

**NOGUxxMA**

**Fiber Optic - Loose Tube – Armored/Single PE Jacket**

	<p>For more information please call <b>1-800-Belden1</b></p> <p><u>See Put-ups and Colors</u></p> <p><b>Related Documents: No.10 for Fiber Optic Cables .pdf</b></p>
---	--

**Cable Characteristics:**

**DESCRIPTION:**

4 to 16 optical fibers, Gel filling loose tubes (4f/T), FRP central strength member, Gel filling cable core, CSTA armor, Single PE jacket (black).

**PHYSICAL CHARACTERISTICS:**

Fiber Type	125/250 µm
Number of Fibers	4 to 16
Number of Fibers per Tube	4
Fiber Color Code Chart:	
<b>Number</b>	<b>Color</b>
1	Blue
2	Orange
3	Green
4	Brown
Buffer Tube Diameter	2.0 mm
Buffer Tube Material	PBT – Polybutylene Terephthalate
Buffer Tube Filling Material	Synthetic Thixotropic Gel
Buffer Tube Color Code Chart:	
<b>Number</b>	<b>Color</b>
1	Blue
2	Orange
3	Green
4	Brown

**STRENGTH MEMBER:**

Central Strength Member Material	Fiberglass Epoxy Rod
----------------------------------	----------------------

**OVERALL CABLING:**

Overall Cabling Fillers	Polypropylene
Cable Core Filling Material	Synthetic Thixotropic Gel

## NOGUxxMA

## Fiber Optic - Loose Tube – Armored/Single PE Jacket

### ARMORING:

Armor Type	Corrugated
Armor Material	Steel Tape
Armor Thickness	0.15 mm

### OUTER JACKET:

Outer Jacket Material	PE – Polyethylene
Outer Jacket Nom. Wall Thickness	1.6 mm
Outer Jacket Color	Black

### OVERALL DIAMETER:

Overall Nominal Diameter	12.0 mm
--------------------------	---------

### MECHANICAL CHARACTERISTICS:

Operating Temperature Range	- 40°C To + 70°C
Storage Temperature Range	- 40°C To + 70°C
Bulk Cable Weight	132 kg/km
Max. Load for Installation	1000 N, Passes IEC794-1
Max. Load for Long Term Application	400 N, Passes IEC794-1
Min Bend Radius for Installation	20 × Cable OD, Passes IEC794-1
Min Bend Radius for Long Term Application	10 × Cable OD, Passes IEC794-1
Crush Resistance	1000 N/100mm, Passes IEC794-1
Impact Resistance	Passes IEC794-1
Solar Radiation Resistance	Passes IEC794-1
Water Penetration	Passes IEC794-1
Compound Flow	Passes IEC794-1
Cyclic Flexing	Passes IEC794-1

### APPLICABLE SPECIFICATION AGENCY COMPLIANCE:

### APPLICABLE STANDARDS:

Specification	IEC 60794-1, EIA/TIA-455
EU RoHS Compliant (Y/N)	Y
EU RoHS Compliance Date	Aug 2007

### SUITABILITY:

Suitability – Indoor (Y/N)	Y
Suitability - Outdoor (Y/N)	Y
Suitability - Aerial (Y/N)	Y
Suitability – Duct (Y/N)	Y
Suitability – Direct Burial (Y/N)	Y

## NOGUxxMA

## Fiber Optic - Loose Tube – Armored/Single PE Jacket

Sunlight Resistance (Y/N)	Y
---------------------------	---

### Optical Characteristics:

SINGLE MODE FIBERS	G652.D (OS2)
Belden Fiber Code	U12
Typical Mode Field Diameter @ 1310nm	9.2 ± 0.4 μm
Typical Mode Field Diameter @ 1550nm	10.4 ± 0.5 μm
Cladding Diameter	125 ± 0.7 μm
Clad Non-Circularity	≤ 0.7 %
Core-Clad Concentricity Error	≤ 0.5 μm
Primary Coating Material	Acrylate
Primary Coating Diameter	245 ± 5 μm
Secondary Color Coating Diameter	250 ± 10 μm
Max. Attenuation @ 1310nm	0.36 dB/km
Max. Attenuation @ 1550nm	0.22 dB/km
Point Loss @ 1310nm & 1550nm	0.05 dB
Zero Dispersion Wavelength	1302 – 1322 nm
Max. Slope @ Zero Dispersion Wavelength	0.090 ps/(nm <sup>2</sup> km)
Max. PMD @ Link Design Value	0.1 ps/√km
Cable Cutoff Wavelength	≤ 1260 nm
Refractive Index @ 1310nm	1.466
Refractive Index @ 1550nm	1.467

