

Cable Lifetime

Application Note AN-006

OFS designs and selects raw materials for outside plant cables for a lifetime up to forty years under typical operating conditions and environments. Our designs provide for minimal degradation of the cable components and reliable performance over this period of time.

All cables are designed such that the optical fibers experience minimal tensile strain during installation and operation at the long term, residual cable load.

In addition, all completed cables are subjected to rigorous cable aging tests. The cable aging test is performed as an extension of TIA-FOTP-3, (Procedure to Measure Temperature Cycling Effects on Optical Fiber, Optical Cable, and Other Passive Fiber Optic Components). This test capitalizes on the intrinsic property of plastic materials to change dimensionally with age. As these dimensional changes are time and temperature dependant, the aging process can be accelerated to predict long-term affects from a short-term test. Specifically, the cable is exposed to an extremely high temperature (+85°C) for a prolonged length of time. At the completion of the test, the cable components shall show no signs of degradation and the optical fibers shall demonstrate very low attenuation.

As a result of these strenuous requirements, our optical fiber cables meet or exceed accepted industry standards (Telecordia GR-NWT-000020, RDUP PE-90 and ANSI/ICEA S-87-640-2006) for cable aging.

In addition, our lifetime estimation is based on longevity of current installed products. OFS has optical fiber cables that have been in continuous operation for over 30 years.

Exposure to atypical outside plant environment, adverse environmental conditions or corrosive materials/solutions may limit the cables useful life.

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