Insertion Loss Measurement Procedure

One Cord MMF

TIA 568-C-0 / 526-14-A

To achieve consistent results, clean all connectors, through-connects and adapters associated with the test prior to and during measurement.

Ensure all MMF test cords meet IL specification of ≤ 0.1 dB.

Ensure the source has warmed up before commencing measurements.

1. Fit correctly sized mandrel to source end of launch cord.
   e.g. Kingfisher OPT701 mandrel.

Fibre cladding	3 mm jacketed mm /(inch
Fibre core	
50 µm	22 (0.87)
62.5 µm	17 (0.67)

Table 1, Mandrel diameters for 3 mm launch cord

1. Connect launch cord to meter and set the reference.
   For clarity mandrels are not shown.

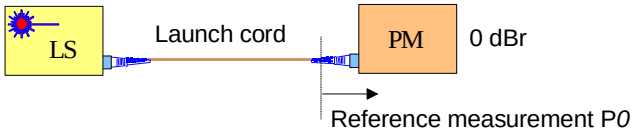

Figure 1, One cord reference

2. Disconnect launch cord from meter and connect to one end of the cabling under test (CUT / DUT).

   Using a second test cord, connect the meter to the other end of the DUT.

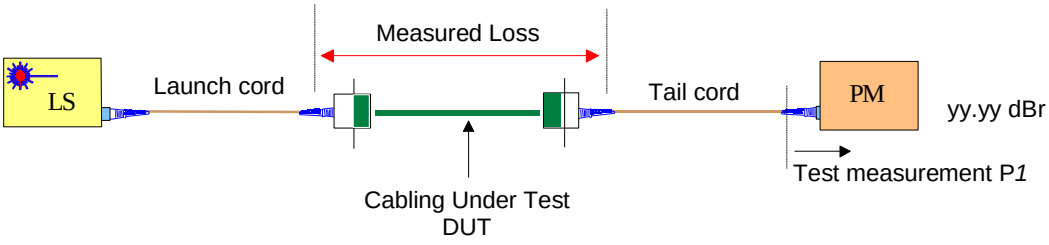

Figure 2, One cord measure

3. Read the insertion loss directly in dBr.

4. Standard based pass/ fail calculations as shown over the page can be applied to the result.

TIA Cabling Specifications 568.C.3

For installations tested in accordance with TIA specifications, the following maximum limits apply to the various cable plant components.

Item	Specification
Connector loss	0.75 dB
Splice loss	0.3 dB
850 nm	3.5 dB/km
1300 nm	1.5 dB/km

Table 2, TIA 568.C.3 cable plant specification

Pass / Fail formula

The American TIA pass-fail standard uses a standard Telco type formula.

One cord referencing is specified.

MMF

Maximum IL at 850 nm = 3.5L + 0.3N + 0.75C

Maximum IL at 1300 nm = 1.5L + 0.3N + 0.75C

Where:-

L = Cable length in Km,

N = number of splices and

C = number of connectors.