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No. P-63013/33/2019/Mod-I/BSF
Government of India Ministry of Home Affairs
Directorate General Border Security Force
(Prov Dte: Mod Cell)
(Fax: 011-24367683)

Block No.10, CGO Complex,
Lodhi Road, New Delhi-03

Dated, the 12 Dec 2019

To,

DsG : AR (through LOAR), CISF, CRPF, ITBP, SSB, NSG & BPR&D

Sub: **Forwarding of QRs and Trial Directives**

Find enclosed herewith QRs and Trial Directives of "06 Core OFC (Armoured)" as per appendix 'A' and 'B' duly finalized by Sub group of technical experts and approved by DG BSF for your information and necessary action please.

Encl : As above


(Satish Chandra Budakoti)
Dy. Inspector General (Prov)
FHQ BSF, New Delhi

Copy to :-

- | | |
|--|---|
| 1. SO (IT),
North Block MHA,
New Delhi | : You are requested to host the above QRs and TDs
on MHA website please. |
| 2. IT Cell
FHQ BSF,
New Delhi | : You are requested to host the above QRs and TDs
on BSF website please. |

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DIRECTOR GENERAL BORDER SECURITY FORCE
(PROVISIONING DIRECTORATE (MOD CELL))

EXPRESSION OF INTEREST

DIG (Prov)
HQ DG BSF, Prov Dte (Ord Sec)
Block No. 10, CGO Complex
Lodhi Road, New Delhi
(Tele/Fax No. 011-24367683)
Mail id : comdtord@bsf.nic.in

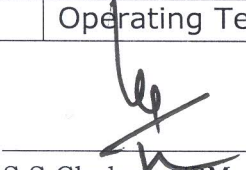
The Sub-group of technical experts on surveillance equipment constituted by MHA vide their letter No. IV-17017/18/2001-Prov-I dated 05 Jul 2002, letter No. IV-24011/12/2011-Prov.I dated 13th June 2012 and O/No. 11012/02/ 2009-Fin-I/Prov.I-17 dated 02nd January 2018 held its meeting at BSF HQ 30th August 2019 to revise the QRs of **06 Core OFC (Armoured)**.

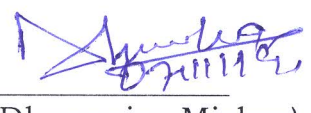
2. After detailed deliberation the referred Sub-group of technical experts has finalized the QRs and TDs of **06 Core OFC (Armoured)** on 07th November 2019 which are as under:-

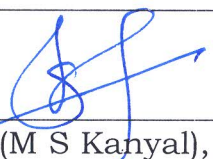
QUALITATIVE REQUIREMENTS OF OFC 6 CORE (ARMOURED)

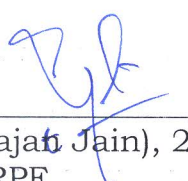
S/No	SPECIFICATION
(A) Optical Fiber Sensor Cable:	
1	Loose Tube jelly filled uni-tube designed.
2	Single Mode : (ITU-T Rec. G652D) Fiber
3	Attenuation : At 1310nm $\leq$ 0.38 dB/Km
4	Attenuation : At 1550 nm $\leq$ 0.25 dB/Km
5	Core Diameter : 9/125/250 μ m
6	Clad Diameter : 125 $\pm$ 1.0 μ m
7	Clad non circularity : < 1.0%
8	Coating Diameter : 245 $\pm$ 10 μ m
9	Chromatic Dispersion : At 1550 nm < 18.0 ps/nm.km
10	Zero Dispersion wave length : 1300 ~1324 nm
11	Zero Dispersion slop : < 0.092 ps/nm ² .km
12	i) Fiber cut off wavelength: $\leq$ 1320nm. ii) Cable cut off wavelength: $\leq$ 1260nm.
13	Polarization Mode Diameter : < 0.2 ps/root km
14	Mode Field Diameter : At 1310 nm 9.2 $\pm$ 0.4 μ m
15	Fiber Identification: Blue, Orange, Green, Brown, Slate, White.
16	No. of fibers : 06F
17	Moisture Barrier: Single layer of water swellable yarn applied longitudinally.
(B) Strength:	
1	Type (Outer Jacket) : 2# Steel wire /FRP RODs (To be decided by the user department at the time of indent)
2	Type (Peripheral) : Aramid Yarn/Glass yarn (To be decided by the user department at the time of indent)
(C) Mechanical and Environmental:	

