Verizon NEBS™ Compliance: Launch Fiber Reel for OTDR

Verizon Technical Purchasing Requirements

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ISSUED BY:

Name, Title, Organization	Date
Vijay Jain M.Tech., M.A.Sc., PMP FOC-ITL Program Manager NEBS & Quality Assurance Verizon Technology Organization 320 St. Paul Place, Floor 14 Baltimore, MD 21202 Phone: 410-736-7947; Fax: 410-736-5144 Email: Vijay.x.jain@verizon.com	6/01/07

APPROVED BY:

Name, Title, Organization	Date
Ludwig C. Graff Director, NEBS Compliance and Quality Assurance Verizon Technology Organization Systems Integration and Testing 320 St. Paul Place, Floor 14 Baltimore, MD 21202 Phone: 410-736-5904; Fax: 410-736-5144 Email: ludwig.c.graff@verizon.com	6/01/07

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1.0 PURPOSE

The purpose of this Verizon Technical Purchasing Requirement document is to provide FOC testing requirements for Launch Fiber Reel for OTDR.

2.0 SCOPE

OTDR based testing

3.0 REFERENCES

FOC Memo #34	TR and Fiber reel-2006-VJ March 7, 2006
GR-326-CORE	Generic Requirements for Single Mode Optical Connectors and Jumper Assemblies
GR-771-CORE	Generic Requirements for Fiber Optic Splice Closures
GR-765-CORE	Generic Requirements for Single Fiber Single-Mode Optical Splices and Splicing Systems

4.0 ACRONYMS

FOC	Fiber Optic Components
ITL	Independent Testing Laboratory
TR	Transmit Receive
OTDR	Optical Time Domain Refelectometer

5.0 TEST REQUIREMENTS FOR LAUNCH FIBER REEL FOR OTDR

Verizon is considering using OTDR for remote optical maintenance applications. The following are the test requirements for qualifying Launch Fiber Reel used for OTDR. All testing must be completed by a Verizon approved ITL.

FOC Test Program for Launch Fiber Reel			
Task Name	**No. Of Samples**	**Optical Monitoring**	**Test Conditions**
Environmental Performance			
GR-326 4.4.2.1: Thermal Aging	11 Test/ 2 Hot Spare	B/D/A IL	85º C, 7 days
GR-326: 4.4.2.2: Thermal Cycle	11 Test/ 2 Hot Spare	B/D/A IL	-40º C to 75º C, 7 days
GR-326: 4.4.2.3: Humidity Aging	11 Test/ 2 Hot Spare	B/D/A IL	75º C/ 95% Humidity, 7 days
GR-326: 4.4.2.4: Humidity/Condensation Cycle	11 Test/ 2 Hot Spare	B/D/A IL	-10º C to 65ºC, Hum @ heat, 7 days
GR-326: 4.4.3.1: Vibration Test	11 Test/ 2 Hot Spare	B/D/A IL	0-55 Hz, 2 hours, 1 minute sinusoid, 23C
Mechanical Performance			
GR-326: 4.4.3.2: Flex Test	11 Test/ 2 Hot Spare	B/D/A IL	+/- 90 deg, 8 cycles, -40C/40C 10lbs
GR-326: 4.4.3.3: Twist	11 Test/ 2 Hot Spare	B/D/A IL	+/- 90 deg, 10 cycles,-40C/40C
GR-326: 4.4.3.4: Proof Test	11 Test/ 2 Hot Spare	B/D/A IL	1min @100 lbs Req., 167lb Obj: 1min @ 25 lbs req, 50 lbs objective; before & After 23C
GR-326: 4.4.3.5: Trans/w applied load	11 Test/ 2 Hot Spare	B/D/A IL	30 min @ 10 lbs@23C then -40ºC
GR-326 4.4.3.7: Impact Test	11 Test/ 2 Hot Spare	B/D/A IL	-40ºC; 15 foot drop 2 drops Vertical and 2 drops horizontal. Matrix -20C, 0C
Water Immersion with axial load	11 Test/ 2 Hot Spare	B/D/A IL	R2.5 lbs O- 5lbs- 7 days, 23C, fully submersed
GR-771: 6.3.6 Compression Test	11 Test/ 2 Hot Spare	N/A	300 lbs; 6@-40C samples and 5@40C both for 15 minutes. No damage
Chemical Testing			
GR-771: 5.4.10: Fungus Resistance	10 test bars	N/A	Casing material only
GR-771: 5.4.8.A Chemical Resistance - Stress Cracking	10 test bars	N/A	Casing material only
GR-765: 4.1.3 .1: Surface finish	1 sample per chemical	N/A	Casing material only
Documentation, storage, handling & Labeling			Must meet Verizon RFP and Industry requirement
B/A Before and After Optical Testing at (1310, 1490, 1550, 1625)			
D - During Test Optical Testing at (1310, 1490, 1550, 1625)			
IL -Insertion Loss			
Test 1 to 12 must be performed in series on the same samples			
Requires FOC ITL tested GR20 fiber and Cable, GR326 Connector			