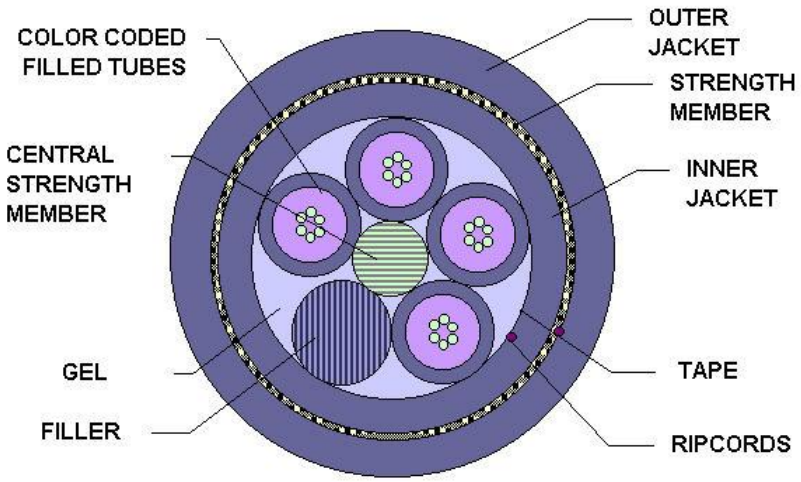
OSP LOOSE TUBE HEAVY DUTY FIBER OPTIC CABLE PRODUCT SPECIFICATION 45XXX74EMBSXNN

This document establishes the specifications for an outdoor, heavy duty, all dielectric, flooded fiber optic cable in a loose buffer tube design. 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 *(Representation of standard construction)*



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 fiberglass rod with an up-coat of polymer (if necessary per construction).

2.3 Cable Core
The cable elements are stranded around the CSM, using reverse oscillation.
Moisture Resistance: The interstices are flooded with a homogeneous, non-hygroscopic, non-conductive and non-toxic, dermal safe polyolefin based compound to prevent water ingress and migration of moisture through the cable core. Then a non-wicking and non-hygroscopic polypropylene tape is applied longitudinally with a nominal 25% overlap.
Binder yarns are applied over the core tape.

2.4 Inner sheath
UV Resistant Black Polyethylene (or color per customer request).
A ripcord is applied under the sheath.

2.5 Cable strength
Circumferential strength members are placed over the inner sheath and under the outer sheath.

2.6 Outer Sheath
UV Resistant Black Polyethylene (or color per customer request).
A ripcord is applied under the outer sheath.

2.7 Cable Markings
Indent printed: CCT GROUP45, FIBER OPTIC CABLE, # of fibers-SM, TELEPHONE HANDSET SYMBOL, MM/YY (month and year of manufacture), sequentially meter marked. Special print as required by customer.

2.8 Nominal Cable Dimensions & Weights

CCT Part Number	No. of Fibers	No. of Fibers per Tube	Cable OD (in.)	Cable OD (mm)	Weight LB per 1000ft	Weight KG/KM
4500674EMBSFNN	6	6	.495	12.6	83	123
4501274EMBSFNN	12	6	.495	12.6	83	124
4501274EMBSLNN	12	12	.495	12.6	83	124
4501874EMBSFNN	18	6	.495	12.6	84	125
4502474EMBSFNN	24	6	.495	12.6	85	126
4502474EMBSLNN	24	12	.495	12.6	83	124
4503074EMBSFNN	30	6	.495	12.6	85	126
4503674EMBSFNN	36	6	.525	13.3	98	145
4503674EMBSLNN	36	12	.495	12.6	84	125
4504874EMBSLNN	48	12	.495	12.6	84	125
4506074EMBSLNN	60	12	.495	12.6	85	126
4507274EMBSLNN	72	12	.525	13.3	97	145
4508474EMBSLNN	84	12	.565	14.4	109	162
4509674EMBSLNN	96	12	.600	15.2	122	182
4510874EMBSLNN	108	12	.655	16.6	145	215
4512074EMBSLNN	120	12	.690	17.5	163	242
4514474EMBSLNN	144	12	.770	19.6	204	304
4528874EMBSLNN	288	12	.888	22.6	267	397

3.0 FIBER CHARACTERISTICS

Fiber Type	Single mode*
Maximum Attenuation @ 1310/1550nm	0.35/0.25 dB/km
Core Diameter	8.2 µm
Cladding Diameter	125.0 ± 0.7 µm
Maximum Core/Clad Concentricity Error	0.5 µm
Maximum Cladding Non-circularity	0.7%
Primary Coating Diameter	245 ± 5 µm
Cabled Cutoff Wavelength	<1260nm
Mode Field Diameter	9.2 ± 0.4µm @1310nm 10.4 ± 0.5µm @1550nm
Temperature Dependence	≤0.05dB/km (-60°C to 85°C)
Zero Dispersion Slope	0.089ps/nm^2-km
Maximum PMD Link Design Value	0.06ps/√km
Group Refractive Index @ 1310/1550	1.4677 / 1.4682
Proof Test	100 kpsi

*According to ITU G.652b

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: 220N/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