

Length units in T_EX

The given conversions may suffer from rounding errors and are only for guidance.
The shown rules are 1 mm thick. Please note that the very short rules may not be rendered correctly on your screen (or printer) and appear longer than they are.

Scaled Point

Definition

The scaled point is defined as 1/65 536 points.

Note

This is the smallest unit T_EX uses.

Conversion

1 sp = 0 mm = 0.000 02 pt

(PostScript-)Point

Definition

The point is defined as 1/72.27 inch.

Conversion

1 pt = 0.351 46 mm = 65 536 sp

Big Point (DTP point)

Definition

The big point is defined as 1/72 Inch.

Note

Word, InDesign and other DTP applications use this definition for points.

Conversion

1 bp = 0.352 77 mm = 1.003 74 pt = 65 781 sp

Didot Point

Definition

An old unit used by European printers

Conversion

1 dd = 0.376 07 mm = 1.07 pt = 70 124 sp

Millimeter

Definition

SI unit

Conversion

1 mm = 2.845 26 pt = 186 467 sp

Pica

Definition

One pica equals twelve points.

Conversion

1 pc = 4.217 54 mm = 12 pt = 786 432 sp

Cicero

Definition

One Cicero equals twelve Didot points.

Conversion

1 cc = 4.5128 mm = 12.8401 pt = 841 489 sp

Centimeter

Definition

SI unit

Conversion

1 cm = 10.000 05 mm = 28.452 74 pt = 1 864 679 sp

Inch

Definition

One inch equals 2.54 centimeters.

Conversion

1 in = 25.400 13 mm = 72.269 99 pt = 4 736 286 sp

Em

Definition

The size of an em depends on the current font family and size. It is about the width of a capital M and its value is defined in the font file.

Note

This unit should be used for all horizontal distances, that should change with font size, e.g. the paragraph indentation.

x Height

Definition

The x height depends on the current font family and size. It is about the height of a lower x and its value is defined in the font file.

Note

This unit should be used for all vertical distances, that should change with font size.

Math Unit

Definition

This unit equals approx. 1/18 em of the math font family.

Note

It can only be used for spacing in math mode.

500 dd

500 bp

500 pt

10 sp

10 pt

10 bp

10 dd

10 mm

10 pc

10 cc

10 cm

10 in

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Source code available at <https://github.com/tweh/tex-units>.