero dispersion wavelength | Nm | 1300 to 1324 |
| 4 | Zero dispersion slope | ps/(nm²km) | ≤ 0.092 |
| 5 | Cut off wavelength | nm | ≤ 1320 |
| 6 | Mode field diameter at 1310 nm | μm | 9.1 ± 0.5 |
| 7 | Core-clad concentricity error | μm | ≤ 0.6 |
| 8 | Cladding non circularity | μm | ≤ 1.0% |
| 9 | Cladding diameter | μm | 125 ± 1.0 |
| 10 | Coating diameter | μm | 245 ± 10 |
| 11 | Polarization mode dispersion | ps/\sqrt{km} | ≤ 0.20 |
| 2. | Mechanical & Environmental properties | • | |
| Α | Tensile Strength | KN | 13.0 |
| В | Max. installation tensile | N | 3800 N |
| C | Crush resistance | Newton/10cm | 2000 N/ 10 cm |
| D | Min. Bending radius (static) | mm | 12.5 x D mm |
| E | Min. Bending radius (dynamic) | mm | 25 x D mm |
| F | Max. operating /installation temperature | C | 20 °C to +65 °C |
| 3. | Physical & dimensions properties | | |
| I | Number of fibers | | 24F |
| II | Loose Tube / Dummy | | 4/2 |
| III | Number of fiber per tube | | 6 |
| IV | Type of fiber | | SM G652D |
| V | loose tube Material / Diameter (INNER) | | PP (Polypropylene) |
| VI | Central Strength Member | | FRP (Fiber Reinforced Plastic) |
| VII | Peripheral Strength Members | | Flat FRP |
| VIII | Peripheral Strength Members | | High Strength Aramid Yarns |
| VIIII | Color of fiber | | Blue, Orange, Green, Brown, Slate & White |
| IX | Color of loose tube/ dummy | | Blue, Orange, Green, Brown, Filler-1 & Filler-2 |
| X | Inner sheath materials | | UV resistant (Black) |
| XI | Inner sheath thickness | mm | 0.80 mm NOMINAL |
| XII | Outer sheath materials | | HDPE - BLACK |
| XIII | Outer sheath thickness | mm | 1.70 mm NOMINAL |
| XIV | Outer Cable Diameter | mm | 14.8 ± 0.5 mm |
| XV | Cable weight | KG | 160 kg/km + 15 Kg/Km |
| XVI | Standard length | KM | 2 km + 5% |
| XVII | Printing on cable | 1. Manufacture | r name |

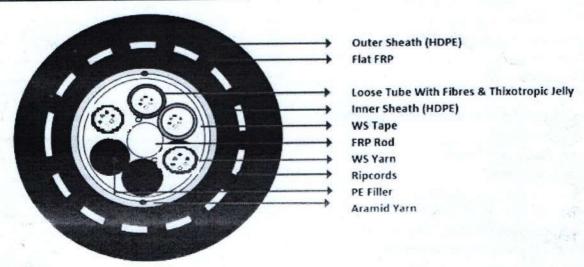
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- 2. Labelled "24F G652D FRP OFC"
- 3. Year of manufacture
- 4. Labelled "Tashicell"
- 5. Sequential length marking in meter

Two orange colour (UV stabilized) lines of minimum 3 mm width diametrically opposite to each other, continuous over the length of the cable shall be applied (marked) for easy identification of this cable from other cables.

Cross Section diagram of ADSS cable



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Item 2-21. Fiber Optic Patch Cords Features:

End-Face Type: PC/UPC

Fiber Diameter: 2.0mm/3.0mm

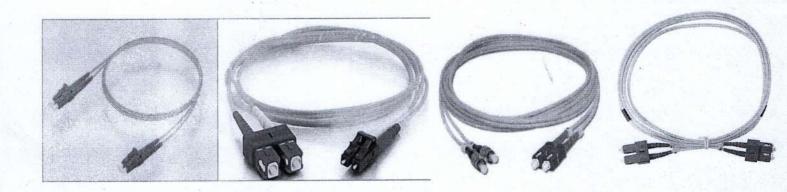
Available for simplex and duplex

The outer jacket can be PVC.

Connectors: SC, LC, FC

Fiber Type: Single mode fiber G652D

Low insertion loss and high return loss, high dense connection, easy for operation



| | | FC, SC | LC,ST,MU,DIN,D4,MPO, SC | T,MU,DIN,D4,MPO, SC/APC,FC/APC,LC/APC,MU/APC Duplex | | | |
|-------------------------|------|------------------------------------|--|---|--|--|--|
| Parameter | Unit | SM(9/125 SMF-28 or equivalent OS1) | | MM(50/125,62.5/125(OM2&OM1),50/125,10G(MM) OM3 | | | |
| Talameter 1 | | PC | UPC | | | | |
| Insertion loss(typical) | dB | ≤0.3 | ≤0.2 | | | | |
| Return loss | dB | ≥45 | ≥50 | | | | |
| Operating wavelength | Nm | 1310, 1 | 510 | | | | |
| Exchangeability | dB | ≤0.2 | ≤0.2 | | | | |
| Vibration | dB | ≤0.2 | | | | | |
| Operating temperature | °C | -40~75 | | | | | |
| Storage temperature | °C | -45~85 | | | | | |
| Cable Type | | Simple | x or duplex (zip cord) ϕ 3.0, ϕ 2.0, | φ0.9,PVC or LSZH | | | |



