



## TIGHT BUFFER PLENUM FIBER OPTIC CABLES PRODUCT SPECIFICATION 99XXX12HRASXNP

This document establishes the specification requirements for a distribution fiber optic cable. This cable construction consists of multimode fibers in a distribution tight-buffered design with a plenum rated 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 Tight Buffered Fiber

Dimension: 900µm, nominal.

Tight buffered fiber color code: 1-blue, 2-orange, 3-green, 4-brown, 5-slate, 6-white, 7-red, 8-black, 9-yellow, 10-violet, 11-rose, and 12-aqua.

#### 1.2 Sub-unit consists of aramid yarns that are pulled in with the tight-buffered fibers under a sub-unit jacket that is uniquely identified.

#### 1.3 Cable strength Member

Fiberglass Epoxy Rod (dielectric)

An up coat of plenum material (if necessary per construction for symmetry).

#### 1.4 Cable Core

Sub-units and fillers (if needed) are stranded around the CSM, using reverse oscillation.

A non-wicking and non-hygroscopic tape is applied longitudinally with a nominal 25% overlap.

Binder yarns are applied over the core tape.

#### 1.5 Outer Sheath

Aqua plenum rated jacket (or color per customer request)

#### 1.6 Cable Markings

Indent printed: CCT GROUP99, FIBER OPTIC CABLE, # of fibers-50/125 10 GIG OM4, MM/YY (month and year of manufacture), OFNP C(ETL)US sequentially meter marked. Special print as required by customer.

#### 1.7 Nominal Cable Dimensions & Weights

CCT Part Number	No. of Fibers	Cable OD (mm)	Cable OD (in.)	Weight KG/KM	Weight LB/1000ft
9901812HRASFNP	18	13.9	0.546	173	116
9902412HRASFNP	24	13.9	0.546	170	114
9903612HRASFNP	36	16.7	0.656	253	170
9904812HRASLNP	48	16.1	0.634	225	151
9906012HRASLNP	60	17.7	0.696	275	185
9907212HRASLNP	72	19.2	0.756	334	224



## **2.0 FIBER CHARACTERISTICS**-Physical Parameters (nominal)

Fiber Type	Multimode*
Maximum Attenuation @ 850/1300nm**	3.0 /1.0 dB/km
LED Performance (Overfilled Launch	3500/500MHz-km@850/1300
Laser EMB Performance	4700/500MHz-km@850/1300
Core Diameter, nominal	50 ± 2.5 µm
Cladding Diameter	125.0 ± 1.0 µm
Primary Coating Diameter	245 ± 10 µm
Cladding Non-circularity	<1%
Core-Clad Concentricity	≤1.5 µm
Zero Dispersion Wavelength	1295-1320nm
Maximum Zero Dispersion Slope	0.11 ps/nm <sup>2</sup> -km
Numerical Aperture	0.20 ± .015
Group Refractive Index @ 850/1300nm	1.483/1.478
Proof Test	100 kpsi

*\*Guaranteed Gigabit Ethernet Distance of 550mtr at 850nm for 10 Gb/s per IEEE802.3ae and 1000mtr at 850nm for 1 Gb/s per IEEE802.3z.*

*\*\*Measured attenuations on shipping reels will not exceed the nominal values by .75dB/km.*

## **3.0 MECHANICAL & ENVIRONMENTAL PERFORMANCE**

Maximum Tensile Load for:	Impact Resistance: 25 Impacts (min.)
Installation: 2700N / 607lbf	Flexing, ±90°: 25 Cycles (min.)
Long Term: 890N / 200lbf	Temperature Rating:
Minimum bending radius:	Operation: -20°C to +85°C
Loaded: 20 x diameter	Installation: 0°C to +75°C
Unloaded: 10 x diameter	Storage: -40°C to +85°C
Crush Resistance: 220N/cm	

## **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  
                                         UL 910  
                                         GR-409-CORE