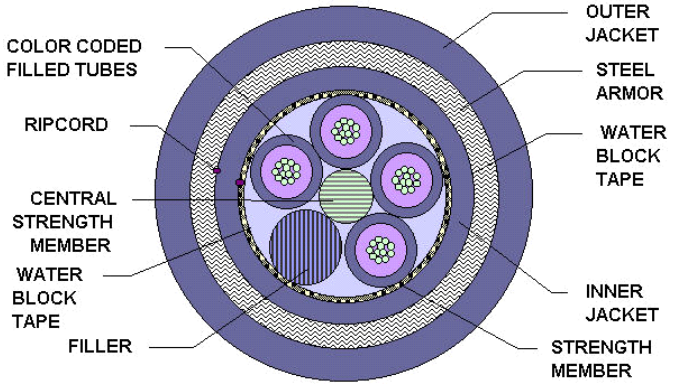
OSP LOOSE TUBE DIRECT BURIAL FIBER OPTIC CABLE
PRODUCT SPECIFICATION
43XXX12SMBSXWS

This document establishes the specifications for an outdoor, direct burial, armored multimode fiber optic cable, in a dry block loose buffer tube design with enhanced crush resistance. It contains test values for all-important mechanical, optical, and environmental parameters and as such, is the basis for all-incoming inspection and acceptance.

1.0 CABLE CROSS SECTION



2.0 OVERALL CABLE CONSTRUCTION

2.1 Buffer tube
High Modulus Polymeric material
Dimension: 2.8 mm. nominal.
Tube and fiber color code per EIA/TIA-598 or as specified by customer.
Filling compound: A non-toxic and dermatological safe antioxidant hydrocarbon based gel.

2.2 Dielectric Central strength member
Epoxy glass rod with an up-coat of polymer (if necessary per construction).
Water swellable yarns are to be pulled in with the CSM.

2.3 Cable Core
The cable elements are stranded around the CSM, using reverse oscillation.
Moisture Resistance: A water blocking tape is applied over the cable core to prevent water ingress and migration with a nominal of 25% overlap.
Non-wicking binder yarns are applied over the core tape.

2.4 Cable strength
Circumferential strength members are placed over the cable core and under the outer sheath.

2.5 Inner Sheath
Polyethylene
A ripcord is applied under the inner sheath.

2.6 Moisture Resistance
A water blocking tape is applied over the cable core to prevent water ingress and migration with a nominal of 25% overlap.

2.7 Steel Armor tape
Corrugated flexible steel with plastic coating for bonding to sheath. The armor of each length of cable shall be electrically continuous with no more than one splice allowed per kilometer of cable. The breaking strength of any section of an armor tape containing a factory splice joint, shall not be less than 80% of the breaking strength of an adjacent section of the armor of equal length without a joint.
A ripcord is applied under the armor tape.

2.8 Outer Sheath
UV Resistant Black Polyethylene

2.9 Cable Markings
Indent printed: CCT GROUP 43, FIBER OPTIC CABLE, # of fibers-50/125, 10GIG OM3, CONVERGENT CONNECTIVITY TECHNOLOGY, MM/YY (month and year of manufacture), sequentially meter marked. Special print as required by customer.

2.10 Nominal Cable Dimensions & Weights

CCT Part Number	No. of Fibers per Tube	Cable OD (mm)	Cable OD (in.)	Weight KG/KM	Weight LB/1000ft
4300612SMBSFWS	6	15.7	.619	214	144
4300812SMBSHWS	8	15.7	.619	213	143
4301212SMBSFWS	6	15.7	.619	214	144
4301212SMBSLWS	12	15.7	.619	213	143
4301612SMBSHWS	8	15.7	.619	214	144
4301812SMBSFWS	6	15.7	.619	214	144
4302412SMBSFWS	6	15.7	.619	216	145
4302412SMBSLWS	12	15.7	.619	218	147
4303012SMBSFWS	6	15.7	.619	216	145
4303612SMBSFWS	6	16.5	.649	235	158
4303612SMBSLWS	12	15.7	.619	214	144
4304812SMBSLWS	12	15.7	.619	215	145
4306012SMBSLWS	12	15.7	.619	215	145
4307212SMBSLWS	12	16.5	.649	235	158
4308412SMBSLWS	12	17.5	.689	268	180
4309612SMBSLWS	12	18.4	.724	280	188
4310812SMBSLWS	12	19.8	.779	333	224
4312012SMBSLWS	12	20.7	.814	356	239
4314412SMBSLWS	12	22.5	.884	415	279
4321612SMBSLWS	12	23.1	.910	428	288
4328812SMBSLWS	12	25.9	1.020	508	341

3.0 FIBER CHARACTERISTICS

Fiber Type	**Multimode Graded Index***
Maximum Attenuation @ 850/1300nm	3.0 /1.0 dB/km
Led Performance (Overfilled Launch Bandwidth)	1500/500MHz-KM@850/1300
Laser EMB Peformance	2000/500MHz-km@850/1300
Core Diameter, nominal	50 ± 3.0 µm
Cladding Diameter	125.0 ± 2.0 µm
Primary Coating Diameter	245 ± 5 µm
Cladding Non-circularity	<2%
Core-Clad Concentricity Error (Offset)	≤3.0 µm
Zero Dispersion Wavelength	1300-1320nm
Maximum Zero Dispersion Slope	0.101 ps/nm^2-km
Numerical Aperture	0.20 ± .015
Group Refractive Index @ 850/1300nm	1.481/1.476
Proof Test	100 kpsi

**Guaranteed Gigabit Ethernet Distance of 300 mtr at 850 nm for 10 Gb/s per IEEE 802.3ae and 1000 mtr at 850nm for 1 Gb/s per IEEE802.3z*

4.0 MECHANICAL & ENVIRONMENTAL PERFORMANCE

Maximum Tensile Load for:
- Installation: 2700N / 607lbf
- Long Term: 890N / 200lbf

Minimum bending radius:
- Loaded: 20 x diameter
- Unloaded: 10 x diameter

Crush Resistance: 600N/cm

Impact Resistance: 25 Impacts (min.)
Flexing, ±90°: 25 Cycles (min.)
Temperature Rating:
- Operation: -40°C to +70°C
- Installation: -40°C to +55°C
- Storage -50°C to +70°C

Twist Test: 25 Cycles (min.)

5.0 PREPARATION FOR DELIVERY

The cable shall be packaged to preclude the inducement of damage due to handling and transportation, and shall be in accordance with the best commercial practices available.

6.0 APPLICABLE DOCUMENTS

Reference Documents:
- TIA/EIA FOTP Standards 455
- Color Coding of Fiber Optic Cables TIA/EIA-598
- RUS 1755.900
- GR-20-CORE