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Sl.no 22 - 27 Fiber patch cords Outdoor, SC/UPC-SC/UPC (with self support(metallic).

| Product Description: Pa | ch Cord SC/UPC-SC/UPC G.652D X length LSZH |
|----------------------------|---|
| 1 - Type | For GPON |
| 2 - Connector A | SC- SC |
| 3 - Connector B | SC-SC |
| 4 – End face A | U : UPC polish |
| 5 – Endface B | U : UPC polish |
| 6 - Fiber Count | 1: Simplex |
| 7 - Fiber Mode | G.652D; A1: G657.A1 |
| 8 - Length | Cable total length 5M, 10M, 15M, 30M, 50M, 100M |
| 9 - Cable Jacket Materials | V: PVC; H:LSZH; |
| Cable Jacket Color | Black-Print Tashicell |

- Outdoor Cabling Bow-Type
- · SC/UPC-SC/UPC connectors at both end
- G.652D
- Simplex-core
- Push/pull mating for quick installation

Specifications:

- End Face Type: PC/UPC/Plat Polish
- Connector Type:SC-SC
- Operating Wavelength: 1490nm/1310nm/1550nm for GPON
- Length: 5,10,15,30,50 & 100 meters
- Insertion loss: ≤0.3dB
- Return loss: ≥35dB
- Interchangeability: ≤0.2dB
- Repeatability: ≤0.2dB
- Fiber Diameters: 9/125µm SM
- Fiber Type: Single mode.
- Material Feature: PVC/LSZH









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Sl.no 28 Joint closures.

Fiber Optic Joint Termination Enclosure Box with OFC Splicing Tray

Material-----Plastic Colour -----Black Style-----Modern Installation Type----Screw-In

Product Dimensions-----26 x 9 x 20 cm





Sl.no 29. SC pigtail simplex Single mode G.652, SC/UPC.0.9mm,1mtr





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Sl.No 30-32 FODP 12, 24 & 48, ports with loaded SM 1 mtr. Pigtail-colour

| Product Description | Size(mm) |
|---|----------|
| Distribution box (Fiber Patch Panel) Indoor 19inch rack drawer type 12, 24 & 48 ports Simplex SC/UPC loaded | 1U |
| adapter & 1 mtr colour .0.9mm pigtail | |

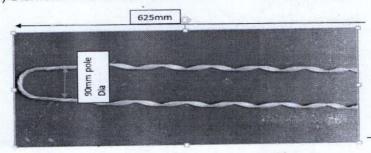


Sl.No 33 Drop cables Helix

Description

Technical specifications of Terminating Helix for Cable Size of Dia 6 mm to 8 mm:

- 1) Total Length of Helix: 625 mm
- 2) No. of Wire Rods used to make Terminating Helix: 4 Nos.
- 3) Diameter of Each wire Rod: 2.2 mm





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Sl no. 34

ACS Cable Slitter blade(fiber)

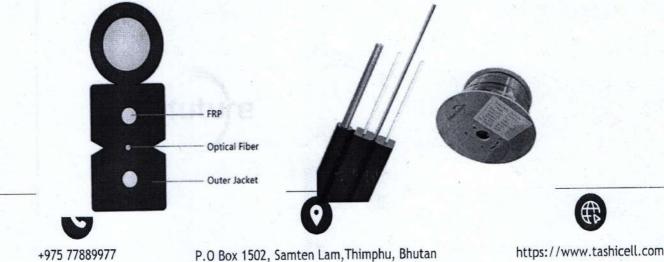
Replacement Blade for Armored Cable Stripper/Fiber Optic Tools/Wire Insulation Knife, Made of Carbide Steel, Cut Hard Cable Jackets.





Sl.no 42.35 Outdoor Cabling Bow Type drop cable, 1 core 2km

Outdoor Cabling Bow-Type Drop Cable, Metal strength member, LSZH jacket, Self-Supporting G.652DSimplex.



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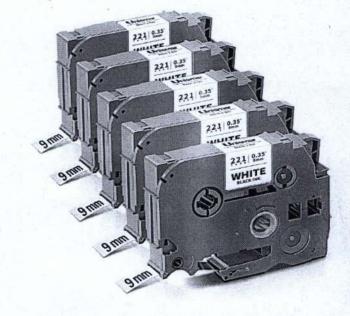
Sl.no 43 36 TZe Tape

Genuine Brother 9mm 0.35" Black on Yellow TZe P-Touch Tape for Brother PT-E300, Label

Maker

PT-E300

Colour Black, White Size 9mm(0.35") Finish Type Laminated Length-8 mtrs



Sl.no 44.37

Head Light

LedLenser HF4R Core Rechargeable LED Head Torch (500 Lumens) Red.

Features & Specifications:

Lumen Output: Boost - 500Lm. Power - 300Lm. Mid - 120Lm. Low - 20Lm.

Beam Distance: Boost - 130 metres. Power - 100M. Mid -

60M. Low - 15M.

Run Time: Power - 2.5 Hours. Mid - 5H. Low - 35H.

Charge Time: 3 hours.

Power Modes: Boost/power/mid/low.

Secondary red light.

2 x High power LED. 45° adjustable head for directional light.

Water & dust resistance - IP68 rated (can be immersed in

water).

Weight - 72g.





Battery Status
Battery lasts up to 35 hours
and has a status indicator to
keep you informed.



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