

IEC 60794-1-2 Optical Fibre Cables –“Part 1-2: Generic Specification –“ Basic Optical Cable Test Procedures –“ Method E11 : Bend –“ Testing Equipment

Description

14 Method E11: Bend

14.1 Object

The purpose of this test is to determine the ability of an optical fibre cable or cable element to withstand bending around a test mandrel.

14.2 Sample

The sample shall be terminated at each end in a manner such that the fibres, sheath(s) and any strain members are clamped together in a representative manner.

14.3 Apparatus

A single mandrel apparatus shall enable the sample to be wrapped tangentially in a close helix around a test mandrel.

14.4 Procedure

As indicated in the detail specification, one of the following two procedures shall be used.

14.4.1 Procedure 1 –“ Test method E11A

The sample shall be wrapped in a close helix around the mandrel at a uniform rate. Sufficient tension shall be applied to ensure that the sample contours the mandrel. The sample shall then be unwrapped. A cycle consists of one wrapping and one unwrapping.

The diameter of the test mandrel, the number of turns per helix and the number of cycles shall be shown in the detail specification.

14.4.2 Procedure 2 –“ Test method E11B

The sample shall be bent around a mandrel through 180° and kept taut during the bending. A cycle consists of one U bend followed by a reverse U bend, and a return to the straight position. The diameter of the test mandrel and the number of cycles shall be stated in the detail specification.

14.5 Requirements

The acceptance criteria for the test shall be as stated in the detail specification. Typical failure modes include loss of optical continuity, degradation of optical transmittance or physical damage to the cable.

14.6 Details to be specified

The detail specification shall include the following:

- procedure to be used (procedure 1 or procedure 2);
 - test mandrel diameter (or ratio of mandrel diameter to cable diameter);
 - number of cycles;
 - number of turns (for procedure 1);
 - maximum allowable attenuation increase:
 - “ during the test (if applicable),
 - “ after the test (if applicable);
 - test temperature.
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Bending Tester According to IEC 60794-1-2 Method E11B

- Mandrel diameter 40*OD
- Pneumatic bending
- 3 mandrels are included
- Size of mandrels according to customer request

Category

1. Equipment for Standards
2. Standards