

Our E-Tender Notice No. IPR/TN/ET/F/19-20/15 dated 9th July, 20019 for Supply of Optical Fiber Vis NIR (40 Nos.), Fiber Termination Kit (1 Set.), SMA to SMA Connector (50 Nos.) and SMA Connector (100 Nos.) as per technical specifications mentioned in our tender documents

SECTION - C

TECHNICAL SPECIFICATIONS OF STORES AND DRAWINGS.

Technical Specifications for Supply of Optical Fiber Vis NIR (40 Nos.), Fiber Termination Kit (1 Set.), SMA to SMA Connector (50 Nos.) and SMA Connector (100 Nos.)

40 Nos. of 50 meter optical fiber terminated at both ends with SMA, termination KIT, SMA to SMA adapter and spare SMA connectors are required for spectroscopic application. Fiber termination kit will be used to make SMA termination of the optic fiber whenever needed.

1. Technical specification of Optical Fiber Vis NIR, 50 meter length

Sl. No	Parameters	IPR Specifications
1	Quantity	40 Nos.
2	Length of fiber	50m
3	Termination	SMA 905 connection at both end, ferrule material Stainless steel
4	Fiber Type	Multimode single core fiber
5	Core diameter	360 -400 $\mu\text{m} \pm 4 \%$
6	Cladding Thickness	~ 15-20 μm
7	Nonmetallic Protective coating over cladding for operating temperature 0-90C or better	Should be provided
8	Protective sleeve over coating	Should be provided
9	Hydroxyl Content	low OH
10	Wavelength range	400-1100 nm
11	Core	pure Silica
12	NA	0.22
13	Attenuation	< 45 dB /KM in 480 to 860 nm & Maximum attenuation < 150 dB /KM in 400-1100 nm
14	Spool type	Round

2. Technical specification of Fiber Termination kit

Sl. No	Parameters	IPR Specifications
1	Quantity	01 Set.
2	Application	To perform SMA 905 termination
3	Compatibility with fiber core diameter as per sl no 1	Should be compatible
4	Kit should contain all necessary tools such as Fiber scoring tool, cure epoxy, Polishing Puck for SMA connectors, Glass polishing plate, diff grit size polishing papers, crimp tool, Optical wipes, Fiber cutting tool, Fiber inspection scope etc. to make SMA termination fiber with fiber core diameter as	Vender should specify name of tools and confirm whether the tools supplied are sufficient to make SMA termination

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	per sl no 1	
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3. Technical specification of SMA to SMA connector

Sl. No	Parameters	IPR Specifications
1	Quantity	50 Nos.
2	Connector type	for connecting two SMA-905 terminated fiber optic cables
3	Transmission loss	< 3 dB

4. Technical specification of SMA connector

Sl. No	Parameters	IPR Specifications
1	Quantity	100 Nos.
2	Ferrule material	Stainless Steel
3	Connector type	SMA 905
4	Compatibility with fiber core diameter as per sl no 1 for SMA termination	Vender should confirm
5	Connector should include Strain Relief Boot, Crimp Sleeve for Tubing, and Connector Cap	Vender should confirm supply of these items along with connector
6	Compatible to bare optical fiber as of sl no.1	Vender should confirm

Note:-

Item No 1 is to supply 40 Nos. of 50 meter SMA terminated fiber at both the end. Termination kit (Item No#2) will be used to terminate SMA 905 connectors (Item No#4) to the ends of Fiber. So compatibility between Item No# 1, 2 and 4 should be there.

Item No#3 is a mating connector which can connect two SMA 905 terminated fiber optic cables (Item No#4).

Vendor may quote for optional accessories if any and also quote for consumable items like polishing paper, epoxy etc.

Dispatch Clearance

Vendor has to send following certificates to IPR before dispatching the material

- 1) Test Reports for Fiber Optic cable transmissivity /attenuation. [Transmissivity should be > 30% in in 480 to 860 nm wavelength range]
- 2) Certificate of compliance (COC) of the items to the specifications

Vendor has to dispatch the materials only after getting the dispatch clearance certificate from IPR.

Final acceptance at IPR by IPR personnel:

Final acceptance will be given only after reproducing the Pre-dispatch test results at IPR by IPR personnel.

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Compliance Sheet

Compliance Statement for Supply of Optical Fiber Vis NIR (40 Nos.), Fiber Termination Kit (1 Set.), SMA to SMA Connector (50 Nos.) and SMA Connector (100 Nos.)

Bidder must submit compliance statement dully filled with exact technical values of each specifications (Not with OK, CONFIRM, COMPLY, ACCEPTABLE) alongwith official seal and signature with their offer.

1 Optical Fiber Vis NIR, 50 meter length

Sl. No	Parameters	IPR Specifications	Vendor's Specification
1	Quantity	40 Nos.	
2	Length of fiber	50m	
3	Termination	SMA 905 connection at both end, ferrule material Stainless steel	
4	Fiber Type	Multimode single core fiber	
5	Core diameter	360 -400 $\mu\text{m} \pm 4 \%$	
6	Cladding Thickness	~ 15-20 μm	
7	Nonmetallic Protective coating over cladding for operating temperature 0-90C or better	Should be provided	
8	Protective sleeve over coating	Should be provided	
9	Hydroxyl Content	low OH	
10	Wavelength range	400-1100 nm	
11	Core	pure Silica	
12	NA	0.22	
13	Attenuation	< 45 dB /KM in 480 to 860 nm & Maximum attenuation < 150 dB /KM in 400-1100 nm	
14	Spool type	Round	
15	Fiber Optic cable transmissivity test/attenuation test/test report	Must be provided	

2 Fiber Termination kit

Sl. No	Parameters	IPR Specifications	Vendor's Specification
1	Quantity	01 Set.	
2	Application	To perform SMA 905 termination	
3	Compatibility with fiber core diameter as per sl no 1	Should be compatible	
4	Kit should contain all necessary tools such as Fiber scoring tool, cure epoxy, Polishing Puck for SMA connectors, Glass polishing plate,	Vender should specify name of tools and confirm whether the tools supplied are sufficient to make SMA termination	

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	diff grit size polishing papers, crimp tool, Optical wipes, Fiber cutting tool, Fiber inspection scope etc to make SMA termination fiber with fiber core diameter as per sl no 1		
5	Certificate of compliance (COC) to the specifications	Must be provided	

3 SMA to SMA connector

Sl. No	Parameters	IPR Specifications	Vendor's Specification
1	Quantity	50 Nos.	
2	Connector type	for connecting two SMA-905 terminated fiber optic cables	
3	Transmission loss	< 3 dB	
4	Certificate of compliance (COC) to the specifications	Must be provided	

4 SMA connector

Sl. No	Parameters	IPR Specifications	Vendor's Specification
1	Quantity	100 Nos.	
2	Ferrule material	Stainless Steel	
3	Connector type	SMA 905	
4	Compatibility with fiber core diameter as per sl no 1 for SMA termination	Vender should confirm	
5	Connector should include Strain Relief Boot, Crimp Sleeve for Tubing, and Connector Cap	Vender should confirm supply of these items along with connector	
6	Compatible to bare optical fiber as of sl no.1	Vender should confirm	
7	Certificate of compliance (COC) to the specifications	Must be provided	

Authorised Signatory

Official Seal

Date :-