



At Fluke Networks, we recognize that there are uncertainty and ambiguity around structured cabling standards and applications. Based on our industry expertise and experience, we recommend the following checklist for fiber testing to guide you through some of the uncertainties. For more technical details, please use our Statement of Work (SOW) documents as general guidelines to help you prepare RFQs or contractual specifications for testing fiber cabling installations.

Check	Category	Recommended by Fluke Networks	Reasoning	Additional resources
<input type="checkbox"/>	Fiber Cabling	Be Encircled Flux compliant	<p>An EF compliant source puts just enough light into the fiber and passes only links that are good.</p> <p>If you have an overfilled source that means you have too much light near the edge of the fiber and even in the cladding. This source will measure an incorrect high value of loss. Good links will fail.</p> <p>An underfilled source puts light only in the center of the fiber and very little near the edge. This source will pass everything because it will measure incorrect low loss.</p>	<a href="http://www.flukenetworks.com/blog/cabling-chronicles/encircled-flux-what-it-and-why-should-you-care">http://www.flukenetworks.com/blog/cabling-chronicles/encircled-flux-what-it-and-why-should-you-care</a>
<input type="checkbox"/>	Fiber Cabling	Do not use a VCSEL to certify multimode links	If a VCSEL has been used for multimode testing, the reference power will be between -3 dBm and -10 dBm, not -19 dBm to -25 dBm	<a href="http://www.flukenetworks.com/knowledge-base/certifiber-pro/vcsels-not-permitted-tia-or-iec-optical-loss-testing">http://www.flukenetworks.com/knowledge-base/certifiber-pro/vcsels-not-permitted-tia-or-iec-optical-loss-testing</a>
<input type="checkbox"/>	Fiber Cabling	Specify test reference cords	<p>ANSI/TIA-526-7-A (Singlemode): 0.2 dB for a reference grade to reference grade connection</p> <p>ANSI/TIA-526-14-C (Multimode) 0.1 dB for a reference grade to reference grade connection</p> <p>Test reference cords will "wear out" with use; Poor/damage cords will destroy your installation</p> <p>If you have specified a 1 jumper reference, require them to be verified every 288 tests; Verification of test reference cords to be saved and submitted</p>	<a href="http://www.flukenetworks.com/knowledge-base/certifiber-pro/test-reference-cords-trcs-vs-patch-cords">http://www.flukenetworks.com/knowledge-base/certifiber-pro/test-reference-cords-trcs-vs-patch-cords</a>

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<input type="checkbox"/>	Fiber Cabling	Specify negative losses are to be retested	<p>No text specifically stating a negative loss result is to be classified as a FAIL</p> <p>Consult the equipment manual to determine the sign of power loss readings, as a reading of the wrong sign is often an indication of improper setting of the reference power level.</p>	<a href="http://www.flukenetworks.com/knowledge-base/certifiber-pro/negative-loss-reported-certifiber-pro">http://www.flukenetworks.com/knowledge-base/certifiber-pro/negative-loss-reported-certifiber-pro</a>
<input type="checkbox"/>	Fiber Cabling	Specify bi-directional averaging for OTDRs	<p>A mismatch in backscatter between the test and installed fiber can cause a negative loss event and/or a false failure.</p> <p>Bi-directional averaging resolves any mismatches</p>	<a href="http://www.flukenetworks.com/blog/cabling-chronicles/bi-direction-testing-otdr">http://www.flukenetworks.com/blog/cabling-chronicles/bi-direction-testing-otdr</a>
<input type="checkbox"/>	Fiber Cabling	Agree on a reflectance limit for OTDR testing	<p>OTDR loss event measurements heavily rely on good reflectance; Poor reflectance can result in optimistic / negative loss readings errors when the application runs</p> <p>Agree on a reflectance limit</p> <p>As a guide (talk to your vendor)            -35 dB for multimode            -40 dB for singlemode            -55 dB for APC singlemode</p>	<a href="http://www.flukenetworks.com/knowledge-base/optifiber/reflectance-and-optical-return-loss-orl-optifiber">http://www.flukenetworks.com/knowledge-base/optifiber/reflectance-and-optical-return-loss-orl-optifiber</a>
<input type="checkbox"/>	Fiber Cabling	Specify a fiber reference setting method	<p>If you want a 1 jumper (one cord) reference, you must specify it in your test specification.</p> <p>Set a 3-jumper reference if using a traditional duplex tester.</p> <p>Most cabling vendors will reject other reference methods.</p>	 Demystify Test Methods.docx   One-cord method.docx