Optical Fiber Cable Water Penetration Tester

Overview

KASON GSS-1000 Series Optical Fiber Cable Water Penetration Testing Machine is intended to establish the
ability of a fiber optic cable to block water migration.

Object

This test applies to continuously water-blocked cables. The purpose is to determine the ability of a cable to
block water migration along a specified length.

Compliance shall be checked on samples of cable using one of the two following methods (F5A or F5B), as
stated in the detail specification. Method F5A tests for water migration between the outer interstices of the optical core and the outer sheath, where as method F5B tests for water migration over the entire cross-section designed to be water-blocked.

Sample

Method F5A

A circumferential portion of sheath and wrapping 25mm wide shall be removed 3m from one end of a sample length of cable and a water tight sleeve shall be applied over the exposed core so as to bridge the gap in the sheath and allow a 1m height of water to be applied.

Method F5B

A cable sample 1m longer than the length to be tested, which shall not exceed 3m is used. If required, the sample is submitted to the bending procedure according to14.4.2. A maximum cable length of 3m shall then be taken from the central portion of the sample. A water tight seal shall be applied to one end of the sample to allow a 1 m height of water to be applied.

NOTE – For armoured cables where the armour is not designed to be water-blocked, the armour maybe removed before the application of the seal.

Procedure

Unless otherwise specified in the detail specification, the sample shall be supported horizontally and a 1m height of water shall be applied for 24h, at a temperature of (20 ± 5) °C.

A water soluble fluorescent dye or other suitable coloring agent maybe used to aid in the detection of water
seepage. Care should be taken in choosing a fluorescent dye that does not react with any of the cable components.

Parameter

1.1. The water column height: φ80mm Plexiglas tube to the upper part of the outlet groove axis 1000mm;
1.2. Water settings: 8 cables do water penetration test at the same time
1.3. Outlet diameter: inner diameter φ30mm;
1.4. Tanks using stainless steel welding, 8 bronze ball valve to control the water.

FOCUS IN MATERIAL TEST

KASONTEST®

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