Withdrawal from 2009-02-01: SCAN-test-Methods of physical character:

Preparation of laboratory sheets for physical testing –Part 3: Conventional and Rapid-Köthen sheet formers using a closed water system	**SCAN-CM 64:00**	**ISO 5269-3:2008**
Applicable to	This Method is applicable to most kinds of pulp. It applies especially for the preparation of laboratory sheets from mechanical pulps. It is not suitable for some very long-fibred pulps	This part of ISO 5269 is especially applicable to mechanical and chemimechanical pulps as well as to pulps prepared from recycled fibres. It is not applicable to some very long-fibred pulps,
Principle	In a conventional sheet former, equipped with a system to recirculate the water, a circular or rectangular sheet is formed from a pulp suspension on a wire screen under suction. The sheet is pressed twice at a pressure of 400 kPa. It is dried in conditioned air and in contact with a drying plate, to which it adheres so that it does not shrink.	White water at retention equilibrium is produced by preparing laboratory sheets of defined grammage using a closed water system. This white water is then used to prepare the sheets which will be used for physical testing, in either the conventional sheet former or the Rapid-Köthen sheet former.
Apparatus		
Sheet former	Conventional sheet former	Conventional sheet former and Rapid-Köthen sheet former
Circulating water system for the conventional sheet former	Consisting of a reservoir placed under the drainage vessel to collect the circulating water and a pumping system which allows the sheet former to be filled from below the wire and also from above the wire. The water in the closed water system shall be in motion to avoid sedimentation of the fines. All parts of the system that come into contact with the water shall be of a non-corrosive material (plastic or stainless steel).	
Procedure		
Preparation of white water	Grammage 60 g/m^2: No. of build up sheets: ≥ 8 Grammage 140 g/m^2: Produce sheets until the closed water system is in retention equilibrium.	Grammage 60 g/m^2: No. of build up sheets: ≥10. Produce sheets until the closed water system is in retention equilibrium. Higher grammage (required grammage): Produce more build up sheets in order to obtain a closed water system in retention equilibrium.
Report		
	Statement of the disintegration and beating given to the sample in the laboratory.	The disintegration procedure used in the laboratory.

Determination of air permeance and air resistance (medium range)	**P 19:78**	**ISO 5626-5:2003**
Applicable to	Paper and board	Paper and board
Principle	Air is compressed by the weight of a hollow, vertical cylinder, having an open bottom and a closed top, and floating in a liquid. A test piece is in contact with the compressed air and the cylinder sinks steadily as air passes through the test piece. The time for a given volume of air to pass the test piece is measured.	Air is compressed by the weight of a vertical cylinder floating in a liquid. A test piece is in contact with the compressed air and the cylinder falls steadily as air passes through the test piece. The time for a given volume of air to pass through the test piece is measured and from this the air permeance is calculated.
Procedure		
No. of test pieces	10 (5 top side /5 bottom side) Size of test piece: 50 x 50 mm	10 (5 top side /5 bottom side) Size of test piece: If top clamp: 50 x 120 mm If base clamp: 50 x 50 mm
Expression of results		
Calculation	$S = \frac{128}{t}$ ** t=100 ml	$P = \frac{135,3}{t}$ ** t=106 ml
	The air pressure inside the floating cylinder is determined by the mass of the cylinder and the dimensions of the apparatus. The pressure decreases slowly during the test. The decrease during a test is of the order of 1 % of the mean pressure difference, which is **1,21 kPa**. The above expression is derived by inserting this pressure difference, the air flow $\frac{10^{-4}}{t}$ m^3/s and the test piece area, **649,9*10^{-6}** m^2 (**6,499** cm^2) in the formula given in the definition.	This formula is based on a mean pressure difference of **1,22 kPa** and a test area of **6,42 cm^2** and an actual volume of **106 ml** of air passing through the test specimen measured at room pressure.
Report		

	The air permeance, in micrometres per pascal second, to two significant figures.	the air permeance, in micrometres per pascal second, to two significant figures or, if required, the air resistance, in seconds per 100 ml, to two significant figures.
	**For calculating the air permeance, the SCAN method uses the factor is 128 and the quite recently revised ISO standard the factor 135,3. Today, the factor 135,3 in ISO 5636-5 is regarded to be correct and the SCAN-test factor to be obsolete and incorrect. To avoid confusion in trade situations, it is important that the same factor is used worldwide. The change from the factor 128 to 135,3 will cause a change in result of approx 6 %, so for that reason SCAN-test has decided a longer time for consideration to make the transition easier for the industry.	

Determination of resistance to picking and delamination	**SCAN-P 63:90**	**ISO 3783:2006**
Applicable to	Paper and board intended to be printed by letterpress or litographic offset techniques.	Coated and uncoated paper and board intended to be printed in letterpress, litographic offset or modern flexographic techniques.
Principle	The conditioned paper/ board is printed with a disc bearing a specified printing load and at an accelerating speed. It is printed with a standard picking oil. The lowest speed at which picking is observed to occur is a measure of the picking resistance of the paper.	The conditioned sample is printed with a disc bearing a specified load and at an accelerating speed. It is printed with high viscosity inks (oils), and the minimum speed at which pick occurs is a measure of the pick resistance of the paper.
Apparatus		
IGT Printability Tester	Primarily IGT AC2	IGT Printability Testers – all models
Oil Applicator	Two application units, each comprising two steel rollers and a distribution roller of polyurethane. Newer models include an extra distribution roller beneath.	Consisting of two or more inking drums having contact with a top roller. The ink distribution surface area A of the rollers shall be known to the nearest 0,1cm².
Printing unit	Motor driven sector with radius 85 mm, various models; AC2, AIC2, AIC2-5.The printing speed is known at every point on the printed test piece.	Printing device having a sector with a radius of (85±0,2) mm, incorporating a facility enabling a packing to be mounted on the sector under tension.