1	Max Tensile Strength : 3500 Newton
2	Crush Resistance : Newton 4000/10 cm
3	Minimum Bending radius : 20 x Diameter
4	Operating Temperature : -30°C to +70°C

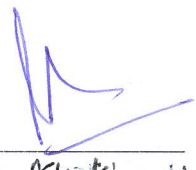

S S Chahar, VSM
ADG (Log) BSF

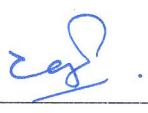

(Dhananjay Mishra)
Comdt, SIW BSF

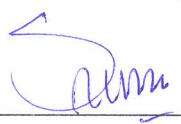

(M S Kanyal), DC
BSF

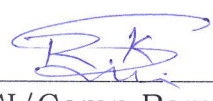

(Rajan Jain), 2IC
CRPF


(R K Meel), DC
CISF

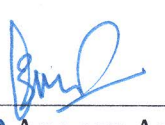

Lt Col A. Mukherjee
AR

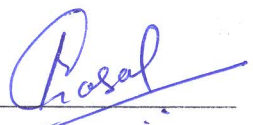

(Gagan Bhardwaj), AC
SIW BSF


(Insp/Tele Suresh Chandra)
ITBP


(ASI/Comn Ram Kishor Swami)
SSB


(Insp/RM Manish Raj)
SIW, BSF


(Insp/RO Apoorv Awasthi)
BSF


(Dr. M. M. Gosal), SSO
GPRD

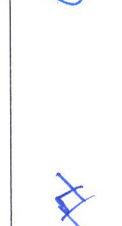
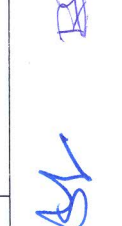
✓
Approved/Not approved


(Vivek Kumar Johri)
Director General
Border Security Force

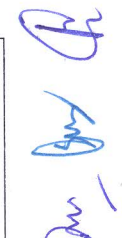
TRIAL DIRECTIVES OF OFC 06 CORE (ARMOURED)

S/No	SPECIFICATION	Trial procedure suggested by BOO	Result expected
(A) Optical Fiber Sensor Cable:			
1	Loose Tube jelly filled uni-tube designed.	Specification to be verified by the BOO through Specs Sheet.	Loose Tube Jelly must be as per the specification mentioned in the QRs.
2	Single Mode : (ITU-T Rec. G652D) Fiber	Specification to be verified by the BOO through Specs Sheet.	Single Mode must be as per the specification mentioned in the QRs.
3	Attenuation : At 1310nm $\leq$ 0.38 dB/Km	Specification to be verified by the BOO through Specs Sheet.	Attenuation must be as per the specification mentioned in the QRs.
4	Attenuation : At 1550 nm $\leq$ 0.25 dB/Km	Specification to be verified by the BOO through Specs Sheet.	Attenuation must be as per the specification mentioned in the QRs.
5	Core Diameter : 9/125/250 μ m	Specification to be verified by the BOO through Specs Sheet.	Core diameter must be as per the specification mentioned in the QRs.
6	Clad Diameter : 125 $\pm$ 1.0 μ m	Specification to be verified by the BOO through Specs Sheet.	Clad Diameter must be as per the specification mentioned in the QRs.
7	Clad non circularity : < 1.0%	Specification to be verified by the BOO through Specs Sheet.	Clad non circularity must be as per the specification mentioned in the QRs.
8	Coating Diameter : 245 $\pm$ 10 μ m	Specification to be verified by the BOO through Specs Sheet.	Coating Diameter must be as per the specification mentioned in the QRs.
9	Chromatic Dispersion : At 1550 nm < 18.0 ps/nm.km	Specification to be verified by the BOO through Specs Sheet.	Chromatic Dispersion must be as per the specification mentioned in the QRs.
10	Zero Dispersion wave length : 1300 ~1324 nm	Specification to be verified by the BOO through Specs Sheet.	Zero Dispersion must be as per the specification mentioned in the QRs.







