

► Testing Method for Optical & Geometrical Properties of Fiber

► Testing Method for Mechanical & Environmental Properties of Fiber

Testing Parameters	Test Method Description	EIA/TIA-455 FOTP Number	IEC-794-1
Tensile Load & Bending	Cable installed outside will be exposed to tensile load during installation and service. The cable should be able to withstand this force without fiber strain and attenuation change over its limit.	33	E1
Low & High Temperature Bend	This test measures the ability of the cable to retain its mechanical and optical properties in spite of wide and rapid changes in temperature.	37	E11
Compression loading (Crush)	The purpose of this test is to test the ability of the fiber to withstand transverse pressure.	41	E3
Cyclic Impact	The fall of a heavy device is simulated in this test. The weight is allowed to fall vertically onto an intermediate steel piece that transmits the force to the cable sample. No damage to the cable sheath may occur.	25	E4
Twist (Torsion)	During feeding, the fiber must withstand torsion forces in addition to tension, transverse pressure and bending load. Thus a cable sample is turned around its own axis and attenuation is measured during the test. Nether fiber or sheath material may be damaged during the test.	85	E7
Cyclic Flexing (Repeated Bending)	The resistance of a fiber optic cable to repeated bending is determined by a cable sample bent forwards and backward 180 degree over a specific radius.	104	E6
External freezing	This freezing test evaluates the ability of the fiber cable to withstand the freezing of the water that may immediately surround the cable. The test evaluates the physical appearance and mechanical properties of the jacket after test, monitoring the attenuation change during/after freezing.	98	F6
Temperature Cycling	This test measures the effect of wide swing in temperature and humidity on the optical and mechanical performance of the cables.. Since the thermal coefficient of expansion of the plastic coating and buffer are different from the fibers themselves, microbending may occur with the temperature changes, and which may bring changes in attenuation.	3	F1
Fiber Stripability	This test measures the forces required to remove the fiber coating.	178	B6
Cable Aging	This test measures the effect of prolonged heat aging on the fiber. The accelerated oxygen test simulates the result of long term aging on the cable jacket. After test, the cable is examined for color changes, embrittlement, softening and surface damages etc.	82	F5
Water Penetration	This test is to determine whether the interstices within the cable is continuously filled with jelly compound or water blocking to prevent water to enter the cable	82	F5
Compound Flow (Drip)	This test is to determine whether the flooding compound will remain stable for ambient temperature up to 70deg and will not drip, flow or leak with age or at the change of temperature. No drip of the jelly compound may be observed during and after the test.	81	E14

