



**GOVERNMENT OF INDIA  
MINISTRY OF COMMUNICATIONS  
DEPARTMENT OF TELECOMMUNICATIONS  
TELECOMMUNICATION ENGINEERING CENTRE  
Gate No. 5, Khurshid Lal Bhawan, Janpath, New Delhi-110001**

## **CERTIFICATE OF DESIGNATION**

**M/S HFCL LTD. (OFC TESTING LAB), GOA**  
has been assessed and designated as Conformity Assessment Body (CAB)  
for its facilities at

**L-35, 36, 37, VERNA INDUSTRIAL ESTATE, VERNA SOUTH GOA INDIA,  
Goa, South Goa– 403 722**

**In the field of Testing**

**Certificate No. TEC/MRA/CAB/IND-D/87**

**Issue Date: 29/12/2023**

**Validity: 29/12/2023 to 28/12/2026**

**This Certificate remains valid for the Scope of Designation as specified in the Annexure subject to the continued validity of NABL Accreditation and satisfied compliance to the Standards/specifications against which lab has been designated and strict compliance to the relevant terms and conditions of TEC CAB Designation Scheme.**

**(To see the scope of designation of this laboratory, you may also visit TEC website [www.tec.gov.in](http://www.tec.gov.in))**

**Signed for and on behalf of TEC**

**Signed by Vijay Dixit  
Date: 29-12-2023 12:21:56**

**Vijay Dixit  
Director (CA)  
For Designating Authority  
TEC**

**Certificate No: TEC/MRA/CAB/IND-D/87 dated 29/12/2023 issued to  
M/S HFCL Ltd. (OFC Testing Lab), Goa  
L-35, 36, 37, VERNA INDUSTRIAL ESTATE,  
VERNA SOUTH GOA INDIA, Goa, South Goa– 403 722**



**Validity: - 29/12/2023 to 28/12/2026**

### **Terms & Conditions**

This certificate is issued as per the terms and conditions stipulated in the TEC SCHEME FOR DESIGNATING DOMESTIC CONFORMITY ASSESEMENT BODIES AND CERTIFICATION BODIES FOR CONFORMITY ASSESEMENT AND CERTIFICATION OF TELECOMMUNICATION EQUIPMENT ISSUE 3 NO. TEC 04019:2023.

Some of the conditions are reiterated as under:

#### **A. Obligations of the Designated CAB.**

1. It shall ensure that it maintains its accreditation status from any recognised Indian accreditation body like NABL during validity period of certificate.
2. It shall follow the stipulated procedures, rules and policies laid down by Designating Authority (DA) or Mutual Recognition Agreement (MRA)\* partner for testing and evaluation.
3. In respect of tests for which it is seeking designation, it shall have no interest whatsoever in any business to carry on testing in an unfair or biased manner.
4. It shall fully indemnify DA from and against all liabilities, damages, claims, costs, and expenses incurred or sustained by DA as a result of any action taken or omitted by DA relating to the process of designation.
5. It shall comply with DA's or MRA partner's terms and conditions for designation and recognition as modified from time to time.
6. It shall be under obligation to participate in the online process prescribed by TEC for test and certification against TEC's GR/IR/ER and standards.
7. It shall have a record system which shall have a retention period of at least 5 years for documents related to the equipment testing. It shall maintain all the relevant documents including list of products submitted for testing, product-wise testing and evaluation reports. These documents shall be produced before the DA within seven days, as and when required.
8. It shall ensure the Intellectual Property Rights of the customers in the course of testing by maintaining professional ethics, secrecy and keeping all the product related information confidential.

\*Applicable only if recognized by MRA (Mutual Recognition Agreement) partner.

9. It shall notify the DA in writing of occurrence of any of the following incident(s) within 2 weeks of its occurrence
  - a) Cessation of its business of conformity assessment for which it is Designated or accredited
  - b) Changes in its legal, commercial, or Organisational status
  - c) Changes, which may affect continuing compliance with any of the criteria or requirement specified by DA or MRA partner.
  - d) Change of premises

## **B. REFERENCE TO DESIGNATION STATUS**

1. Designated CABs may advertise their designation status with regard to standards or parts thereof which are included in the scope of designation.
2. The advertisement should not imply, or otherwise suggest that DA or MRA Partner has endorsed the product or imply that the designated CAB is an agent or representative of DA or MRA Partner.
3. CABs whose designations have been suspended or withdrawn for any reason, shall discontinue advertisement of their designated status and not make any misleading statements regarding their designation status.

