

Contents

1 Introduction

1.1 Purpose and Scope	1-1
1.2 Reasons for Reissues	1-1
1.2.1 Reasons for GR-347-CORE, Issue 3	1-1
1.2.2 Reasons for GR-347-CORE, Issues 1 and 2	1-2
1.3 Organization	1-3
1.4 Requirements Terminology	1-4
1.5 Requirement Labeling Conventions	1-5
1.5.1 Numbering of Requirement and Related Objects	1-5
1.5.2 Requirement, Conditional Requirement, and Objective Identification	1-6
1.6 Definitions of Technical Terms	1-6

2 General Information and Testing Criteria

2.1 Product Description	2-1
2.2 Ordering Options (Informational)	2-1
2.3 Test and Analysis Criteria	2-2
2.4 Quality Management System (QMS) Programs	2-2

3 General Product Requirements

3.1 General Characteristics and Features	3-1
3.2 Safety Considerations	3-2
3.3 Operating Environment	3-3
3.4 Temperature Rating of Power Cable	3-4
3.5 Cable Identification and Marking	3-4
3.6 Shipping and Storage Requirements	3-5
3.6.1 Reels and Coils	3-5
3.6.2 End Sealing	3-7
3.6.3 Information Accompanying the Reel	3-7

4 Mechanical Design Requirements

4.1 Power Cable Products — Construction and Application	4-1
4.2 Mechanical Design Requirements	4-1
4.2.1 Copper Conductors	4-1
4.2.2 Separator	4-2
4.2.3 Insulation	4-2
4.2.4 Low-Lead and Zero-Lead Insulation	4-3
4.2.5 Insulation Color	4-3
4.2.6 Coverings and Finish	4-3
4.2.6.1 Textile Jacket or Braid	4-4
4.2.6.2 Cable Outer Surface	4-4

5 Engineering Design Data and Electrical Requirements

5.1 Power Cable Data	5-1
5.2 Dielectric Voltage-Withstand Test	5-6

6 Physical Characteristics Tests

6.1 Insulation Tensile Strength	6-1
6.2 Cable Bend Resistance	6-1
6.2.1 Force-To-Bend Resistance	6-2
6.3 Abrasion Resistance	6-5
6.4 Coefficient of Friction	6-7
6.4.1 Cable-to-Cable Abrasion Resistance and Dynamic Friction Stress	6-8
6.5 Compression and Cut-Through Penetration Tests	6-9
6.6 High Temperature Deformation Resistance	6-13
6.7 Resistance to Sunlight (UV Light)	6-13

7 Fire Resistance

Appendix A: References

A.1 Telcordia Documents	A-1
A.2 Additional Reference Material	A-1

Appendix B: Acronyms

Requirement-Object Index

List of Figures

Figure 6-1	Schematic — Force-to-Bend Measurement Apparatus	6-4
Figure 6-2	Horizontal Scrape Abrasion Apparatus	6-6
Figure 6-3	Rotary Scrape Abrasion Apparatus	6-7
Figure 6-4	Abrasion Cable Rack Assembly	6-8
Figure 6-5	V-Edge Schematic	6-11

List of Tables

Table 3-1	Power Cable Reel Weights — Informational Purposes Only	3-6
Table 5-1	Class B (Standard) Cable Without Textile Braid Covering	5-2
Table 5-2	Class I (Flexible) Cable Without Textile Braid Covering	5-3
Table 5-3	Class B (Standard) Cable With Textile Braid Covering	5-4
Table 5-4	Class I (Flexible) Cable With Textile Braid Covering	5-5
Table 5-5	Ampacity Data (for Reference and Informational Use Only)	5-6
Table 6-1	Bend Radii for Cable Bend Resistance Requirement	6-2
Table 6-2	Radii and Roller Spacing for Cable Bend Force Measurement . .	6-3
Table 6-3	Minimum Number of Passes Required for Abrasion Tests	6-5
Table 6-4	Minimum Point Penetration Resistance	6-10
Table 6-5	Minimum V-Edge Compression/Penetration Resistance	6-10
Table 6-6	Steel Wire Penetration Resistance	6-12