GECA-TAPES
Cable People for Cable Makers...

Swelling Height and Swelling Speed of Waterblocking Tapes

Test Method
GTEST20

Purpose of Test

The purpose of this test is to determine the swelling speed and swelling height (or overall hydrodynamic volume) of waterblocking tapes. This test method is based generally on EUR HD 605 S1/A1 test methods.

Test Equipment

- Computerized test fixture including test cup, ram, displacement transducer & PC. The computerized test fixture is capable of testing up to 3 samples simultaneously. The total pressure applied over the area of the test sample is 80 ± 0.5 grams.
- 100ml of de-mineralized or de-ionized water
- Pre-cut cover disks of 80 ±2mm diameter of an open-structured polyester nonwoven (approximate mass of 20 g/m^2)

Test Conditions

Ambient laboratory conditions, typically:

- Temperature of 23 ± 2°C
- Relative Humidity of 50 ± 5%

Test Procedure

1. Place the circular tape sample neatly on the bottom of the test cup. Verify that there are no folds, creases or other aberrations in the sample.
2. Place the nonwoven cover disk on top of the swelling tape sample.
3. Place the cup ram into the test cup ensuring that the cover moves freely within the test cup.
4. Place the swelling height transducer in contact with the anvil on the cup ram and zero the swelling height indicator
5. Fill the cup with approximately 50ml of water. When and if the water is nearly absorbed by the test sample, 10ml may be added.
6. Measure the vertical displacement of the ram (or swelling height) at given times.

Test Results

Plot the measurements taken (swelling height versus time). The swelling speed is expressed as the swelling height after 1'00". The swelling height (or hydrodynamic volume) is typically measured after 2'00" or 3'00", as required.

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