## **C. POST-DESIGNATION SURVEILLANCE**

As and when required, DA shall conduct surveillance assessments and other non-routine assessments on the Designated CABs to ensure that standards of practices are maintained as well as to investigate complaints made against them.

## **D. SUSPENSION OR WITHDRAWAL OF DESIGNATION**

1. DA shall suspend or withdraw the designation of a CAB if
  - a. Its accreditation is withdrawn.
  - b. It is found that the CAB is not complying with the stipulated criteria or requirements.
  - c. It is guilty of any offence involving fraud or dishonesty.
  - d. DA concludes that there is a just cause for withdrawing the designation.
2. A CAB whose designation, and recognition in case of MRA, has been suspended or withdrawn shall be removed from the list of designated CABs, in case it fails to take corrective measures.
3. DA shall keep the designation of a Designated CAB under suspension, until the completion of formal review process.

## **E. AMENDMENT TO THE SCHEME**

DA reserves the rights to amend the scheme, as and when required, for the purpose of streamlining designation process.

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**SCOPE OF DESIGNATION**  
**(ANNEXURE)**

**Laboratory Name:** M/S HFCL Ltd. (OFC Testing Lab), Goa  
L-35, 36, 37, VERNA INDUSTRIAL ESTATE,  
VERNA SOUTH GOA INDIA, Goa, South Goa- 403 722

**Certificate Number:** TEC/MRA/CAB/IND-D/87

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**Validity:** 29/12/2023 to 28/12/2026

**Last Amended on:** ----

Sl. No.	Telecom Equipment / Product	Test Parameter or Type of Testing	Standard/ Specification	
1	Optical Fibre Cable-Duct	Transmission Characteristics	Attenuation at 1310 nm IEC 60793-1-40	TEC ER No. TEC 70022311
			Attenuation at 1550 nm IEC 60793-1-40	TEC ER No. TEC 70022311
			Attenuation at 1625 nm IEC 60793-1-40	TEC ER No. TEC 70022311
			PMD Cabled Loose Fibre IEC 60793-1-48	TEC ER No. TEC 70022311
			PMD Cabled Ribbon Fibre IEC 60793-1-48	TEC ER No. TEC 70022311
		Mechanical Characteristics	Tensile Strength IEC 60794-1-21	TEC ER No. TEC 70022311
			Crush Resistance IEC 60794-1-21	TEC ER No. TEC 70022311
			Impact IEC 60794-1-21	TEC ER No. TEC 70022311
			Bend Test IEC 60794-1-21	TEC ER No. TEC 70022311
			Repeated Bend Test IEC 60794-1-21	TEC ER No. TEC 70022311
			Torsion Test IEC 60794-1-21	TEC ER No. TEC 70022311
			Cable Drip Test IEC 60794-1-22	TEC ER No. TEC 70022311
		Environmental Characteristics	Temperature Cycling IEC 60794-1-22	TEC ER No. TEC 70022311

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Sl. No.	Telecom Equipment / Product	Test Parameter or Type of Testing	Standard/ Specification	
	<b>Optical Fibre Cable-Duct</b>	Environmental Characteristics	Cable Aging test IEC 60794-1-22	TEC ER No. TEC 70022311
			Water Blocking Test/Water Penetration Test IEC 60794-1-22	TEC ER No. TEC 70022311
			Electrical continuity test IEC 60794-1-403	TEC ER No. TEC 70022311
		Characteristics of Cable Elements (Buffer Tube)	Kink resistance Test IEC 60794-1-23	TEC ER No. TEC 70022311
		Characteristics of Cable Elements (Ribbed Fibre)	Ribbon Dimension IEC 60794-1-23	TEC ER No. TEC 70022311
			Separability of individual fibres from ribbon IEC 60794-1-23	TEC ER No. TEC 70022311
			Ribbon Twist Test Telecordia GR-20, IEC 60794-1-23	TEC ER No. TEC 70022311
			Ribbon Torsion Resistance IEC 60794-1-31	TEC ER No. TEC 70022311
		<b>Optical Fibre Cable-Micro Duct</b>	Transmission Characteristics	Attenuation at 1310 nm IEC 60793-1-40
	Attenuation at 1550 nm IEC 60793-1-40			TEC ER No. TEC 70022311
Attenuation at 1625 nm IEC 60793-1-40	TEC ER No. TEC 70022311			
PMD Cabled Loose Fibre IEC 60793-1-48	TEC ER No. TEC 70022311			