11	Zero Dispersion slop : < 0.092 ps/nm ² .km	Specification to be verified by the BOO through Specs Sheet.	Zero Dispersion slop must be as per the specification mentioned in the QRs.
12	i) Fiber cut off wavelength: ≤ 1320nm. ii) Cable cut off wavelength: ≤ 1260nm.	Specification to be verified by the BOO through Specs Sheet.	Fiber/Cable cut off wavelength must be as per the specification mentioned in the QRs.
13	Polarization Mode Diameter : < 0.2 ps/root km	Specification to be verified by the BOO through Specs Sheet.	Polarization Mode Diameter must be as per the specification mentioned in the QRs.
14	Mode Field Diameter : At 1310 nm 9.2 ± 0.4 μm	Specification to be verified by the BOO through Specs Sheet.	Mode Field Diameter must be as per the specification mentioned in the QRs.
15	Fiber Identification: Blue, Orange, Green, Brown, Slate, White.	To be physically checked by the BOO.	Fiber identification must be as per the specification mentioned in the QRs.
16	No. of fibers : 06F	To be physically checked by the BOO.	Fibers must be as per the specification mentioned in the QRs.
17	Moisture Barrier: Single layer of water swellable yarn applied longitudinally.	Specification to be verified by the BOO through Specs Sheet.	Moisture Barrier must be as per the specification mentioned in the QRs.
(B) Strength:			
1	Type (Outer Jacket) : 2# Steel wire / FRP RODs (To be decided by the user department at the time of indent)	Specification to be verified by the BOO through Specs Sheet.	Outer Jacket must be as per the specification mentioned in the QRs.
2	Type (Peripheral) : Aramid Yarn/Glass yarn (To be decided by the user department at the time of indent)	Specification to be verified by the BOO through Specs Sheet.	Peripheral must be as per the specification mentioned in the QRs.
(C) Mechanical and Environmental:			
1	Max Tensile Strength : 3500 Newton	Specification to be verified by the BOO through Specs Sheet.	Max Tensile Strength must be as per the specification

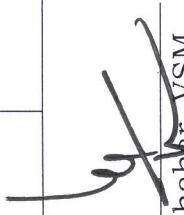









				mentioned in the QRs.
2	Crush Resistance : Newton 4000/10 cm	Specification to be verified by the BOO through Specs Sheet.		Crush Resistance must be as per the specification mentioned in the QRs.
3	Minimum Bending radius : 20 x Diameter	Specification to be verified by the BOO through Specs Sheet.		Minimum Bending radius must be as per the specification mentioned in the QRs.
4	Operating Temperature : -30°C to +70°C	Specification to be verified by the BOO through Specs Sheet.		Operating temperature must be as per the specification mentioned in the QRs.


S S Chahar, VSM
ADG (Log) BSF

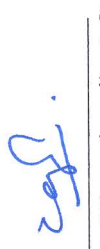

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Assam Rifles


(Gagan Bhardwaj), AC
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(ASI/Comn Ram Kishor Swami)
SSB


(Insp/RM Manish Raj)
SIW, BSF


(Insp/Tele Suresh Chandra)
ITBP


(Insp/RO Apoorv Awasthi)
BSF


(Dr. M. M. Goswami) SSO
SPR & D

 APPROVED/NOT APPROVED


(Vivek Kumar Johri) IPS
DIRECTOR GENERAL,
BORDER SECURITY FORCE