MULTI-MODE FIBERS	62.5μm OM1	50μm OM2	50μm OM3
Belden Fiber Code	U62	U50	U53
Typical Core Diameter	62.5 ± 2.5 μm	50.0 ± 2.5 μm	50.0 ± 2.5 μm
Cladding Diameter	125 ± 1.0 μm	125 ± 1.0 μm	125 ± 1.0 μm
Clad Non-Circularity	≤ 1 %	≤ 1 %	≤ 1 %
Core-Clad Concentricity Error	≤ 1.5 μm	≤ 1.5 μm	≤ 1.0 μm
Primary Coating Material	Acrylate	Acrylate	Acrylate
Primary Coating Diameter	245 ± 7 μm	245 ± 7 μm	245 ± 7 μm
Secondary Color Coating Diameter	250 ± 10 μm	250 ± 10 μm	250 ± 10 μm
Max. Attenuation @ 850nm	3.5 dB/km	3.0 dB/km	3.0 dB/km
Max. Attenuation @ 1300nm	1.0 dB/km	1.0 dB/km	1.0 dB/km
Min. Overfilled Bandwidth @ 850nm	200 MHz.km	500 MHz.km	1500 MHz.km

## NOGUxxMA

## Fiber Optic - Loose Tube – Armored/Single PE Jacket

Min. Overfilled Bandwidth @ 1300nm	600 MHz.km	500 MHz.km	500 MHz.km
Point Loss @ 850nm & 1300nm	0.10 dB	0.10 dB	0.10 dB
Numerical Aperture	0.275 ±0.015	0.200 ±0.015	0.200 ±0.015
Refractive Index @ 850nm	1.496	1.482	1.482
Refractive Index @ 1300nm	1.491	1.477	1.477
Min. G-Ethernet Transmission Distance@850nm	300 m	550 m	1000 m
Min.G-EthernetTransmissionDistance@1300nm	550 m	550 m	600 m

### PUT-UPS AND COLORS:

Item	# Fibers	Fiber Type	Cable Description	Put-up* (metre)	Jacket Color
NOGU12MA004BKAA	4	G652.D	LOOSE TUBE CSTA SINGLE PE JACKET	2000	BLACK
NOGU12MA008BKAA	8	G652.D	LOOSE TUBE CSTA SINGLE PE JACKET	2000	BLACK
NOGU12MA016BKAA	16	G652.D	LOOSE TUBE CSTA SINGLE PE JACKET	2000	BLACK
NOGU62MA004BKAA	4	62.5µm OM1	LOOSE TUBE CSTA SINGLE PE JACKET	2000	BLACK
NOGU62MA008BKAA	8	62.5µm OM1	LOOSE TUBE CSTA SINGLE PE JACKET	2000	BLACK
NOGU62MA016BKAA	16	62.5µm OM1	LOOSE TUBE CSTA SINGLE PE JACKET	2000	BLACK
NOGU50MA004BKAA	4	50µm OM2	LOOSE TUBE CSTA SINGLE PE JACKET	2000	BLACK
NOGU50MA008BKAA	8	50µm OM2	LOOSE TUBE CSTA SINGLE PE JACKET	2000	BLACK
NOGU50MA016BKAA	16	50µm OM2	LOOSE TUBE CSTA SINGLE PE JACKET	2000	BLACK
NOGU53MA004BKAA	4	50µm OM3	LOOSE TUBE CSTA SINGLE PE JACKET	2000	BLACK
NOGU53MA008BKAA	8	50µm OM3	LOOSE TUBE CSTA SINGLE PE JACKET	2000	BLACK
NOGU53MA016BKAA	16	50µm OM3	LOOSE TUBE CSTA SINGLE PE JACKET	2000	BLACK

\* Other put-ups available upon request.

Revision Number: 7

Revision Date: 6/3/2014

©Copyright 2014 Belden, Inc  
All Rights Reserved.

Although Belden ("Belden") makes every reasonable effort to ensure their accuracy at the time of this publication, information and specifications described herein 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 "AS IS" 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 the following environmental regulations: California Proposition 65 Consent Judgment For Wire & amp; Cable Mfgs.(San Francisco Superior Court Nos. 312962 And 320342); EU RoHS (Directive 2002/95/EC, 27-Jan2003); Material manufactured prior to the compliance date may still be in stock at Belden facilities and in our Distributor's inventory. EU ELV (Directive 2000/53/EC, 18-Sept-2000); EU WEEE (Directive 2002/96/EC, 27-Jan-2003); And EU BFR (Directive 2003/11/EC, 6-Feb2003). The information provided in this Product Disclosure, and the identification of materials listed as

---

**NOGUxxMA**

**Fiber Optic - Loose Tube – Armored/Single PE Jacket**

reportable or restricted within the Product Disclosure, is correct to the best of Belden's knowledge, information and belief at the date of its publication. The information provided in the Product Disclosure 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. This 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.