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Sl. No.	Telecom Equipment / Product	Test Parameter or Type of Testing	Standard/ Specification
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<b>Optical Fibre Cable-Micro Duct</b>	<b>Transmission Characteristics</b>	PMD Cabled Ribbon Fibre IEC 60793-1-48	TEC ER No. TEC 70022311
	<b>Mechanical Characteristics</b>	Tensile Strength IEC 60794-1-21	TEC ER No. TEC 70022311
		Crush Resistance IEC 60794-1-21	TEC ER No. TEC 70022311
		Impact IEC 60794-1-21	TEC ER No. TEC 70022311
		Bend Test IEC 60794-1-21	TEC ER No. TEC 70022311
		Repeated Bend Test IEC 60794-1-21	TEC ER No. TEC 70022311
		Torsion Test IEC 60794-1-21	TEC ER No. TEC 70022311
		Cable Drip Test IEC 60794-1-22	TEC ER No. TEC 70022311
		<b>Environmental Characteristics</b>	Temperature Cycling IEC 60794-1-22
	Cable Aging test IEC 60794-1-22		TEC ER No. TEC 70022311
	Water Blocking Test/Water Penetration Test IEC 60794-1-22		TEC ER No. TEC 70022311

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Sl. No.	Telecom Equipment / Product	Test Parameter or Type of Testing	Standard/ Specification
	<b>Optical Fibre Cable-Micro Duct</b>	<b>Characteristics of Cable Elements (Buffer Tube)</b>	Kink resistance Test IEC 60794-1-23 TEC ER No. TEC 70022311
		<b>Characteristics of Cable Elements (Ribboned Fibre)</b>	Ribbon Dimension IEC 60794-1-23 TEC ER No. TEC 70022311
			Separability of individual fibres from ribbon IEC 60794-1-23 TEC ER No. TEC 70022311
			Ribbon Twist Test Telecordia GR-20, IEC 60794-1-23 TEC ER No. TEC 70022311
			Ribbon Torsion Resistance IEC 60794-1-31 TEC ER No. TEC 70022311
<b>Optical Fibre Cable-Direct Buried</b>	<b>Transmission Characteristics</b>	Attenuation at 1310 nm IEC 60793-1-40 TEC ER No. TEC 70022311	
		Attenuation at 1550 nm IEC 60793-1-40 TEC ER No. TEC 70022311	
		Attenuation at 1625 nm IEC 60793-1-40 TEC ER No. TEC 70022311	
		PMD Cabled Loose Fibre IEC 60793-1-48 TEC ER No. TEC 70022311	
		PMD Cabled Ribbon Fibre IEC 60793-1-48 TEC ER No. TEC 70022311	
	<b>Mechanical Characteristics</b>	Tensile Strength IEC 60794-1-21 TEC ER No. TEC 70022311	

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Sl. No.	Telecom Equipment / Product	Test Parameter or Type of Testing	Standard/ Specification	
	<b>Optical Fibre Cable-Direct Buried</b>	<b>Mechanical Characteristics</b>	Crush Resistance IEC 60794-1-21	TEC ER No. TEC 70022311
			Impact IEC 60794-1-21	TEC ER No. TEC 70022311
			Bend Test IEC 60794-1-21	TEC ER No. TEC 70022311
			Repeated Bend Test IEC 60794-1-21	TEC ER No. TEC 70022311
			Torsion Test IEC 60794-1-21	TEC ER No. TEC 70022311
			Cable Drip Test IEC 60794-1-22	TEC ER No. TEC 70022311
		<b>Environmental Characteristics</b>	Temperature Cycling IEC 60794-1-22	TEC ER No. TEC 70022311
			Cable Aging test IEC 60794-1-22	TEC ER No. TEC 70022311
			Water Blocking Test/Water Penetration Test IEC 60794-1-22	TEC ER No. TEC 70022311
			Electrical continuity test IEC 60794-1-403	TEC ER No. TEC 70022311
		<b>Characteristics of Cable Elements (Buffer Tube)</b>	Kink resistance Test IEC 60794-1-23	TEC ER No. TEC 70022311

