



Tech Info Library

Printers: General Information on Metric Paper Sizes (5/96)

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TOPIC -----

This article contains information on different Metric paper and envelope size dimensions.

DISCUSSION -----

ISO Paper Sizes
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The paper formats defined by ISO in the A, B and C series are used today in nearly all countries apart from North America.

The formats have been determined according to the following rules:

- A0 has an area of one square meter.
- The aspect ratio of all members of the A, B and C-series is $\sqrt{2} = 1.41421\dots$
- You get the next higher format by cutting the paper in two equal pieces parallel to the shorter side. This results again in a 1 : $\sqrt{2}$ format (that's the big advantage of this format).
- The size of a B-series paper is the geometric mean between the size of the corresponding A-series paper and the next bigger A-series paper. For example, B1 is between A1 and A0.
- The size of a C-series paper is the geometric mean between the size of the A-series and B-series paper with the same number.

This means that the following formulas give the dimensions in meters:

Begin_Table

Paper Size	Width	Height
A-series	$2^{-1/4 - n/2}$	$2^{1/4 - n/2}$

B-series	$2^{(-n/2)}$	$2^{(1/2 - n/2)}$
C-series	$2^{(-1/8 - n/2)}$	$2^{(3/8 - n/2)}$

End_Table

Larger sizes have smaller numbers. Sizes larger than those with $n = 0$ are written as 2 A0 and 4 A0 rather than A(-1) and A(-2).

The following table lists the official definitions of the paper sizes which are the values from the above formulas rounded more-or-less to an integral number of millimeters:

Begin_Table

Paper Size	Dimension (millimeters)	Paper Size	Dimension (millimeters)	Paper Size	Dimension (millimeters)
4 A0	1682 x 2378				
2 A0	1189 x 1682				
A0	841 x 1189	B0	1000 x 1414	C0	917 x 1297
A1	594 x 841	B1	707 x 1000	C1	648 x 917
A2	420 x 594	B2	500 x 707	C2	458 x 648
A3	297 x 420	B3	353 x 500	C3	324 x 458
A4	210 x 297	B4	250 x 353	C4	229 x 324
A5	148 x 210	B5	176 x 250	C5	162 x 229
A6	105 x 148	B6	125 x 176	C6	114 x 162
A7	74 x 105	B7	88 x 125	C7	81 x 114
A8	52 x 74	B8	62 x 88	C8	57 x 81
A9	37 x 52	B9	44 x 62	C9	40 x 57
A10	26 x 37	B10	31 x 44	C10	28 x 40

End_Table

Some of the more popular sizes

Begin_Table

Size	Purpose
A0	technical drawings
A4	letters, magazines, documents
A5	books
C4,C5,C6	envelopes
B4,A3	supported by many copy machines, newspapers

End_Table

There are also strip formats possible, for example:

Begin_Table

Size	Dimensions
1/3 A4	99 x 210
2/3 A4	198 x 210
1/4 A4	74 x 210
1/8 A4	37 x 210
1/4 A3	105 x 297
1/3 A5	70 x 148

End_Table

All these formats are paper end formats. In other words, these are the dimensions of the paper delivered to the user/reader. Other standards define slightly bigger paper sizes for applications where the paper will be cut to the end format later (for example, after binding).

The ISO DL envelope format has the dimensions 220 x 110 millimeters.

The values contained in this Tech Info Library article come from DIN 476 (Dec 1976) which is the German version of the ISO 216 standard.

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