Forest Products

Technology Centre

Sappi Manufacturing (Pty) Ltd
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INTERNATIONAL STANDARDS CONFORMANCE CERTIFICATE
FOOD CONTACT APPROVAL

PRODUCTS Hi-Yield Flute and Super Flute - Kraft Fluting

MANUFACTURER Sappi Kraft (Pty) Ltd
Tugela Mill
Private Bag X6034
4490 Mandeni
South Africa

The above products have been tested and examined and found to be compliant with the current statutory and official environmental and product safety standards listed below:

1. **German Federal Institute for Risk Assessment (BfR) Recommendation XXXVI – Paper and Board for Food Contact.** The products were tested for the metals lead, cadmium and mercury in a cold water extract and found to be less than permissible limits. Organic compounds were all found to be less than permissible limits. All additives used in the manufacture of the products were examined and found to be compliant with the Recommendation. The products are suitable for contact with foods such as sugar, citrus fruits, bananas, eggs, potatoes, etc.

2. **DIN EN 71 part 3 – Safety of Toys, Migration of Certain Elements.** The products were tested for the metals lead, cadmium, mercury, chromium, antimony, arsenic, barium and selenium. The metals were all less than permissible limits.

3. **European Parliament and Council Directive 94/62/EC on Packaging and Packaging Waste.** The sum of the concentration levels of lead, cadmium, mercury and hexavalent chromium in the products was found to less than permissible limits.

4. **German Federal Institute for Risk Assessment (BfR) Recommendation XLVII – Toys made from Plastics and other Polymers, and from Paper and Paperboard.** Migration of elements according to DIN EN 71 part 3 is compliant (see 2).

5. **EN 71 part 9 Safety of Toys – Migration or Content of Certain Hazardous Organic Chemical Compounds from/in Certain Toys and Toy Materials.** Formaldehyde content is less than the permissible limit.

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In addition it is declared that the products do **not** contain any of the following substances

- Phthalates
- Organic tin compounds
- Ozone depleting substances
- Materials derived from genetically modified organisms
- Octa- and pentabromodiphenylether
- Polychlorinated biphenyls, terphenyls and naphthalenes
- Polybrominated biphenyls and diphenyl ethers
- Pentachlorophenol and its salts
- Asbestos
- Azo compounds
- Short chain chlorinated paraffins
- Tributyl phosphate

This Certificate is valid for two years.

Dr M D BIRKETT CSci CChem MRSC
(Chartered Scientist, Chartered Chemist, Member of the Royal Society of Chemistry)

The Sappi SA Technology Centre is accredited according to the ISO/IEC 17025 Standard for the tests listed on the attached schedule.
The accredited tests were selected according to Sappi mill requirements for which the Technology Centre is the central reference laboratory. All testing conducted at the Technology Centre is carried out according to the same quality standards.
The Technology Centre operates as an independent testing facility which manages an inter-laboratory testing scheme and quality auditing protocol for the Sappi mill laboratories.

CERTIFICATE OF ACCREDITATION

This is to certify that:

SAPPI TECHNOLOGY CENTRE
PRETORIA

Facility Accreditation Number: **T0080**

is a South African National Accreditation System accredited Testing laboratory provided that all SANAS conditions and requirements are complied with.

This certificate is valid as per the scope on the accompanying schedule of accreditation bearing the above accreditation number for

CHEMICAL & PHYSICAL ANALYSIS

The facility complies with the general requirements of

ISO/IEC 17025:2005

A laboratory's fulfilment of the requirements of ISO/IEC 17025:2005 means the laboratory meets both the technical competence requirements and management system requirements

The management system requirements in ISO/IEC 17025 (Section 4) meet the principles of ISO 9001:2000 and are aligned with its pertinent requirements

While this certificate remains valid, the Accredited Facility named above is authorised to use the relevant SANAS logo to issue facility reports and/or certificates

Chief Executive Officer

Initial Accreditation: January 1999

Certificate Commences: April 2007
Certificate Expires: April 2012

"Recognised as the official national accreditation body by the Department of Trade and Industry of the Republic of South Africa"

This certificate is only valid when accompanied by its schedule of accreditation.

SANAS

ACCREDITED
LABORATORY

SCHEDULE OF ACCREDITATION

Testing Laboratory Number: T0080

Permanent Address of Laboratory:
SAPPI Technology Centre
Innovation Hub
1 Sydney Brenner Road
Lynnwood
Pretoria

Postal Address:
P O Box 6
The Innovation Hub
0087

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E-mail : michelle.allaway@sappi.com

Management Signatory
: Mrs V Bheem
: Dr C Clarke
: Dr A Leske

Technical Signatories
: Mrs K Kruger (Paper)
: Mrs H du Toit (Paper)
: Mrs V Jokoo (Paper)
: Mr A Smith (Paper)

: Mr C Pearcey (Pulp)
: Mr R Braunstein (Pulp)
: Mr H Twayi (Pulp)
: Mr J Mokgoatle (Pulp)
: Ms H Msibi (Pulp)
: Mrs H Maringa (Pulp)
: Ms P Mogoregi (Pulp M002 only)