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Sl. No.	Telecom Equipment / Product	Test Parameter or Type of Testing	Standard/ Specification	
	<b>Optical Fibre Cable-Direct Buried</b>	<b>Characteristics of Cable Elements (Ribboned Fibre)</b> Ribbon Dimension IEC 60794-1-23	TEC ER No. TEC 70022311	
		Separability of individual fibres from ribbon IEC 60794-1-23	TEC ER No. TEC 70022311	
		Ribbon Twist Test Telecordia GR-20, IEC 60794-1-23	TEC ER No. TEC 70022311	
		Ribbon Torsion Resistance IEC 60794-1-31	TEC ER No. TEC 70022311	
	<b>Optical Fibre Cable-ADSS along Power Line</b>	<b>Transmission Characteristics</b>	Attenuation at 1310 nm IEC 60793-1-40	TEC ER No. TEC 70022311
			Attenuation at 1550 nm IEC 60793-1-40	TEC ER No. TEC 70022311
			Attenuation at 1625 nm IEC 60793-1-40	TEC ER No. TEC 70022311
			PMD Cabled Loose Fibre IEC 60793-1-48	TEC ER No. TEC 70022311
			PMD Cabled Ribbon Fibre IEC 60793-1-48	TEC ER No. TEC 70022311
		<b>Mechanical Characteristics</b>	Tensile Strength IEC 60794-1-21	TEC ER No. TEC 70022311
Crush Resistance IEC 60794-1-21			TEC ER No. TEC 70022311	
Impact IEC 60794-1-21			TEC ER No. TEC 70022311	
	Bend Test IEC 60794-1-21	TEC ER No. TEC 70022311		

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Sl. No.	Telecom Equipment / Product	Test Parameter or Type of Testing	Standard/ Specification
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<b>Optical Fibre Cable- ADSS along Power Line</b>	<b>Mechanical Characteristics</b>	Repeated Bend Test IEC 60794-1-21	TEC ER No. TEC 70022311
		Torsion Test IEC 60794-1-21	TEC ER No. TEC 70022311
		Cable Drip Test IEC 60794-1-22	TEC ER No. TEC 70022311
	<b>Environmental Characteristics</b>	Temperature Cycling IEC 60794-1-22	TEC ER No. TEC 70022311
		Cable Aging test IEC 60794-1-22	TEC ER No. TEC 70022311
		Water Blocking Test/Water Penetration Test IEC 60794-1-22	TEC ER No. TEC 70022311
	<b>Characteristics of Cable Elements (Buffer Tube)</b>	Kink resistance Test IEC 60794-1-23	TEC ER No. TEC 70022311
	<b>Characteristics of Cable Elements (Ribboned Fibre)</b>	Ribbon Dimension IEC 60794-1-23	TEC ER No. TEC 70022311
		Separability of individual fibres from ribbon IEC 60794-1-23	TEC ER No. TEC 70022311
		Ribbon Twist Test Telecordia GR-20, IEC 60794-1-23	TEC ER No. TEC 70022311
		Ribbon Torsion Resistance IEC 60794-1-31	TEC ER No. TEC 70022311

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**Last Amended on:** ----

Sl. No.	Telecom Equipment / Product	Test Parameter or Type of Testing	Standard/ Specification
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<b>Optical Fibre Cable- ADSS on Aerial alignment</b>	<b>Transmission Characteristics</b>	Attenuation at 1310 nm IEC 60793-1-40	TEC ER No. TEC 70022311
		Attenuation at 1550 nm IEC 60793-1-40	TEC ER No. TEC 70022311
		Attenuation at 1625 nm IEC 60793-1-40	TEC ER No. TEC 70022311
		PMD Cabled Loose Fibre IEC 60793-1-48	TEC ER No. TEC 70022311
		PMD Cabled Ribbon Fibre IEC 60793-1-48	TEC ER No. TEC 70022311
	<b>Mechanical Characteristics</b>	Tensile Strength IEC 60794-1-21	TEC ER No. TEC 70022311
		Crush Resistance IEC 60794-1-21	TEC ER No. TEC 70022311
		Impact IEC 60794-1-21	TEC ER No. TEC 70022311
		Bend Test IEC 60794-1-21	TEC ER No. TEC 70022311
		Repeated Bend Test IEC 60794-1-21	TEC ER No. TEC 70022311
		Torsion Test IEC 60794-1-21	TEC ER No. TEC 70022311
		Cable Drip Test IEC 60794-1-22	TEC ER No. TEC 70022311

