

10 PAPER TYPES – **22/1/08 DK S 1-2.40 p.m.**

10.1 Paper Grades

10.2 Paper Sizes

10.3 Paper Densities

10.1 Paper Grades

- **Papers can be graded in numbers of ways and various types based on**
 - **end use,**
 - **process of manufacturing,**
 - **raw material used**
 - **etc.**

major grades:

1) Based on basis weight

- Tissue: **Light weight**, $<40 \text{ g/m}^2$ [15-60 g/m^2]
- Paper: **Medium weight**, 40-120 g/m^2 [25-300 g/m^2 – one layer]
- Paperboard: Medium High weight, 120-200 g/m^2
- Board: **High weight**, $>200 \text{ g/m}^2$ [170-600 g/m^2 - multilayer]
 - * Paper for printing, board for packaging and paperboard fall in between.

2) Based on Usage

- **Industrial: Packaging, wrapping, filtering, electrical etc.**
- **Cultural: Writing, printing, newspaper, bond, currency, book, cover etc.**
- **Food: Food wrapping, candy wrapping, coffee filter, tea bag etc.**

3) Based on **Raw Material**

- **Wood:** Contain fibers from wood (groundwood, wood free etc.)
- **Agricultural residue:** Fibers from straw, grass or other annual plants
- **Recycled:** Recycle or secondary fiber

4)Based on Surface Treatment

- **Coated: Coated with clay or other mineral.**
- **Uncoated: No coating**
- **Laminated: aluminum, poly etc**

5) Based on Color

- **Brown: Unbleached**
- **White: Bleached**
- **Colored: Bleached and dyed or pigmented**

6) Finish

- **Fine/Course**
- **Calendered/
Supercalendered**
- **Machine Finished
(MF)/Machine Glazed (MG)**
- **Glazed/Glossed**

10.2 Paper Sizes

- **Based on ISO paper sizes**
- **Series A is used for**
 - **standard printing**
 - **stationary.**

A SERIES	mm X mm	Inch X Inch
A0	841 X 1189	33.11 X 46.81
A1	594 X 841	23.39 X 33.11
A2	420 X 594	16.54 X 23.39
A3	297 X 420	11.69 X 16.54
A4	210 X 297	8.27 X 11.69
A5	148 X 210	5.83 X 8.27
A6	105 X 148	4.13 X 5.83
A7	74 X 105	2.91 X 4.13
A8	52 X 74	2.05 X 2.91
A9	37 X 52	1.46 X 2.05
A10	26 X 37	1.02 X 1.46

Series B for

- posters, wall-charts, etc.

B SERIES	mm X mm	Inch X Inch
B0	1000 X 1414	39.37 X 55.67
B1	707 X 1000	27.83X 39.37
B2	500 X 707	19.68 X 27.83
B3	353 X 500	13.90 X 19.68
B4	250 X 353	9.84 X 13.90
B5	176 X 250	6.93 X 9.84
B6	125 X 176	4.92 X 6.93
B7	88 X 125	3.46 X 4.92
B8	62 X 88	2.44 X 3.46
B9	44 X 62	1.73 X 2.44
B10	31 X 44	1.22 X 1.73

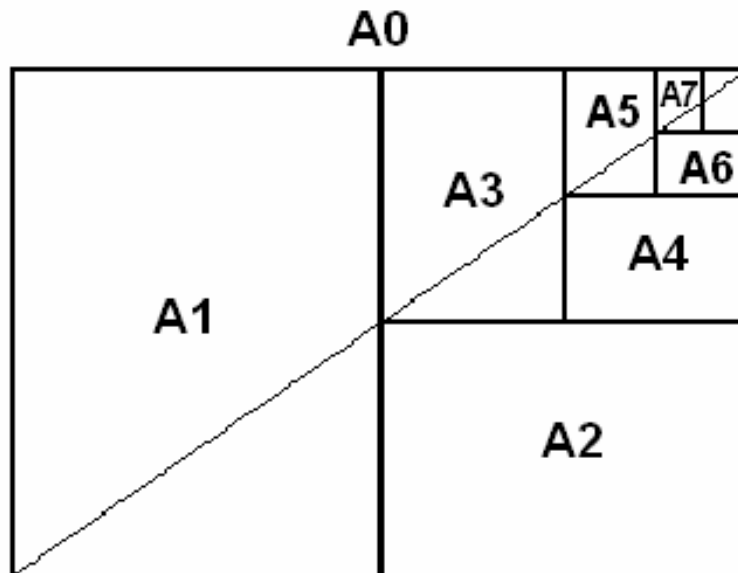
Series C: folders, post cards and envelopes. (C series envelope is suitable for A series sizes).

C SERIES	mm X mm	Inch X Inch
C0	917 X 1297	36.10 X 51.06
C1	648 X 917	25.53 X 36.10
C2	458 X 648	18.05 X 25.53
C3	324 X 458	25.53 X 9.02
C4	229 X 324	9.02 X 12.76
C5	162 X 229	6.38 X 9.02
C6	114 X 162	4.51 X 6.38
C7	81 X 114	3.19 X 4.51
C8	57 X 81	2.25 X 3.19
C9	40 X 57	1.59 X 2.25
C10	28 X 40	1.12 X 1.59

Tolerances

- **± 1.5 mm for dimensions up to 150 mm**
- **± 2 mm for dimensions above 150 mm with 600 mm max**
- **± 3 mm for dimensions above 600 mm.**

- **Area of A0 = 1 Square meter**
 $A_0/A_1 = A_1/A_2 = A_2/A_3 \dots\dots\dots A_9/A_{10} = 2$



- **Common application:**

A0, A1	Technical drawings, posters
A1, A2	Flip charts
A2, A3	Drawings, diagrams, large tables
A4	Letters, magazines, forms, catalogs, laser printer and copying machine output
A5	Note pads
A6	Postcards
B5, A5, B6, A6	Books
C4, C5, C6	Envelopes for A4 letters: unfolded (C4), folded once (C5), folded twice (C6)
B4, A3	Newspapers, supported by most copying machines in addition to A4
B8, A8	Playing cards

10.3 Paper Densities

PAPER GRADES	POUND/CUBIC INCH (lb/in ³)	GRAM/CUBIC METER (g/m ³)
Tissue	0.009 - 0.018	25 - 50
Wax Paper	0.017 - 0.028	47 - 78
Unbleached Kraft	0.021 - 0.025	58 - 69
Corrugated Medium	0.022	61
News/Catalog/Directory	0.022 - 0.025	61 - 69
CRS	0.024 - 0.028	66 - 78
Pulp Sheet	0.025	69
Fine Paper	0.028	78
Carbonizing Tissue	0.028	78
Bleached Kraft	0.030	83
Letterpress/ Offset	0.031	86
Coated & Super Calendered Publication	0.040 - 0.042	111 - 116
Super Calendered Glassine	0.042 - 0.055	116- 152