



# Fiber Optic Splicing Handbook

## Table of Contents

### **Section 1 INTRODUCTION**

### **Section 2 SPLICING PRACTICES**

- 2.1 General Practices
- 2.2 Field Splices
- 2.3 Building Splices
- 2.4 Testing
- 2.5 Documentation

### **Section 3 SAFETY**

- 3.1 Requirements
- 3.2 Accident Reporting
- 3.3 Safety Guidelines
- 3.4 Personal Protection
- 3.5 Fire Protection
- 3.6 Right-of-Way Considerations
- 3.7 Confined Spaces

### **Section 4 CONSIDERATIONS FOR WORKING ON TRAFFIC CARRYING SYSTEMS**

- 4.1 General
- 4.2 Maintenance Windows
- 4.3 Coordination and Communication

### **Section 5 FIBER OPTIC CABLE CONFIGURATIONS**

- 5.1 General
- 5.2 Standard Loose Tube Cable
- 5.3 Tight Buffered Cable
- 5.4 ADSS
- 5.5 Optical Ground Wire (OPGW)

# Fiber Optic Splicing Handbook

## Table of Contents (cont.)

### **Section 6 CABLE PREPARATION AND SPLICE CLOSURES**

- 6.1 Precautions
- 6.2 Tools
- 6.3 Sealing
- 6.4 Storage
- 6.5 Closure Reentry

### **Section 7 FUSION SPLICING**

- 7.1 General
- 7.2 Precautions
- 7.3 Cleaving
- 7.4 Fusion Splicing

### **Section 8 MECHANICAL SPLICES AND PIGTAILS**

- 8.1 Mechanical Considerations
- 8.2 Mechanical Splice Types
- 8.3 Pigtail Preparation
- 8.4 Splice Trays

### **Section 9 TESTING AND DOCUMENTATION**

- 9.1 General
- 9.2 Cleaning Connectors
- 9.3 Attenuation Tests
- 9.4 Reflection Tests
- 9.5 Dispersion Tests
- 9.6 Documentation and Diagrams

### **Section 10 TROUBLESHOOTING**

- 10.1 Broken Fibers
- 10.2 Microbends
- 10.3 Mis-matched fiber

### **Section 11 APPENDIX**

- 11.1 Grounding and Bonding
- 11.2 Test Data Sheets
- 11.3 Labeling
- 11.4 OTDR Theory