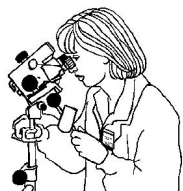


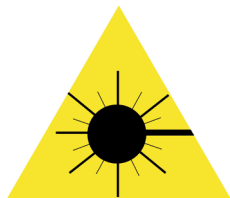
Installation Guide

Fibre Optic Cable Assemblies

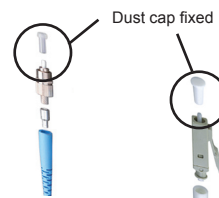
Safety



Observe laser safety practices for all single mode assemblies. Do not view active connections by eye or use unfiltered optical instruments.



Use only laser certified optical or video microscopes.

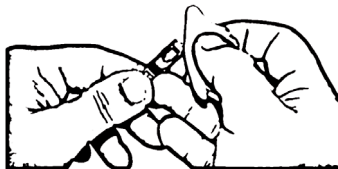


Install dust caps or use shuttered adaptors on all connected but un-terminated cable assemblies. Use caution when handling bare fibre. Dispose of broken fibre in controlled containers.

Installation



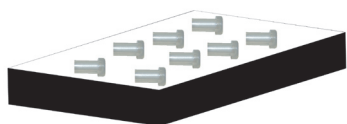
Inspect and clean connector end faces as needed prior to mating.



If inspection is not possible, preventative cleaning is recommended.



Keep dust caps on connectors until mating. Remove just prior to mating.



Store dust caps in a clean, closed container for future use.



Respect minimum bend radi when routing cables.

The following guidelines may be used for standard patchcords and pigtails:

All standard fibre types: 30mm
G.657A: 15mm G.657B: 7.5mm

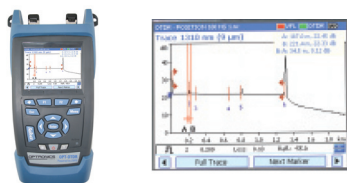
- Larger cables may require larger minimum bend radii. Check cable specifications for more information.
- Do not over tighten cable ties or clamps. The cable jacket should not be deformed or kinked at the point of retention.
- Route cables neatly, allowing for any required flexing or movement.
- Consider future moves and changes as well as initial installation.

Installation Guide

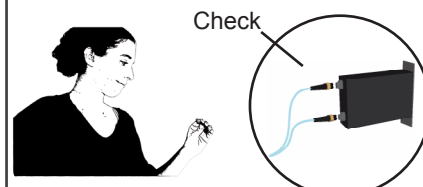
Testing



All fixed optical links and channels should be tested prior to use.



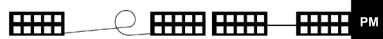
Links should be tested for performance to the requirements of the application. For further information, consult the latest relevant IEC, TIA/EIA and/or IEEE standards.



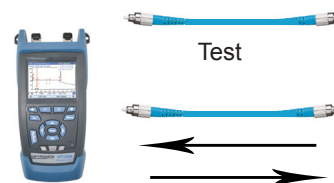
All links should be tested for continuity, polarity (duplex links) and attenuation.



The recommend method for attenuation testing is optical light source power meter testing per IEC 61300-3-4, Insertion Method C.



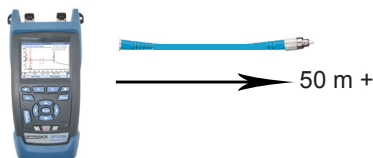
Multimode links must be tested using controlled launch conditions. Use of mode filters such as standard mandrels is essential to achieve repeatable results.



If single mode link attenuation is tested using OTDR methods, measurements must be made in both directions. The insertion loss is the average of the ^{Both} two directional measurements. Ways



OTDR attenuation testing is not recommended for multimode links due to difficulty in assuring correct mode fill.



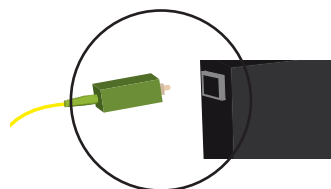
OTDR testing is indicated for troubleshooting links of 50m or longer. OTDR testing will provide qualitative assessment and positional location of any anomalies in a link.

Installation Guide

Understanding Insertion Loss

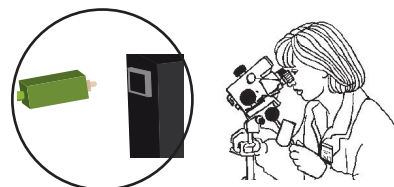


Attenuation at a fibre optic point of connection is called insertion loss or IL.

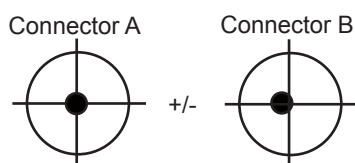


IL is a property of each unique mated pair.

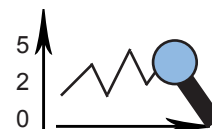
Controlled manufacture process



Cable assemblies are factory tested using test leads with highly controlled properties.



Actual IL loss on installation will vary and will in general be different than the IL measured in the factory. This is due to small variations in production connectors from one to the next and the random combination of connectors in the field installation.



Actual IL may be predicted statistically and may be up to 2.5 times the factory measured loss. Average IL will usually be less than or equal to the factory measured loss.

For critical applications, assemblies may be specified by “random mating” IL as well as “reference lead” IL.

Inspection and Cleaning



For best performance, all connectors should be inspected and cleaned if needed before connection.



Inspection and cleaning should be performed every time a connection is made or re-made, even if the connectors have been inspected previously.

Contaminated and unclean connectors are the largest single cause of optical link failure.