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SCTE Recommended Optical Fiber Cable Types for Outside Plant Trunk and Distribution Applications

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1.0 INTRODUCTION

Optical fiber cable is a key component of any service provider's passive optical network for telecommunications applications. Optical fiber cables comprise a significant portion of Hybrid Fiber Coax (HFC) networks in service today. Ensuring the long term reliability of these assets is a key performance component to the service providers and network operators.

Optical cables are designed to protect the optical fibers from a variety of harmful effects that could degrade the ultimate service life of the network. The effects of mechanical stresses, such as those experienced during installation, must be considered. Environmental effects that typically manifest themselves post-installation, such as temperature changes and chemical exposure, should also be evaluated. In order to properly evaluate and compare different cable designs a test regime of standard performance requirements should be considered by network operators. Well-designed and properly installed cables will protect the optical fibers and ensure proper operation for 20 years or more.

The purpose of this document is to provide guidance in selection of a suitable outside plant (OSP) optical cable with respect to different application environments.

2.0 NORMATIVE REFERENCES

The following documents contain provisions, which, through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreement based on this standard are encouraged to investigate the possibility of applying the most recent editions of the documents listed below.

ANSI/ICEA S-87-640, *Standard for Optical Fiber Outside Plant Communications Cable.*

3.0 TYPICAL INSTALLATION APPLICATIONS

The main trunk and distribution application categories can be defined as follows:

- Aerial installation
- Direct Buried Installation
- Duct Installation
- Special Applications