

TEST METHOD

Absorption Speed and Absorption Capacity of Water Blocking Yarns

1. PURPOSE OF TEST

To determine the water absorption speed and water absorption capacity of Geca Tapes water blocking yarns and binders. The test is designed so that the water blocking performance of superabsorbent yarns and binders can be fully characterized.

2. TEST APPARATUS

- ✓ Stainless steel sieve
- ✓ 500 ml borosilicate beaker
- ✓ An electronic balance accurate to $\pm 0.1\%$
- ✓ De-mineralized water

3. TEST PREPARATION

- ✓ Cut a yarn sample of approximately 0.4 grams
- ✓ Secure a suitable amount of de-mineralized water that has been produced with suitable distillation methods
- ✓ Fill the beaker with de-mineralized water

4. TEST CONDITIONS

Ambient laboratory conditions, typically:

- ✓ Temperature of $23 \pm 2^{\circ}\text{C}$
- ✓ Humidity of $50 \pm 5\%$

5. TEST PROCEDURE

- ✓ Place the yarn sample in the sieve.
- ✓ Measure the combined weight of the sieve and the yarn sample and record the value as value (a) in the table below
- ✓ Remove the yarn sample from the sieve and place the yarn into the water. Gently agitate the sample so that the de-mineralized water fully covers the yarn sample, if necessary,

- ✓ For the absorption speed test, immerse the sample for a period of 1 minute.
- ✓ For the absorption capacity test, immerse the sample for a period of 10 minutes
- ✓ After the required time interval, remove the yarn sample by pouring the water and sample through the sieve and allow the sieve (with the sample still inside) to drain for a period of 1 minute. Record the value as either (b) or (c) in the table below
- ✓ Determine the combined mass of the sieve and the sample and record the value

6. RESULTS

Item	Meas't	Units
Mass of dry yarn + sieve (a)		g
Mass of wet yarn after 1 minute of immersion + sieve + draining time of 1 minute (b)		g
Mass of wet yarn after 10 minutes of immersion + sieve + draining time of 1 minute (c)		g

To calculate:

$$\text{Absorption Speed} = \frac{b - a}{a} \text{ ml / g}$$

$$\text{Absorption Capacity} = \frac{c - a}{a} \text{ ml / g}$$

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