

Coating Strip Force Measurement Method



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Scope

This information describes the current reference measurement method used to report the peak strip force obtained by mechanically removing coatings from optical fibers.

General

Corning® optical fibers are manufactured with a protective acrylate coating. In commercial or field use, a small section of coating must be stripped away from the end of the fiber before splicing or connectorizing. Mechanical removal of the coating is the preferred method in many applications.

Measurement Description

One end of the fiber is threaded through the guide tube of the stripping tool while the other end is wrapped around a capstan using very low tension and secured (see Figure 1). The stripping tool blades are closed around the coated fiber penetrating the coating. Tensile loading is applied by pulling the stripping tool along the fiber axis at a constant rate. A tensile load cell attached to the capstan measures the tension developed during coating removal. The maximum tensile load is displayed on a peak and hold meter.

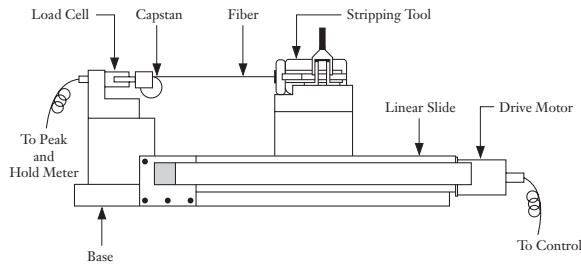
Measurement Conditions

- Slide assembly traverse rate 50.0 cm/min (20.0 inch/min) \pm 10% for 245 μ m OD coating
1.3 cm/min (0.5 inch/min) \pm 10% for 500-900 μ m OD coating
- Length of coating stripped 3.0 cm (1.2 inches) \pm 10% for 245 μ m OD coating
1.5 cm (0.6 inches) \pm 10% for 500-900 μ m OD coating
- Stripping tool Commercially available mechanical optical fiber stripper with blades on same plane
- Lab Ambient 23°C \pm 5°C 30-60% RH

Apparatus

Figure 1

Shows the apparatus used to measure peak strip force.



References

EIA/TIA-455-178 (FOTP-178), Measurements of Strip Force Required for Mechanically Removing Coatings from Optical Fibers.

Corning Incorporated www.corning.com/opticalfiber

One Riverfront Plaza
Corning, NY 14831
U.S.A.

Phone: 800-525-2524 (U.S. and Canada)
607-786-8125 (International)

Fax: 800-539-3632 (U.S. and Canada)
607-786-8344 (International)

Email: info@corningfiber.com

Europe

Berkeley Square House
Berkeley Square
London W1X 5PE
U.K.

Phone: 00 800 2800 4800 (U.K.*, Ireland, France,
Germany, The Netherlands, Spain and Sweden)
*Callers from U.K. dial (00) before the phone number

00 800 781 516 (Italy)

+44 7000 280 480 (All other countries)

Fax: +44 7000 250 450

Email: europe@corningfiber.com

Asia Pacific

Australia
Phone: 1-800-148-690
Fax: 1-800-148-568

Indonesia
Phone: 001-803-015-721-1261
Fax: 001-803-015-721-1262

Malaysia
Phone: 1-800-80-3156
Fax: 1-800-80-3155

Philippines
Phone: 1-800-1-116-0338
Fax: 1-800-1-116-0339

Singapore
Phone: 800-1300-955
Fax: 800-1300-956

Thailand
Phone: 001-800-1-3-721-1263
Fax: 001-800-1-3-721-1264

Latin America

Brazil
Phone: 000817-762-4732
Fax: 000817-762-4996

Mexico
Phone: 001-800-235-1719
Fax: 001-800-339-1472

Venezuela
Phone: 800-1-4418
Fax: 800-1-4419

Greater China

Beijing
Phone: (86) 10-6505-5066
Fax: (86) 10-6505-5077

Hong Kong
Phone: (852) 2807-2723
Fax: (852) 2807-2152

Shanghai
Phone: (86) 21-6361-0826 ext. 107
Fax: (86) 21-6361-0827

Taiwan
Phone: (886) 2-2716-0338
Fax: (886) 2-2716-0339

E-mail: luyc@corning.com

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