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Sl. No.	Telecom Equipment / Product	Test Parameter or Type of Testing	Standard/ Specification		
	<b>Optical Fibre Cable- ADSS on Aerial alignment</b>	<b>Environmental Characteristics</b>	Temperature Cycling IEC 60794-1-22	TEC ER No. TEC 70022311	
			Cable Aging test IEC 60794-1-22	TEC ER No. TEC 70022311	
			Water Blocking Test/Water penetration Test IEC 60794-1-22	TEC ER No. TEC 70022311	
		<b>Characteristics of Cable Elements (Buffer Tube)</b>	Kink resistance Test IEC 60794-1-23	TEC ER No. TEC 70022311	
		<b>Characteristics of Cable Elements (Ribboned Fibre)</b>	Ribbon Dimension IEC 60794-1-23	TEC ER No. TEC 70022311	
			Separability of individual fibres from ribbon IEC 60794-1-23	TEC ER No. TEC 70022311	
			Ribbon Twist Test Telecordia GR-20, IEC 60794-1-23	TEC ER No. TEC 70022311	
			Ribbon Torsion Resistance IEC 60794-1-31	TEC ER No. TEC 70022311	
		<b>Optical Fibre Cable- Indoor</b>	<b>Transmission Characteristics</b>	Attenuation at 1310 nm IEC 60793-1-40	TEC ER No. TEC 70022311
				Attenuation at 1550 nm IEC 60793-1-40	TEC ER No. TEC 70022311

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Sl. No.	Telecom Equipment / Product	Test Parameter or Type of Testing	Standard/ Specification	
	<b>Optical Fibre Cable- Indoor</b>	<b>Transmission Characteristics</b>	Attenuation at 1625 nm IEC 60793-1-40	TEC ER No. TEC 70022311
			PMD Cabled Loose Fibre IEC 60793-1-48	TEC ER No. TEC 70022311
			PMD Cabled Ribbon Fibre IEC 60793-1-48	TEC ER No. TEC 70022311
		<b>Mechanical Characteristics</b>	Tensile Strength IEC 60794-1-21	TEC ER No. TEC 70022311
			Crush Resistance IEC 60794-1-21	TEC ER No. TEC 70022311
			Impact IEC 60794-1-21	TEC ER No. TEC 70022311
			Bend Test IEC 60794-1-21	TEC ER No. TEC 70022311
			Repeated Bend Test IEC 60794-1-21	TEC ER No. TEC 70022311
			Torsion Test IEC 60794-1-21	TEC ER No. TEC 70022311
			Cable Drip Test IEC 60794-1-22	TEC ER No. TEC 70022311
		<b>Environmental Characteristics</b>	Temperature Cycling IEC 60794-1-22	TEC ER No. TEC 70022311
			Cable Aging test IEC 60794-1-22	TEC ER No. TEC 70022311

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**DEPARTMENT OF TELECOMMUNICATIONS**  
**TELECOMMUNICATION ENGINEERING CENTRE**  
Gate No. 5, Khurshid Lal Bhawan, Janpath, New Delhi - 110 001



**SCOPE OF DESIGNATION**  
**(ANNEXURE)**

**Laboratory Name:** M/S HFCL Ltd. (OFC Testing Lab), Goa  
L-35, 36, 37, VERNA INDUSTRIAL ESTATE,  
VERNA SOUTH GOA INDIA, Goa, South Goa- 403 722

**Certificate Number:** TEC/MRA/CAB/IND-D/87

**Page 11 of 17**

**Validity:** 29/12/2023 to 28/12/2026

**Last Amended on:** ----

Sl. No.	Telecom Equipment / Product	Test Parameter or Type of Testing	Standard/ Specification
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<b>Optical Fibre Cable- Indoor</b>	<b>Environmental Characteristics</b>	Water Blocking Test/Water penetration Test IEC 60794-1-22	TEC ER No. TEC 70022311
	<b>Characteristics of Cable Elements (Buffer Tube)</b>	Kink resistance Test IEC 60794-1-23	TEC ER No. TEC 70022311
	<b>Characteristics of Cable Elements (Ribboned Fibre)</b>	Ribbon Dimension IEC 60794-1-23	TEC ER No. TEC 70022311
		Separability of individual fibres from ribbon IEC 60794-1-23	TEC ER No. TEC 70022311
		Ribbon Twist Test Telecordia GR-20, IEC 60794-1-23	TEC ER No. TEC 70022311
		Ribbon Torsion Resistance IEC 60794-1-31	TEC ER No. TEC 70022311
<b>Optical Fibre Cable- Access Outdoor</b>	<b>Transmission Characteristics</b>	Attenuation at 1310 nm IEC 60793-1-40	TEC ER No. TEC 70022311
		Attenuation at 1550 nm IEC 60793-1-40	TEC ER No. TEC 70022311
		Attenuation at 1625 nm IEC 60793-1-40	TEC ER No. TEC 70022311
		PMD Cabled Loose Fibre IEC 60793-1-48	TEC ER No. TEC 70022311
		PMD Cabled Ribbon Fibre IEC 60793-1-48	TEC ER No. TEC 70022311

