## Sales Catalog of HNK Telecommunication Products

## Fiber Optic Cable

### Single Mode 9/125 G655

This Single-Mode is comprehensively optimized for attenuation and dispersion performance at the 1550nm operating wavelength. The fiber has the lowest attenuation and moderate dispersion at 1550nm, which enables excellent performance in multi-channel Dense Wavelength Division Multiplex (DWDM) systems traditionally operating in the C-band (1530nm-1565nm), as well as in emerging L-band (1565nm-1625nm) systems.

The fiber is suitable for application of high output power Erbium Doped Fiber Amplifier (EDFA) and multi-channel Dense Wavelength Division Multiplex (DWDM) and can be effectively applied in the high bit-rate both single-and multi-channel, long distance digital transmission links even without dispersion compensation.

The fiber complies with or exceeds the ITU-T Recommendation G.655 Optical Fiber Specification.

### Optical Characteristics for Single Mode 9/125 µm (G655)

| CHARACTERISTIC | | CONDITION | SPECIFIC VALUE | UNIT |
|---|---|---|---|---|
| **Optical Characteristics** | | | | |
| Attenuation | | 1550 nm | ≤0.22 | [dB/km] |
| | | 1625 nm | ≤0.24 | |
| Attenuation vs. Wavelength Max. α Difference | | 1525-1575 nm | ≤0.02 | [dB/km] |
| Dispersion Coefficient | | 1530-1565 nm | ≥2.0 ≤6.0 | [ps/(nm.km)] |
| | | 1565-1625 nm | ≥4.5 ≤11.2 | |
| Zero Dispersion Wavelength | | | ≤1520 | [nm] |
| Dispersion Slope at 1550nm | | | ≤0.084 | [ps/(nm².km)] |
| Typical Dispersion Slope at 1550nm | | | 0.075 | [ps/(nm².km)] |
| PMD | Maximum Individual Fiber | | ≤0.20 | [ps/√km] |
| | Link Design Value (M=20, Q=0.01%) | | ≤0.08 | |
| | Typical Value | | 0.04 | |
| Cable Cutoff Wavelength $\lambda_{cc}$ | | | ≤1450 | [nm] |
| Mode Field Diameter (MFD) | | 1550 nm | 9.1~10.1 | [µm] |
| Effective Group Index of Refraction ($N_{eff}$) | | 1550 nm | 1.469 | |
| | | 1625 nm | 1.469 | |
| Point Discontinuities | | 1550 nm | ≤0.05 | [dB] |
| Macro Bending Induced Attenuation | | | | |
| 1 Turn Around a Mandrel @ 16mm Radius | | 1550 nm | ≤0.05 | [dB] |
| 100 Turns Around a Mandrel @ 25mm Radius | | 1310 nm & 1550 nm | ≤0.05 | [dB] |
| 100 Turns Around a Mandrel @ 30mm Radius | | 1625 nm | ≤0.05 | [dB] |
| **Geometrical Characteristics** | | | | |
| Cladding Diameter | | | 125.0±0.7 | [µm] |
| Cladding Non-Circularity | | | ≤1.0 | [%] |
| Coating Diameter | | | 245±7 | [µm] |
| Coating/Cladding Concentricity Error | | | ≤12.0 | [µm] |
| Coating Non-Circularity | | | ≤6.0 | [%] |
| Core/Cladding Concentricity Error | | | ≤0.6 | [µm] |
| Curl (Radius) | | | ≥4 | [m] |
| Delivery Length | | | 2.1 to 25.2 | [km/reel] |
| **Environmental Characteristics** | | **1550 nm & 1625 nm** | | |
| Temperature Dependence (Induced Attenuation) | | - 60°C to +85°C | ≤0.05 | [dB/km] |
| Temperature Humidity Cycling (Induced Attenuation) | | -10°C to +85°C, 98% RH | ≤0.05 | [dB/km] |
| Damp Heat Dependence (Induced Attenuation) | | 85°C and 85% RH, for 30days | ≤0.05 | [dB/km] |
| Water Soak Dependence (Induced Attenuation) | | 23°C, for 30days | ≤0.05 | [dB/km] |
| Dry Heat Aging | | 85°C | ≤0.05 | [dB/km] |
| **Mechanical Characteristics** | | | | |
| Proof Test | | | ≥9.0 | [N] |
| | | | ≥1.0 | [%] |
| | | | ≥100 | [Kpsi] |
| Coating Strip Force | | Typical Average Force | 1.5 | [N] |
| | | Peak Force | ≥1.3 & ≤8.9 | [N] |
| Dynamic Stress Corrosion Susceptibility Parameter ($N_d$, Typical) | | | ≥20 | |