Testing
Dintex® Breathable Films

Four Testing Methods Used by DingZing

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Water Pressure Resistance Test Method

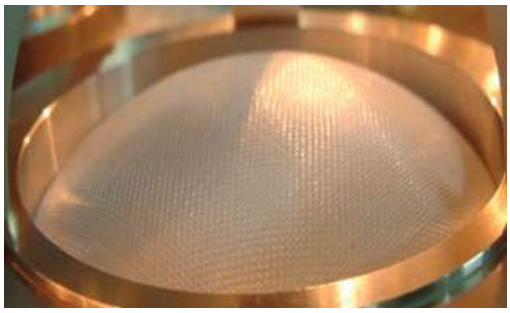
Water resistance can be measured using two different methods: a low hydraulic pressure test (JIS L1092A) and a high hydraulic pressure test (JIS L1092B).

The pressure gradient for the low hydraulic pressure test is 600 mm pressure rise/minute. The pressure gradient for the high hydraulic pressure test is 10,000 mm pressure rise/minute.

Wire Mesh Screen

Water Pressure Resistance Tester

In this test, the sample is clamped down at the test head and is covered with a wire mesh screen. This prevents the sample from becoming inflated and helps to ensure a more realistic testing result. The test concludes when water has penetrated the test sample in three locations.



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Inverted-Cup Testing Method For Breathability

ASTM E96-93 BW is the most commonly used standard.

In this test, the test sample is sealed to the open mouth of a test cup that contains water, which is then placed upside-down in a controlled atmosphere where the temperature is 23°C and the relative humidity is 50 percent.

125 ml distilled water or pure water poured into cup

Test film is placed on top

Periodic weighings determine the rate of water vapor movement through the sample, from the water to the controlled atmosphere. With the inverted-cup method, the water is in contact with the sample. The result is indicated as follows: g/m^2*24 hrs.

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Upright-Cup Testing Method For Breathability

The JIS L1099 A1 $CaCl_2$ moisture absorption method is used to check membrane permeability.

To begin, the test sample is sealed to the open mouth of a test cup that contains the desiccant $CaCl_2$. It is then placed upright in a controlled atmosphere where the temperature is 40°C and the relative humidity is 90 percent.

3 mm space between $Cacl_2$ and rim

Test film is placed on top

Periodic weighings determine the rate of water vapor movement through the sample, from the controlled atmosphere to the desiccant. The result is indicated as follows: g/m^2*24 hrs.

Upright-cup Method

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RET Value Test Method

The RET value test is conducted following ISO 11092.

To begin this test, a cellophane film is placed on a heating plate when equilibrium is reached in the testing chamber. The purpose of this is to obtain the RET value.

RET Testing Machine

The temperature of the metal plate is set at 35°C, the chamber at 35°C, and the relative humidity at 40 percent. The wind speed is set at 1m/s^2.

Standard Membrane Test

Once the RET value is obtained, the specimen is placed on top of the cellophane film. After a steady state has been reached, the total evaporative resistance of the specimen is calculated and indicated as follows: pa*m^2/W.

Sample Test

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DingZing is a leader in the development and production of high-performance polymers. We specialize in thermoplastic polyurethane and polyurethane products and solutions, with a focus on advanced technical films.

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