**\*The validity of Certificate is up to 28/12/2026 or the continued validity of NABL Accreditation, whichever is earlier.**

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**Page 12 of 17**

**Validity:** 29/12/2023 to 28/12/2026

**Last Amended on:** ----

Sl. No.	Telecom Equipment / Product	Test Parameter or Type of Testing	Standard/ Specification
	<b>Optical Fibre Cable- Access Outdoor</b>	<b>Mechanical Characteristics</b>	
		Tensile Strength IEC 60794-1-21	TEC ER No. TEC 70022311
		Crush Resistance IEC 60794-1-21	TEC ER No. TEC 70022311
		Impact IEC 60794-1-21	TEC ER No. TEC 70022311
		Bend Test IEC 60794-1-21	TEC ER No. TEC 70022311
		Repeated Bend Test IEC 60794-1-21	TEC ER No. TEC 70022311
		Torsion Test IEC 60794-1-21	TEC ER No. TEC 70022311
		Cable Drip Test IEC 60794-1-22	TEC ER No. TEC 70022311
		<b>Environmental Characteristics</b>	
		Temperature Cycling IEC 60794-1-22	TEC ER No. TEC 70022311
		Cable Aging test IEC 60794-1-22	TEC ER No. TEC 70022311
		Water Blocking Test/Water penetration Test IEC 60794-1-22	TEC ER No. TEC 70022311
		<b>Characteristics of Cable Elements (Buffer Tube)</b>	
Kink resistance Test IEC 60794-1-23	TEC ER No. TEC 70022311		

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**Certificate Number:** TEC/MRA/CAB/IND-D/87

**Page 13 of 17**

**Validity:** 29/12/2023 to 28/12/2026

**Last Amended on:** ----

Sl. No.	Telecom Equipment / Product	Test Parameter or Type of Testing	Standard/ Specification	
	<b>Optical Fibre Cable- Access Outdoor</b>	<b>Characteristics of Cable Elements (Ribboned Fibre)</b> Ribbon Dimension IEC 60794-1-23	TEC ER No. TEC 70022311	
		Separability of individual fibres from ribbon IEC 60794-1-23	TEC ER No. TEC 70022311	
		Ribbon Twist Test Telecordia GR-20, IEC 60794-1-23	TEC ER No. TEC 70022311	
		Ribbon Torsion Resistance IEC 60794-1-31	TEC ER No. TEC 70022311	
	<b>Optical Fibre Cable- Indoor- Outdoor</b>	<b>Transmission Characteristics</b>	Attenuation at 1310 nm IEC 60793-1-40	TEC ER No. TEC 70022311
			Attenuation at 1550 nm IEC 60793-1-40	TEC ER No. TEC 70022311
			Attenuation at 1625 nm IEC 60793-1-40	TEC ER No. TEC 70022311
			PMD Cabled Loose Fibre IEC 60793-1-48	TEC ER No. TEC 70022311
			PMD Cabled Ribbon Fibre IEC 60793-1-48	TEC ER No. TEC 70022311
	<b>Mechanical Characteristics</b>	Tensile Strength IEC 60794-1-21	TEC ER No. TEC 70022311	
Crush Resistance IEC 60794-1-21		TEC ER No. TEC 70022311		
Impact IEC 60794-1-21		TEC ER No. TEC 70022311		

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## SCOPE OF DESIGNATION

### (ANNEXURE)

**Laboratory Name:** M/S HFCL Ltd. (OFC Testing Lab), Goa  
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**Certificate Number:** TEC/MRA/CAB/IND-D/87

**Page 14 of 17**

**Validity:** 29/12/2023 to 28/12/2026

**Last Amended on:** ----

Sl. No.	Telecom Equipment / Product	Test Parameter or Type of Testing	Standard/ Specification
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<b>Optical Fibre Cable- Indoor- Outdoor</b>	<b>Mechanical Characteristics</b>	Bend Test IEC 60794-1-21	TEC ER No. TEC 70022311
		Repeated Bend Test IEC 60794-1-21	TEC ER No. TEC 70022311
		Torsion Test IEC 60794-1-21	TEC ER No. TEC 70022311
		Cable Drip Test IEC 60794-1-22	TEC ER No. TEC 70022311
	<b>Environmental Characteristics</b>	Temperature Cycling IEC 60794-1-22	TEC ER No. TEC 70022311
		Cable Aging test IEC 60794-1-22	TEC ER No. TEC 70022311
		Water Blocking Test/Water penetration Test IEC 60794-1-22	TEC ER No. TEC 70022311
	<b>Characteristics of Cable Elements (Buffer Tube)</b>	Kink resistance Test IEC 60794-1-23	TEC ER No. TEC 70022311
	<b>Characteristics of Cable Elements (Ribbed Fibre)</b>	Ribbon Dimension IEC 60794-1-23	TEC ER No. TEC 70022311
		Separability of individual fibres from ribbon IEC 60794-1-23	TEC ER No. TEC 70022311
		Ribbon Twist Test Telecordia GR-20, IEC 60794-1-23	TEC ER No. TEC 70022311
			TEC ER No. TEC 70022311