: Dr M Birkett - Chemical (excl M101 & M102)
: Dr N Sefara - Chemical (excl M101 & M102)
: Mrs H Huhlwane - Chemical (excl M101 & M102)
: Ms T Matona - Chemical (excl M101 & M102)
: Mr R Lax - Chemical
: Mr A Schooler - Chemical

Nominated Representative : Mrs M Allaway

Issue No. : 09
Date of issue : June 2007
Expiry Date : April 2012

Materials/Products Tested	Types of Tests/Properties Measured, Range of Measurement	Standard Specifications, Equipment/Techniques Used	
CHEMICAL SCIENCES			
		In-house method	Reference
Potable water Ground water Boiler water Waste water Process water	pH (Electrometric)	LQM/CHEM/M001	APHA 4500 H^+B
	Conductivity (Conductrometric)	LQM/CHEM/M002	APHA 2510 B
	Chemical oxygen demand	LQM/CHEM/M003	APHA 5220 B

Original date of accreditation: January 1999

Field Manager

S A N A S

ACCREDITED
LABORATORY

Laboratory No: T0080
Date of issue: June 2007
Expiry date: April 2012

Materials/Products Tested	Types of Tests/Properties Measured, Range of Measurement	Standard Specifications, Equipment/Techniques Used	
CHEMICAL SCIENCES continued			
	Anions (Ion Chromatography) (Chloride, sulphate)	LQM/CHEM/M006	APHA 4110 B
	Cations Na, Ca, K, Mg, Al, Mn, Fe, Co, Ni, Cu, Zn, Cd, by Atomic Absorption Spectroscopy	LQM/CHEM/M007	APHA 3111 B/D
	Low level Iron (Phenanthroline method)	LQM/CHEM/M011	APHA 3500-Fe B
	Total Alkalinity (Titrimetric)	LQM/CHEM/M045	APHA 2320 B
	Total dissolved solids	LQM/CHEM/M044	SABS 213: 1990
	Determination of Phenolphthalein Alkalinity (Titrimetric)	LQM/CHEM/M046	APHA 2320 B
	Determination of Ortho-Phosphate ($SnCl_2$ – Spectroscopic)	LQM/CHEM/M047	APHA 4500-P D
	Determination of Hardness (Atomic Absorption and Calculation Method)	In-house method LQM/CHEM/M048	Reference APHA 2340 B
	Determination of Cations Na, Ca, K, Mg, Al, Ba, Be, Cd, Cr, Co, Cu, Fe, Pb, Ni, Mn, Si, Sr, Zn, by ICP - OES	LQM/CHEM/M050	APHA 3120 B
	Determination of Silica (ANSA Spectroscopic)	LQM/CHEM/M049	APHA 4500-SiO_2 D
Pulp	Determination of Alkali solubility of Pulp – S_{10} and S_{18} (Titrimetric)	LQM/CHEM/M101	TAPPI T235 cm-00
	Determination of the Copper Number of Pulp – Braidy's Method (Titrimetric)	LQM/CHEM/M102	TAPPI T430 cm-99
		APHA	Standard Methods for the "Examination of Water and Wastewater" APHA, AWWA,WEF, 20th Edition 1998

Field Manager

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Materials/Products Tested	Types of Tests/Properties Measured, Range of Measurement	Standard Specifications, Equipment/Techniques Used	
PAPER SCIENCES			
Paper and Paper Board	Bursting strength	LQM/PT/M.020A	ISO 2758
	Brightness (ISO)	LQM/PT/M.022A	ISO 2470
	Grammage	LQM/PT/M.070A	ISO 536
	Opacity	LQM/PT/M.150A	ISO 2471
	Tearing resistance	LQM/PT/M.200A	ISO 1974
	Tensile properties	LQM/PT/M.201A/.301A	ISO 1924-2
	Thickness	LQM/PT/M.202A	ISO 534
	Whiteness	LQM/PT/M.030A	ISO 11475
	Colour Determination (D65/10°)	LQM/PT/M.030A	SCAN P72
	Air Permeance	LQM/PT/M.010A	ISO 5636-3
	Ring Crush	LQM/PT/M.180A	TAPPI T822
	Roughness	LQM/PT/M.181A	ISO 8791-2
PULP & BLEACHING			
Pulp	Viscosity of Cuprammonium / Pulp Dispersion	LQM/PULP/M001	TAPPI T206 os-63 TAPPI T230 Lab Test 026 & Lab Prep 003
	Alkaline Cooking and Spent Liquor Analysis	LQM/PULP/M002	SCAN – N22, SCAN – N30, SCAN – N32, SCAN – N33, SCAN – N22, TAPPI T610, TAPPI T624, TAPPI T625
	Kappa Number	LQM/PULP/M003	TAPPI T236
	Micro Kappa Number	LQM/PULP/M004	FDT 12-019
	Chlorine Consumption	LQM/PULP/M005	ISO 3260
	Viscosity of cellulose in cupriethylenediamine solution	LQM/PULP/M006	ISO 5351

ISSUED BY THE SOUTH AFRICAN NATIONAL ACCREDITATION SYSTEM

Field Manager