



**Product:** [GRAI164](#)

Universal OFC MLT: LSZH + ARAMID + LSZH with 8 Tubes of Ø1.9mm 64f SM OS2 G.657.B3.

## 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 8 tubes with a diameter of 1.9mm with 64 fibers (8t x 8f) SM OS2 G.657.B3.

## 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 Grade acc. ITU-T	Fiber Count	Subunit Color
OS2	G.657B3	64	TIA coding (Gxxxxxx.T): Blue, Orange, Green, Brown, Gray, White, Red, Black
Fiber Color Coding:	TIA coding (Gxxxxxx.T): Blue, Orange, Green, Brown, Gray, White, Red, Black		
Central Strength Member:	GRP		
Cable Core Water Tight:	Yes		
Cable Core Waterblocking:	Waterblocking Aramid Yarns + Tape		
Bulk Cable Weight:	204 kg/km		

#### SubUnit Specifications

Number of Active Subunits:	8
Number of Subunit Positions:	8
Fibers Per Subunit:	8
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)	13.2 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 1310 nm:	0.40 dB/km
Max. Attenuation at 1550 nm:	0.30 dB/km
Max. Attenuation at 1625 nm:	0.30 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	264 mm	IEC 60794-3-10
Cable Min. Bend Radius Operation (Long Term)	IEC 60794-1-21-E11	264 mm	IEC 60794-3-10
Cable Max. Tensile Strength Installation (Short Term)	IEC 60794-1-21-E1	5400 N (1214 lbf)	IEC 60794-3-10
Cable Max. Tensile Strength Operation (Long Term)	IEC 60794-1-21-E1	1800 N (405 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: 0.39 Revision Date: 09-17-2024
----------------------	---

© 2024 Belden, Inc

All Rights Reserved.

Although Belden makes every reasonable effort to ensure their accuracy at the time of this publication, information and specifications described here in are subject to error or omission and to change without notice, and the listing of such information and specifications does not ensure product availability.

Belden provides the information and specifications herein on an "ASIS" basis, with no representations or warranties, whether express, statutory or implied. In no event will Belden be liable for any damages (including consequential, indirect, incidental, special, punitive, or exemplary damages) whatsoever, even if Belden has been advised of the possibility of such damages, whether in an action under contract, negligence or any other theory, arising out of or in connection with the use, or inability to use, the information or specifications described herein.

All sales of Belden products are subject to Belden's standard terms and conditions of sale.

Belden believes this product to be in compliance with all applicable environmental programs as listed in the data sheet. The information provided is correct to the best of Belden's knowledge, information and belief at the date of its publication. This information is designed only as a general guide for the safe handling, storage, and any other operation of the product itself or the one that it becomes a part of. The Product Disclosure is not to be considered a warranty or quality specification. Regulatory information is for guidance purposes only. Product users are responsible for determining the applicability of legislation and regulations based on their individual usage of the product.