FIGURE 8 CONSTRUCTION
OUTSIDE PLANT WITH MESSENGER
PRODUCT SPECIFICATION
58XXX12CEBSXWN

This document establishes the specifications for an aerial self-supporting fiber optic cable, loose buffer tube, dry block, with steel messenger and a polyethylene jacket. 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 OVERALL CABLE CONSTRUCTION

1.1 Buffer tube
High Modulus Polymeric material
Dimension: 2.8 mm, nominal (The 4 fiber cable is 2.2mm, nominal).
Tube and fiber color code per TIA/EIA-598
Filling compound: A non-toxic and dermatological safe antioxidant hydrocarbon based gel.

1.2 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.

1.3 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.

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

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

1.6 Messenger
7 strand steel messenger with a nominal O.D. of .245in. (per ASTM A640-97)
Breaking Strength: 6600lbs
UV Resistant Black Polyethylene
Web: .080 x .100in.

1.7 Cable Markings
Indent printed: CCT GROUP58, FIBER OPTIC CABLE, # of fibers-50/125, MM/YY (month and year of manufacture), sequentially meter marked. Special print as required by customer.

1.8 Nominal Cable Dimensions & Weights

CCT Part Number	No. of Fibers Per Tube	Cable OD (in.)	Cable OD (mm)	Weight LB/MFT	Weight KG/KM
5800412CEBSDWN	4	0.396 x 0.861	10.1 x 21.9	196	291
5800612CEBSFWN	6	0.453 x 0.918	11.5 x 23.3	212	316
5800812CEBSHWN	8	0.453 x 0.918	11.5 x 23.3	212	316
5801212CEBSFWN	6	0.453 x 0.918	11.5 x 23.3	212	316
5801212CEBSLWN	12	0.453 x 0.918	11.5 x 23.3	212	316
5801612CEBSHWN	8	0.453 x 0.918	11.5 x 23.3	212	316
5801812CEBSFWN	6	0.453 x 0.918	11.5 x 23.3	212	316
5802412CEBSFWN	6	0.453 x 0.918	11.5 x 23.3	212	316
5802412CEBSLWN	12	0.453 x 0.918	11.5 x 23.3	212	316
5803012CEBSFWN	6	0.453 x 0.918	11.5 x 23.3	212	316
5803612CEBSFWN	6	0.483 x 0.948	12.3 x 24.0	225	334
5803612CEBSLWN	12	0.453 x 0.918	11.5 x 23.3	212	316
5804812CEBSLWN	12	0.453 x 0.918	11.5 x 23.3	212	316
5806012CEBSLWN	12	0.453 x 0.918	11.5 x 23.3	212	316
5807212CEBSLWN	12	0.483 x 0.948	12.3 x 24.0	225	334
5808412CEBSLWN	12	0.523 x 0.988	13.3 x 25.1	242	360
5809612CEBSLWN	12	0.558 x 1.023	14.2 x 26.0	245	364
5810812CEBSLWN	12	0.603 x 1.078	15.3 x 27.4	266	396
5812012CEBSLWN	12	0.638 x 1.113	16.2 x 28.3	279	416
5814412CEBSLWN	12	0.708 x 1.183	18.0 x 30.0	311	462

2.0 **FIBER CHARACTERISTICS** - Physical Parameters

Fiber Type	Multimode*
Maximum Attenuation @ 850/1300nm	3.0 /1.0 dB/km
Minimum Bandwidth @850/1300nm	500/500MHz-km
Core Diameter, nominal	50 ± 2.5 µm
Cladding Diameter	125.0 ± 2.0 µm
Primary Coating Diameter	245 ± 10 µm
Cladding Non-circularity	<1%
Core-Clad Concentricity	≤1.5 µm
Zero Dispersion Wavelength	1300-1320nm
Numerical Aperture	0.20 ± .015
Group Refractive Index @ 850/1300nm	1.483/1.478
Proof Test	100 kpsi

**Guaranteed Gigabit Ethernet Distance of 600/600mtr at 850/1300nm for 1 Gb/s per IEEE802.3z.*

3.0 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

4.0 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.

5.0 APPLICABLE DOCUMENTS

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