ANHUI FEICHUN SPECIAL CABLE CO., LTD.

安徽飞纯特种电缆有限公司

TECHNICAL SPECIFICATION SHEET

Fire-Resistant MICA Fiber Optic Cable

Model: FO-PH120-OM3-6F-LSZH

English / Español • For Peru Market / Para el Mercado Peruano

1. PRODUCT OVERVIEW / DESCRIPCIÓN DEL PRODUCTO

Product Designation

GYX6H-6A1B(OM3-300)

Fire Resistance Rating

PH120 (120 minutes)

Fiber Type

50/125μm OM3 Multimode

Data Rate Capability

10 Gb/s

⚠ CRITICAL SAFETY FEATURE / CARACTERÍSTICA DE SEGURIDAD CRÍTICA

This cable maintains circuit integrity for 120 minutes under direct flame exposure per IEC 60331-25 standards.

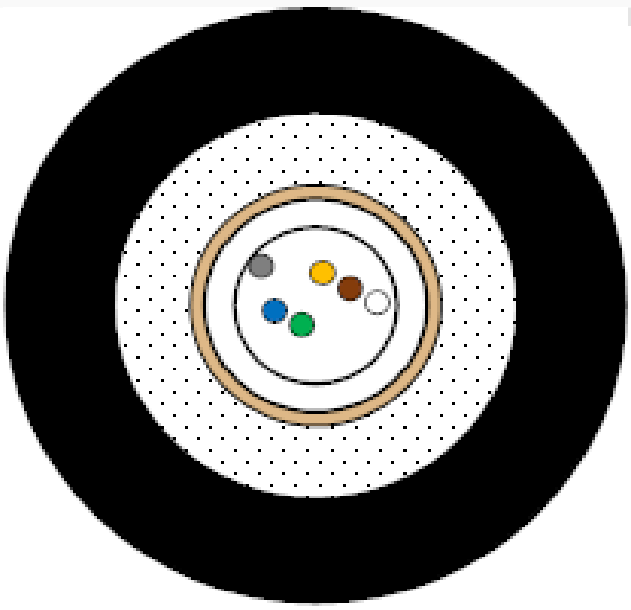
Este cable mantiene la integridad del circuito durante 120 minutos bajo exposición directa a llamas según normas IEC 60331-25.

2. CONSTRUCTION DETAILS / DETALLES DE CONSTRUCCIÓN

[Cable Cross-Section Diagram]

Not to scale / No a escala

Component / Componente	Specification / Especificación	Material / Material
Central Loose Tube	Ø 3.0mm, thixotropic gel-filled	PBT (Polybutylene Terephthalate)
Optical Fibers	6 × 50/125µm OM3	Graded-index multimode glass
Fire-Resistant Layer	Double-wrapped MICA tape	Synthetic phlogopite mica
Reinforcement Elements	High-tensile glass yarns	E-glass filaments (2400 tex)
Water-Blocking System	Super-absorbent yarns	Polyacrylate-based SAP
Outer Sheath	1.5mm nominal thickness	LSZH compound, UV-stabilized



3. PHYSICAL CHARACTERISTICS / CARACTERÍSTICAS FÍSICAS

Parameter / Parámetro	Value / Valor	Unit / Unidad	Tolerance / Tolerancia
Fiber Count	6	fibers	-
Cable Outer Diameter	8.6	mm	±5%
Cable Weight	85	kg/km	±10%
Minimum Bend Radius (Static)	172	mm	20 × OD
Minimum Bend Radius (Dynamic)	258	mm	30 × OD
Maximum Tensile Load	3000	N	-
Crush Resistance	2200	N/100mm	-

4. OPTICAL PERFORMANCE / RENDIMIENTO ÓPTICO

Transmission Characteristics / Características de Transmisión

Parameter	Wavelength (nm)	Maximum Value	Test Method
Attenuation (cabled fiber)	850	≤ 3.3 dB/km	IEC 60793-1-40
Attenuation (cabled fiber)	1300	≤ 1.4 dB/km	IEC 60793-1-40
Overfilled Launch Bandwidth	850	≥ 2000 MHz·km	IEC 60793-1-41
Overfilled Launch Bandwidth	1300	≥ 500 MHz·km	IEC 60793-1-41
Effective Modal Bandwidth (EMB)	850	≥ 2000 MHz·km	IEC 60793-1-49

Geometric Specifications / Especificaciones Geométricas

Parameter	Nominal Value	Tolerance
Core Diameter	50 µm	± 2.5 µm
Cladding Diameter	125 µm	± 1.0 µm
Core/Cladding Concentricity Error	-	≤ 1.0 µm
Cladding Non-Circularity	-	≤ 1.0%
Coating Diameter	245 µm	± 10 µm

5. ENVIRONMENTAL PERFORMANCE / RENDIMIENTO AMBIENTAL

Temperature Ratings / Rangos de Temperatura

Condition / Condición	Temperature Range / Rango de Temperatura
Storage & Transportation / Almacenamiento y Transporte	-40°C to +70°C
Installation / Instalación	0°C to +50°C
Operation / Operación	-40°C to +70°C