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**Certificate Number:** TEC/MRA/CAB/IND-D/87

**Page 15 of 17**

**Validity:** 29/12/2023 to 28/12/2026

**Last Amended on:** ----

Sl. No.	Telecom Equipment / Product	Test Parameter or Type of Testing	Standard/ Specification
	<b>Optical Fibre Cable- Indoor- Outdoor</b>	<b>Characteristics of Cable Elements (Ribboned Fibre)</b>	Ribbon Torsion Resistance IEC 60794-1-31 TEC ER No. TEC 70022311
	<b>Optical Fibre Cable- In Home</b>	<b>Transmission Characteristics</b>	Attenuation at 1310 nm IEC 60793-1-40 TEC ER No. TEC 70022311
			Attenuation at 1550 nm IEC 60793-1-40 TEC ER No. TEC 70022311
			Attenuation at 1625 nm IEC 60793-1-40 TEC ER No. TEC 70022311
			PMD Cabled Loose Fibre IEC 60793-1-48 TEC ER No. TEC 70022311
			PMD Cabled Ribbon Fibre IEC 60793-1-48 TEC ER No. TEC 70022311
		<b>Mechanical Characteristics</b>	Tensile Strength IEC 60794-1-21 TEC ER No. TEC 70022311
			Crush Resistance IEC 60794-1-21 TEC ER No. TEC 70022311
			Impact IEC 60794-1-21 TEC ER No. TEC 70022311
			Bend Test IEC 60794-1-21 TEC ER No. TEC 70022311
			Repeated Bend Test IEC 60794-1-21 TEC ER No. TEC 70022311

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**Page 16 of 17**

**Validity:** 29/12/2023 to 28/12/2026

**Last Amended on:** ----

Sl. No.	Telecom Equipment / Product	Test Parameter or Type of Testing	Standard/ Specification
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	<b>Optical Fibre Cable-In Home</b>	<b>Mechanical Characteristics</b>	Torsion Test IEC 60794-1-21	TEC ER No. TEC 70022311
		<b>Environmental Characteristics</b>	Temperature Cycling IEC 60794-1-22	TEC ER No. TEC 70022311
			Cable Aging test IEC 60794-1-22	TEC ER No. TEC 70022311
	<b>Optical Fibre Cable-Direct Surface Application (DSA)</b>	<b>Transmission Characteristics</b>	Attenuation at 1310 nm IEC 60793-1-40	TEC ER No. TEC 70022311
			Attenuation at 1550 nm IEC 60793-1-40	TEC ER No. TEC 70022311
			Attenuation at 1625 nm IEC 60793-1-40	TEC ER No. TEC 70022311
			PMD Cabled Loose Fibre IEC 60793-1-48	TEC ER No. TEC 70022311
			PMD Cabled Ribbon Fibre IEC 60793-1-48	TEC ER No. TEC 70022311
		<b>Mechanical Characteristics</b>	Tensile Strength IEC 60794-1-21	TEC ER No. TEC 70022311
			Crush Resistance IEC 60794-1-21	TEC ER No. TEC 70022311
			Impact IEC 60794-1-21	TEC ER No. TEC 70022311
			Bend Test IEC 60794-1-21	TEC ER No. TEC 70022311
			Repeated Bend Test IEC 60794-1-21	TEC ER No. TEC 70022311
			Torsion Test IEC 60794-1-21	TEC ER No. TEC 70022311

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**(ANNEXURE)**

**Laboratory Name:** M/S HFCL Ltd. (OFC Testing Lab), Goa  
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**Certificate Number:** TEC/MRA/CAB/IND-D/87

