

# CENTRAL STANDARDIZATION COMMITTEE

SPECIFICATION  
FOR  
PAPER FOR OFFSET  
LITHOGRAPHIC PRINTING

Approved by the  
CENTRAL STANDARDIZATION COMMITTEE

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**Gr 5**

NOTICE

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Except for purposes of tender or contract no person may claim or create the impression that commodities comply with this specification.

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SPECIFICATION

for

PAPER FOR OFFSET LITHOGRAPHIC PRINTING

0. APPLICABLE STANDARDS

0.1 The latest issues of the following standards form part of this specification:

- ISO 187 Paper and board - Conditioning of samples
- ISO 478 Paper - Untrimmed stock sizes for the ISO-A Series - ISO primary range
- ISO 534 Paper and board - Determination of the thickness of single sheets (and method of calculation of the apparent density of board)
- ISO 536 Paper and board - Determination of grammage
- ISO 1974 Paper - Determination of tearing resistance
- ISO 2470 Paper and board - Measurement of diffuse blue reflectance factor (ISO brightness)
- ISO 2471 Paper and board - Determination of opacity (paper backing) - Diffuse reflectance method
- ISO 2494 Paper and board - Recommended procedure for the determination of roughness - Constant-pressure air-flow method
- ISO 2758 Paper - Determination of bursting strength
- ISO 6588 Paper, board and pulps - Determination of pH of aqueous extracts
- SABS 822 Sizes of paper and envelopes
- TAPPI T401 Fibre analysis of paper and paperboard

1. SCOPE

1.1 This specification covers three classes of paper suitable for offset lithographic printing purposes and that are supplied in sheets or reels.

NOTE: The following requirements must be specified in tender invitations and in each order or contract:

- a) The class of paper (see 2.1)
- b) Whether the paper is to be supplied in sheets or reels (see 2.3)
- c) The size of the sheets (see 2.3.1(a))
- d) The packing of sheets or reels (see 3.1)
- e) Additional marking on reams or reels (see 3.2)

2. REQUIREMENTS

2.1 CLASS. The paper shall be of Class 1, Class 2 or Class 3, as specified by the purchaser.

2.2 MATERIAL

2.2.1 General. The paper shall be machine finished on both sides and shall be reasonably free from paper dust, small fibre bundles, holes, wood splinters, specks and other defects that may impair its serviceability.

2.2.2 Physical and Chemical Properties. The physical and chemical properties of the paper shall comply with the relevant requirements given in Table 1.

In addition, the sizing of the paper shall be such that each side of the paper will accept all common writing media (applied in the normal manner) without undue signs of feathering or spread.

TABLE 1 - PHYSICAL AND CHEMICAL REQUIREMENTS

1	2	3	4	5
Property	Requirement			Test method subsection
	Class 1	Class 2	Class 3	
Fibre composition	100 % chemically processed*			4.4
Grammage, g/m <sup>2</sup>				4.5
Nominal	85	105	120	
Actual, min.	80,8	99,8	114,0	
Thickness (calliper), mm	0,094-0,110	0,120-0,142	0,139-0,161	4.6
Bursting strength, kPa, min.	150	200	240	4.7
Tearing resistance (MD), mN, min.	450	650	800	4.8
Brightness, %, min.	85,0	85,0	85,0	4.9
Roughness, ml/min, max.				4.10
Topside	225	250	250	
Wire side	275	300	300	
Opacity, %, min.	85,0	-	-	4.11
pH value of aqueous extract, min.	4,8	4,8	4,8	4.12

\*i.e. free from mechanical wood fibre.

2.3 DIMENSIONS

2.3.1 Sheets

a) Sheets shall be of one of the preferred nominal sizes identified by an appropriate size designation given in Column 2 of Table 2, or by one of the other size designations given in ISO 478 or SABS 822, as specified (in all cases) by the purchaser. The actual width and length of a sheet, determined in accordance with 4.3, shall conform to the appropriate values given in Columns 3 and 4 of Table 2 or as laid down in the relevant specification.

b) The paper shall be so cut that the machine direction (MD) of the paper, relevant to the size designation, is parallel to the dimension indicated in Column 5 of Table 2.

TABLE 2 - DIMENSIONS OF SHEETS OF PREFERRED SIZE DESIGNATION

1	2	3	4	5
Class	Size designation	Width, mm	Length, mm	Dimension parallel to MD
1	RA1	610 ± 4	680 ± 4	width
1	A4	210 ± 2	297 ± 2	length
1	A3	297 ± 2	420 ± 2	width
2	1 1/3 RA1	610 ± 4	900 ± 4	length
3	1 1/3 RA1	610 ± 4	900 ± 4	length

2.3.2 Reels. The dimensions of the reels, when measured in accordance with 4.1, shall be as follows:

- a) Actual width of reel : 320 ± 3 mm
- b) Diameter of reel : 915 mm, max.
- c) Internal diameter of core : 76 ± 1 mm

3. PACKING AND MARKING

3.1 PACKING

3.1.1 Sheets. Sheets shall, unless otherwise specified by the purchaser, be packed flat and wrapped in reams in accordance with commercial practice. Only sheets of the same class and dimensions shall be packed together.

3.1.2 Reels. Paper supplied in reels shall be tightly wound on cores, without wrinkling and distortion. Each end of each core shall be so plugged as to prevent distortion of the core during normal handling and transportation.