



**Product:** [GRAH224](#)

Universal OFC MLT: LSZH + ARAMID + LSZH with 6 Tubes of Ø1.9mm 24f 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 6 tubes with a diameter of 1.9mm with 24 fibers (2t 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        | 24          | TIA coding (Gxxxxxx.T): Blue, Orange |

|                           |   |
|---------------------------|---|
| 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:        | 155 kg/km   |

#### SubUnit Specifications

|                              |            |
|------------------------------|------------|
| Number of Active Subunits:   | 2          |
| Number of Subunit Positions: | 6          |
| 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) |
|-----------|---|

#### Outer Jacket Specifications

##### Outer Jacket

| Material  | Nominal Diameter | Ripcord |
|---|------------------|---------|
| LSZH - Low Smoke Zero Halogen (Flame Retardant) | 12.1 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  | 242 mm                        | IEC 60794-3-10                    |
| Cable Min. Bend Radius Operation (Long Term)          | IEC 60794-1-21-E11 | 242 mm                        | IEC 60794-3-10                    |
| Cable Max. Tensile Strength Installation (Short Term) | IEC 60794-1-21-E1  | 3900 N (877 lbf)              | IEC 60794-3-10                    |
| Cable Max. Tensile Strength Operation (Long Term)     | IEC 60794-1-21-E1  | 1300 N (292 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 +50 °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: 0.82 Revision Date: 09-17-2024 |
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