**Page 17 of 17**

**Validity:** 29/12/2023 to 28/12/2026

**Last Amended on:** ----

Sl. No.	Telecom Equipment / Product	Test Parameter or Type of Testing	Standard/ Specification	
	<b>Optical Fibre Cable-Direct Surface Application (DSA)</b>	<b>Mechanical Characteristics</b>	Cable Drip Test IEC 60794-1-22	TEC ER No. TEC 70022311
		<b>Environmental Characteristics</b>	Temperature Cycling IEC 60794-1-22	TEC ER No. TEC 70022311
			Cable Aging test IEC 60794-1-22	TEC ER No. TEC 70022311
			Water Blocking Test/Water Penetration Test IEC 60794-1-22	TEC ER No. TEC 70022311
			Electrical continuity test IEC 60794-1-403	TEC ER No. TEC 70022311
		<b>Characteristics of Cable Elements (Buffer Tube)</b>	Kink resistance Test IEC 60794-1-23	TEC ER No. TEC 70022311
		<b>Characteristics of Cable Elements (Ribbed Fibre)</b>	Ribbon Dimension IEC 60794-1-23	TEC ER No. TEC 70022311
			Separability of individual fibres from ribbon IEC 60794-1-23	TEC ER No. TEC 70022311
			Ribbon Twist Test Telecordia GR-20, IEC 60794-1-23	
				Ribbon Torsion Resistance IEC 60794-1-31

**AD (Signed) Sanjay Bhardwaj**  
Date: 29-12-2023 13:39:17

**\*The validity of Certificate is up to 28/12/2026 or the continued validity of NABL Accreditation, whichever is earlier.**

**Government of India**  
**Telecommunication Engineering Centre**  
**Department of Telecommunication**  
**Gate No. 5, Khurshid Lal Bhawan, Janpath, New Delhi – 110001.**

स. 1-110/2023- सी. ए. /टी. ई. सी.

दिनांक: - 16.01.2024

**Addendum**

**Subject: Designation of M/s HFCL LTD. (OFC Testing Lab), Goa as Conformity Assessment Body (CAB).**

**Ref: 1. CAB Designation Certificate No. TEC/MRA/CAB/IND-D/87 dated 29.12.2023**

It is informed that the existing scope of Designation of M/s HFCL LTD. (OFC Testing Lab), Goa as a CONFORMITY ASSESSMENT BODY (CAB) of TEC vide **CAB Designation Certificate No. TEC/MRA/CAB/IND-D/87 dated 29.12.2023** is hereby amended for “Mechanical Characteristics” and “Environmental Characteristics” for “**In- Home**” Cable variant of TEC ER of **Optical Fibre Cable** as per detail mentioned below: -

Sl. No.	Telecom Equipment / Product	Characteristics	Existing Scope of Designation	Amended Scope of Designation
1	Optical Fibre Cable- In Home Variant	Mechanical Characteristics	Tensile Strength IEC 60794-1-21	Tensile Strength IEC 60794-1-21/ITU-T Rec. L.111
			Crush Resistance IEC 60794-1-21	Crush Resistance IEC 60794-1-21/ITU-T Rec. L.111
			Impact IEC 60794-1-21	Impact IEC 60794-1-21/ITU-T Rec. L.111
			Bend Test IEC 60794-1-21	Bend Test IEC 60794-1-21/ITU-T Rec. L.111
			Repeated Bend Test IEC 60794-1-21	Repeated Bend Test IEC 60794-1-21/ITU-T Rec. L.111
			Torsion Test IEC 60794-1-21	Torsion Test IEC 60794-1-21/ITU-T Rec. L.111
		Environmental Characteristics	Temperature Cycling IEC 60794-1-22	Temperature Cycling IEC 60794-1-22/ITU-T Rec. L.111
			Cable Aging test IEC 60794-1-22	Cable Aging test IEC 60794-1-22/ITU-T Rec. L.111

2. This letter is issued as Addendum to Certificate No. **TEC/MRA/CAB/IND-D/87** dated **29.12.2023** for carrying out testing against standards as mentioned above.

3. All other scope, terms and conditions and validity of the CAB Designation Certificate No. **TEC/MRA/CAB/IND-D/87** dated **29.12.2023** shall remain unchanged.
4. This is issued with the approval of Competent Authority.

Signed by Sanjay Bhardwaj

Date: 16-01-2024 17:49:36

(Sanjay Bhardwaj)  
Assistant Director (CA-I)  
TEC, New Delhi

To,

**Ms. Vibha Gawde, Quality Manager**  
**M/s HFCL LTD. (OFC Testing Lab), Goa**  
**L-35, 36, 37, VERNA INDUSTRIAL ESTATE,**  
**VERNA SOUTH GOA INDIA, Goa, South Goa– 403 722**  
**Mob: + +91 9765848839**  
**E-Mail id: [vibha.gawde@hfcl.com](mailto:vibha.gawde@hfcl.com)**