



**Product:** [GRAJ232](#)

Universal OFC MLT: LSZH + ARAMID + LSZH with 12 Tubes of Ø1.9mm 132f MM OM2.

## Product Description

Universal (Indoor/Outdoor) dry core optical fiber Multi Loose Tube cable with Low Smoke Zero Halogen inner jacket, aramid yarns as strength member and Low Smoke Zero Halogen outer jacket. Existing out of 12 tubes with a diameter of 1.9mm with 132 fibers (11t x 12f) MM OM2.

## Technical Specifications

### Product Overview

Construction Type:	Multi Loose Tube
Environmental Space:	Indoor/Outdoor
Suitable Applications:	For outdoor and indoor use in structured (data) wiring systems such as industrial backbone, campus backbone, building backbone (riser) and/or horizontal cabling. For outdoor and indoor use in networks for industrial, telecom, cable TV and/or broadcast. Easy to install in ducts, tunnels and/or tubes.

### Construction

#### Fiber Cable Construction

Fiber Type	Fiber Count	Subunit Color
OM2	132	TIA coding (Gxxxxxx.T): Blue, Orange, Green, Brown, Gray, White, Red, Black, Yellow, Violet, Pink
Fiber Color Coding:	TIA coding (Gxxxxxx.T): Blue, Orange, Green, Brown, Gray, White, Red, Black, Yellow, Violet, Pink, Aqua	
Central Strength Member:	GRP	
Cable Core Water Tight:	Yes	
Cable Core Waterblocking:	Waterblocking Aramid Yarns + Tape	
Bulk Cable Weight:	240 kg/km	

### SubUnit Specifications

Number of Active Subunits:	11
Number of Subunit Positions:	12
Fibers Per Subunit:	12
Subunit Diameter:	1.9 mm
Subunit Waterblocking:	Gel Filled

### Jacket Specifications

Number of Jackets:	Double Jacket
Type of Armor:	Non-Armored

### Inner Jacket

Material:	LSZH - Low Smoke Zero Halogen (Flame Retardant)
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### Outer Jacket Specifications

#### Outer Jacket

Material	Nominal Diameter	Ripcord
LSZH - Low Smoke Zero Halogen (Flame Retardant)	15.1 mm	Yes
Table Notes:	Standard color: Orange. Available colors: Orange, Yellow, Turquoise, Erika Violet, Red, Blue, Green, Brown, Violet, Pink, Grey, White, Black, Lime Green	

### Optical Characteristics

Max. Attenuation at 1300 nm:	0.9 dB/km
Max. Attenuation at 850 nm:	2.9 dB/km

## Mechanical Characteristics

### Mechanical Tests

Description	Tested Standard	Requirement/Value	According to Family Specification
Cable Min. Bend Radius Installation (Short Term)	IEC 60794-1-21-E6	302 mm	IEC 60794-3-10
Cable Min. Bend Radius Operation (Long Term)	IEC 60794-1-21-E11	226.5 mm	IEC 60794-3-10
Cable Max. Tensile Strength Installation (Short Term)	IEC 60794-1-21-E1	6000 N (1349 lbf)	IEC 60794-3-10
Cable Max. Tensile Strength Operation (Long Term)	IEC 60794-1-21-E1	2000 N (450 lbf)	IEC 60794-3-10
Cable Max. Crush Resistance Installation (Short Term)	IEC 60794-1-21-E3	15 kN/m	IEC 60794-3-10
Cable Max. Crush Resistance Operation (Long Term)	IEC 60794-1-21-E3	7.5 kN/m	IEC 60794-3-10
Cable Impact Resistance	IEC 60794-1-21-E4	10 J, 300 mm Radius, 3 Cycles	IEC 60794-3-10
Cable Torsion Resistance	IEC 60794-1-21-E7	180°, 2 m, 10 cycles	IEC 60794-3-10

## Temperature Range

Operating Temperature Range:	-30 °C to +70 °C
Installation Temperature Range:	-5 °C to +40 °C
Storage Temperature Range:	-30 °C to +70 °C

## Standards

UL Rating/Flame Test:	Non-UL Rated
Reaction to Fire - Bundle Flame Test:	IEC 60332-3-24
IEC 60754-1 - Halogen Amount:	Zero
IEC 60754-2 - Halogen Acid Gas Amount - Max. Conductivity:	10 µS/mm
IEC 60754-2 - Halogen Acid Gas Amount - Min. pH:	4.3
REACH:	Compliant
ISO/IEC Compliance:	IEC 60794, ISO/IEC 11801-1
EU Directive 2011/65/EU (RoHS 2):	Compliant
UV/ Sunlight Protection:	Yes

## History

Update and Revision:	Revision Number: 0.79 Revision Date: 09-17-2024
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