Fire Performance Standards / Estándares de Comportamiento ante el Fuego

Test Standard	Requirement	Result
IEC 60331-25	Circuit integrity @ 842°C for 120 minutes	**PASS**
IEC 60332-1-2	Single cable flame propagation	**PASS**
IEC 60332-3-24	Bunched cable flame propagation (Category C)	**PASS**
IEC 61034-2	Smoke density (light transmittance ≥ 60%)	**PASS (≥ 70%)**
IEC 60754-2	Halogen-free (pH ≥ 4.3, conductivity ≤ 10 µS/mm)	**PASS**

6. MECHANICAL TESTING REQUIREMENTS / REQUISITOS DE PRUEBAS MECÁNICAS

Test / Prueba	Standard / Norma	Test Conditions / Condiciones	Acceptance Criteria / Criterios
Tensile Strength	IEC 60794-1-21 E1	3000N, 1 minute, sample ≥ 50m	Δα ≤ 0.4 dB, no visible damage
Crush Resistance	IEC 60794-1-21 E3	2200N/100mm, 1 minute, 3 tests	Δα ≤ 0.4 dB, no visible damage
Impact Resistance	IEC 60794-1-21 E4	1J energy, R=300mm, 3 positions	Δα ≤ 0.4 dB, no visible damage
Torsion	IEC 60794-1-21 E7	±180°, 5 cycles, 2m sample	Δα ≤ 0.4 dB, no visible damage
Repeated Bending	IEC 60794-1-21 E6	25 cycles, R=20×OD	Δα ≤ 0.4 dB, no sheath cracking

7. FIBER IDENTIFICATION / IDENTIFICACIÓN DE FIBRAS

Fiber identification follows TIA-598-C color coding standard:
La identificación de fibras sigue el estándar de código de colores TIA-598-C:

Fiber No.	Color / Color	Fiber No.	Color / Color
1	Blue / Azul	4	Brown / Marrón
2	Orange / Naranja	5	Gray / Gris
3	Green / Verde	6	White / Blanco

Tube Color / Color del Tubo: Natural (uncolored) / Natural (sin color)

8. PACKAGING & LOGISTICS / EMBALAJE Y LOGÍSTICA

Parameter / Parámetro	Specification / Especificación
Standard Delivery Length / Longitud Estándar	4000m (-1% / +3%)
Drum Type / Tipo de Carrete	Wooden drum, weather-protected
Drum Dimensions (D×d×B) / Dimensiones	1150mm × 600mm × 750mm
Gross Weight (approx.) / Peso Bruto	155 kg
Container Loading / Carga en Contenedor	20' FCL: 33 drums | 40' FCL: 66 drums

SHIPPING NOTE FOR PERU / NOTA DE ENVÍO PARA PERÚ

Special packaging available for high-altitude transportation to mining sites.

Embalaje especial disponible para transporte a gran altitud hacia sitios mineros.

9. COMPLIANCE & CERTIFICATIONS / CUMPLIMIENTO Y CERTIFICACIONES

ISO 9001:2015 **IEC 60794** **IEC 60331-25** **RoHS Compliant**

REACH Compliant **CE Marked**

Applicable Standards / Normas Aplicables

✓ IEC 60794-2-20: Indoor optical fiber cables
✓ IEC 60331-25: Fire resistance testing
✓ IEC 60332 series: Flame propagation testing
✓ IEC 61034: Smoke emission measurement
✓ IEC 60754-2: Halogen-free determination
✓ ITU-T G.651.1: Multimode fiber specifications
✓ TIA-568.3-D: Optical fiber cabling components

10. APPLICATION NOTES / NOTAS DE APLICACIÓN

Recommended Applications / Aplicaciones Recomendadas

- Critical infrastructure requiring maintained communication during fire events
- Emergency evacuation systems in tunnels and underground facilities
- Mining operations communication networks
- Industrial process control in hazardous environments
- Data centers with stringent fire safety requirements
- Hospital and healthcare facility backbone networks

Installation Guidelines / Guías de Instalación

- Maintain minimum bend radius during installation to prevent fiber stress
- Maximum pulling tension must not exceed 3000N
- Use appropriate cable grips designed for optical cables
- Install at temperatures above 0°C for optimal handling
- Protect cable ends from moisture ingress during installation

⚡ ALTITUDE CONSIDERATION / CONSIDERACIÓN DE ALTITUD

For installations above 3000m elevation (common in Peruvian mining sites), consult technical support for specialized recommendations.

Para instalaciones sobre 3000m de elevación (común en sitios mineros peruanos), consulte soporte técnico para recomendaciones especializadas.

11. QUALITY ASSURANCE / GARANTÍA DE CALIDAD

Each cable length is individually tested and certified before shipment. Test reports include:
Cada longitud de cable es probada y certificada individualmente antes del envío. Los reportes incluyen:

- OTDR trace for each fiber at 850nm and 1300nm
- Insertion loss measurement
- Fire resistance certificate per batch
- Mechanical performance test results
- Certificate of conformity

Warranty Coverage / Cobertura de Garantía	Period / Período
Manufacturing defects / Defectos de fabricación	25 years / años
Optical performance / Rendimiento óptico	25 years / años
Fire resistance properties / Propiedades ignífugas	25 years / años

12. TECHNICAL SUPPORT / SOPORTE TÉCNICO

Global Technical Support
Email: Tech@feichuncable.com

Peru Regional Office / Oficina Regional Perú
Email: Tech@feichuncable.com

24/7 technical support available for critical infrastructure projects
Soporte técnico 24/7 disponible para proyectos de infraestructura crítica