IEC 61386-23 Particular Requirements – Flexible Conduit Systems – Flexing Test Equipment

Description

10.5 Flexing test

10.5.101 An assembly consisting of a conduit with a terminating conduit fitting, assembled in accordance with the manufacturer's instructions, shall be subjected to a flexing test by means of the apparatus shown in figure 101.

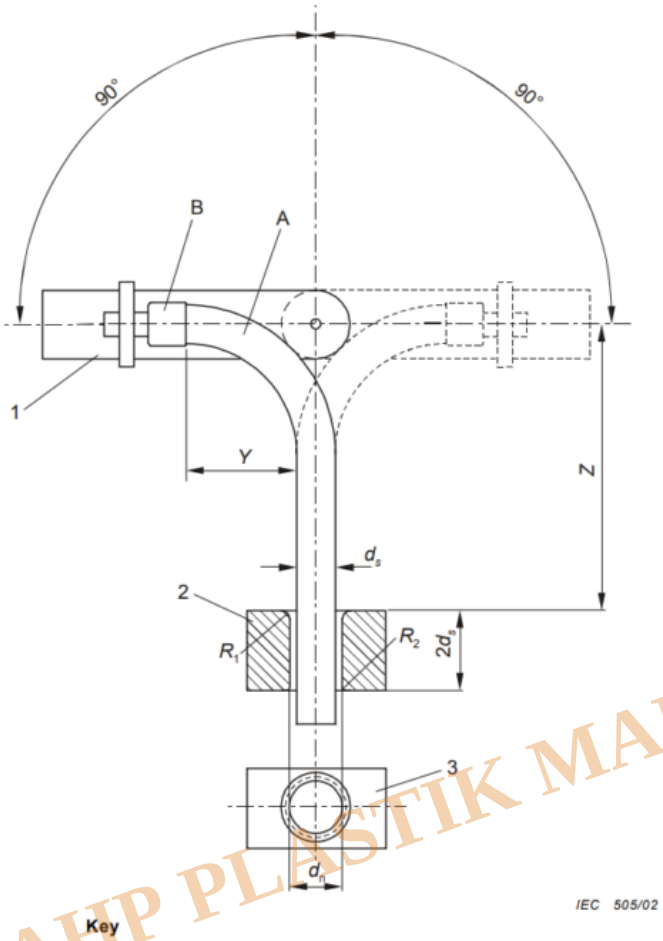
10.5.102 The test shall be made on six samples of conduit of an appropriate length. Three of the samples shall be tested at the minimum declared transport, application and installation temperature as given in table 1 with a tolerance of ±2 °C. The other three samples shall be tested at the maximum declared application and installation temperature as given in table 2 with a tolerance of ±2 °C.

A manufacturer may declare that a flexible conduit is suitable for transport and installation according to table 1 but may only be suitable for flexing at ambient temperature as a minimum. In this case the test shall be carried out at (20 ± 2) °C and the 3rd digit of the classification code shall be X. The manufacturer shall clearly declare in his literature both the minimum transport and installation temperature in accordance with table 1, the minimum application temperature which is ambient and the maximum installation and application temperature in accordance with table 2.

10.5.103 The sample shall be fixed to the oscillating member by means of the terminating conduit fitting as shown in figure 101, so that when the conduit is at the middle of its travel, the axis of the conduit is vertical and passes through the axis of the oscillation. The apparatus with the sample shall be conditioned for 2 h or until the sample has attained the declared temperature, whichever period is the longer.

10.5.104 The oscillating member shall be moved backwards and forwards through a total angle of (180 ± 5)° divided equally about the vertical axis. The assembly shall be subjected to 5 000 flexings at a rate of (40 ± 5) flexings per minute. A flexing constitutes, starting from the vertical position, one continuous cycle of movement of essentially sinusoidal forms.

10.5.105 After the test, the sample shall show no sign of disintegration, nor shall there be any cracks visible to normal or corrected vision without magnification.



Key

A Conduit
B Terminating fitting
d_s Outside diameter of conduit (A)
d_n Inside diameter of support block: $1,1 \times d_s$
R_1 Radius of support block: $0,5 \times d_s$
R_2 Radius of support block: $0,25 \times d_s$
Y Minimum bend radius, declared by the manufacturer
Z $1,5 \times Y$
1 Oscillating member
2 Guide support block
3 Plan view of guide support block

NOTE This drawing is not intended to govern design except as regards the dimensions shown.

Figure 101 – Flexing test apparatus

Flexing Tester According to IEC 61386-23

- Total angle of flexing (180 ± 5)°
- Digital definition of the number of flexing
- Easy assembly of the sample
- Flexing speed: (40 ± 5) flexing per minute

Category

1. Equipment for Standards
2. Standards