SCHOPPER RIEGLER FREENESS TESTER

Code N 6600

For the determination if the degree of refining (beating) of a pulp suspension in water and expressing it in terms of the Schooper-Riegler (SR) number, and to determine the de-watering time.

Applicable Standards: ISO 5267-1 / SCAN C 19M3 / BS 6035/1
DESCRIPTION

The Schopper-Riegler test is designed to provide a measure of the rate at which a dilute suspension of pulp may be dewatered. It has been shown that the drainability is related to the surface conditions and swelling of the fibres, and constitutes a useful index of the amount of mechanical treatment to which the pulp has been subjected.

In principle, this method is applicable to all kinds of pulp in aqueous suspension. However, in practice, the Schopper-Riegler test provides acceptable results only if a sufficiently dense mat of fibres is formed on the wire screen. For this reason, the test is not recommended for some extremely short-fibred pulps, such as those from well-beaten hardwoods, as most of the fibres will pass through the wire screen, resulting in anomalous reduction of the SR number. The most reliable results are obtained within the range of 10 to 90 SR number.

The results of this test do not necessarily correlate with the drainage behaviour of a pulp material on a commercial paper machine.

TEST DESCRIPTION

The operator takes 2 g of pulp, dilutes it in one liter and pours it in the fill chamber, which is closed by the conical nipple. The conical nipple is lifted pneumatically after pushing the start button, and the suspension discharges. The fibers are retained while the filtrate drains. The drainage time depends on the composition of the fiber suspension. The filtrate flows into the measuring beaker through the lateral outlet. There the freeness is shown in Schopper Riegler degrees (°SR).

The Schopper degree (°SR) describes the amount of drained suspension and is the degree of the drainage properties of the pulp, which has been diluted in water. One °SR corresponds to 10 ml of water. Since water hardness and temperature are significantly influencing the results, it is very important to ensure that the measurement is always performed with the same water hardness and at a temperature of 20°C.
NEW THINGS:

This device has several very important advantages compared with other devices of the market:

- The recovery of the pulp is greatly improved. Two rapid clamps, one on each side of the cylinder, allows to separate the bowl from the cone. It is no longer necessary to unscrew the cylindrical portion to recover the pulp.
- The screen is held firmly in a holder which simplifies the recovery of pulp.
- As the screen is held firmly it is possible, before recovering the pulp to suck part of the remaining water with a vacuum pump. The screen well held in the holder does not deform.
- The calibrated orifice is adjustable by a micrometer screw. It is no longer necessary to change the orifice as before. This innovation allows to have an always properly adjusted machine.

The piston is controlled with a piston supplied with compressed air. In competing devices using a piston it is possible to pinch fingers very strongly during the descent of the piston. In this new device the piston descends by gravity when users press the first button. When the piston is engaged in the cylinder a second button (not active until the piston is not inside the piston) sends compressed air to ensure efficient closing. Our device is CE certificated.

CONNECTIONS:

Air supply: 400 - 600 kPa

WEIGHT AND DIMENSIONS (ONLY MACHINE):

360 x 330 x 850 mm (WxLxH) / 38 Kg