Determination of resistance to picking and delamination	**SCAN-P 63:90**	**ISO 3783:2006**
	Uniformly increasing velocity, known pressure.	Uniformly increasing velocity.
Viewing device	Microscope lamp and magnifying lens. Area of first pick is illuminated and enlarged (2x). Mark first picking . Curved sample holder to hold piece while examining.	Test piece holder – curved, with internal radius of 40mm. Mark first picking
Procedure		
Sampling	Condition sample sheets as in ISO 187, (23±1)°C. Dimensions 350 mm x 25 mm.	Sampling in accordance with ISO 186. Conditioning as in ISO 187, (23±1)°C, (50±2)%RH. Preferred size is 340 mm x 55 mm, but shorter samples can be handled.
Selection of pick test oil and end velocity	The final speed and the oil should be chosen so that the position the picking starts, lies between 40 and 180 mm from the start of the print.	Oil and end-velocity are chosen so that picking do not start earlier than 50 mm from the start of the print, and not close to the end of the print.
Report		
Picking/ delamination resistance	Picking/delamination resistance is found from placing the test-strip in a table given in this standard. Calculate mean and the std.dev. for each direction and side to the nearest 0,05 m/s.	Calculate pick velocity from formula. Calculate mean and the std.dev. for each direction and side. Calculate mean temperature for the testing zone. Calculate resistance/ delamination according to the temperature (viscosity table)
Results in report	Report answer to nearest 0,05 m/s.	

Determination of colour by diffuse reflectance (D65/10°)	**SCAN 72:95**	**ISO 5631-2:2008**
Applicable to	Evaluation of the colour of paper and boards according to the CIE 1964 standard colorimetric system and the CIE standard illuminant D65	Describes the measurements and description of colour in terms of the CIE illuminant D65 and the CIE 1964(10°) standard observer. This method is especially applicable to graphic arts situations.

Determination of colour by diffuse reflectance (D65/10°)	**SCAN 72:95**	**ISO 5631-2:2008**
Principle	The tristimulus values as defined by the CIE 1964 standard observer and the CIE D65-illuminant are determined and from these the L*, a* and b* values are calculated.	The light reflected from a sample under specified conditions is analyzed either by a tristimulus-filter colorimeter or by an abridged spectrophotometer, and the colour coordinates are then calculated for D65/10° conditions.
Apparatus		
Reflectometer or abridged spectrophotometer	As specified in ISO 2469 equipped with a light source having an adequate UV-content. Both reflectometer and abridged spectrophotometer can be used – with requirements as is set in this method.	Reflectometer having characteristics as described in ISO 2469. If fluorescent material is to be measured, as description in ISO 11475. Abridged photometer with requirements as set in this standard can be used.
Reference standards	For calibration, both fluorescent and non fluorescent.	For calibration, both fluorescent and non fluorescent.
Working standards	Fluorescent and non fluorescent. Black cavity. Detergent – a dilute , no-colored, not fluorescent solution	Non fluorescent:Two plates of opal glass. A stable tablet incorporating a fluorescent whitening agent. Black cavity.
Procedure		
Calibration	Detailed description about what to do, also if values are not accepted.	Calibration is performed as described in ISO 11475, according to the instrument makers instructions
Measurement	As instructed by the manufacturer and in accordance with the provisions of ISO 2469. Also detailed description on how to treat the samples during the test.	Description on how to treat the samples during the test.
Report		
Calculations	Calculate the tristimulus values according to formulas in this method if necessary. Calculate L*, a*, b*. Calculate mean values separately for each side of the sample.	Calculate the tristimulus values according to CIE publication 15.3 (2004) or ASTM E308-06 or from table in Annex A. Calculate mean $<\Delta E_{ab}^*>$value.
Significant figures		Report L* a*b* -values to

Determination of colour by diffuse reflectance (D65/10°)	SCAN 72:95	ISO 5631-2:2008
		three significant figures and MCDM-value (Mean Colour Difference from the Mean) to two significant figures.

Decided withdrawal without replacing ISO standard:

SCAN-test Method	SCAN-test title	Reasons for withdrawal
M 13:83	Mechanical pulp – Shives content – PFI Mini-shive fractionator	No ISO standard. The SCAN-test Method is not, to our knowledge, used in the industry today.
P 10:93	Paper and board – Identification of wire side	No ISO standard. The SCAN-test Method is not, to our knowledge, used in the industry today.
P 18:66	Contact angle of water on paper and paperboard	The interest for revision was very small and the TK decided instead to recommend the following more modern Methods: TAPPI T 558 pm -95 or ASTM D 5725 -95.