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Paper, board and pulps - Determination of pH of salted water extracts

(ISO 29681:2009, MOD)

纸、纸板和纸浆 盐水提取物 pH 的测定

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Paper, board and pulps - Determination of pH of salted water extracts

1 Scope

This document describes a method for the determination of pH of salted water extracts of paper, board and pulp.

This document applies to paper, board and pulps.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the version corresponding to that date is applicable to this document; for undated references, the latest version (including all amendments) is applicable to this document.

GB/T 450, Paper and board - Sampling for testing and identification of machine and cross direction, wire side and felt side (GB/T 450-2008, ISO 186:2002, MOD)

GB/T 740, Pulps - Sampling for testing (GB/T 740-2003, ISO 7213:1981, IDT)

3 Terms and definitions

The following terms and definitions are applicable to this document.

3.1

salted water

Weak potassium chloride (KCl) solution, whose concentration is 0.100 mol/L.

4 Principle

The sample is soaked in salted water (0.100 mol/L KCl) at 20 °C ~ 25 °C or 90 °C for 1 h. After the suspension is filtered, the pH is measured at a temperature of 20 °C ~ 25 °C.

8 Test procedures

8.1 Soaking in salted water

8.1.1 Perform two tests in parallel.

8.1.2 Air-dry the test pieces in the laboratory atmosphere until they reach moisture equilibrium.

8.1.3 Weigh 2.0 g ~ 2.2 g of the air-dried test pieces into a flask (see 6.2); add 100 mL of salted water (5.3) at a temperature of 20 °C ~ 25 °C. Make sure that all the test pieces are soaked. Cover the flask and let it stand for 1 h; shake the flask (see 6.2) at least once during the standing time. Filter the suspension through a fritted glass filter (see 6.2); measure the pH of the filtrate. If it is necessary to soak the test pieces in salted water (5.3) at 90 °C, weigh 2.0 g ~ 2.2 g of the air-dried sample into the flask (see 6.2), and add 100 mL of salted water (5.3) at a temperature of 90 °C ± 5 °C. Then, put the flask (see 6.2) into the thermostat bath (6.3) or on the heating plate (6.3); keep the temperature at 90 °C ± 5 °C; soak for 1 h; shake the flask (see 6.2) at least once during this period. Cool the suspension in the flask (see 6.2) after the soaking is over; filter the suspension through a fritted glass filter (see 6.2); measure the pH of the filtrate.

8.2 Calibration of the PH meter

8.2.1 Calibrate the pH-meter and the pH-electrodes according to the manufacturer's instructions. Or proceed according to 8.2.2.

8.2.2 Rinse the electrodes with distilled or deionized water (5.1) and drain. Do not wipe the electrodes. Use two standard buffer solutions (5.2) with different pH values to calibrate the pH-meter at a temperature of 20 °C ~ 25 °C, so that the pH value of the measured extract is between the pH values of the two standard buffer solutions (5.2). If the pH meter does not display the correct pH values for the two standard buffer solutions (5.2), consult the instrument manufacturer's manual.

8.2.3 When not in use, store the electrodes according to the instrument manufacturer's manual.

8.3 Determination of pH

After calibrating the pH meter according to the procedure in 8.2, rinse the electrode several times with distilled or deionized water (5.1) and once with a small amount of filtered suspension (i.e., the extract). Under the condition of 20 °C ~ 25 °C, measure and record the pH value of the extract twice in parallel.

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