

`\pretolerance` [ *<number>* parameter ]

`\tolerance` [ *<number>* parameter ]

These parameters determine the badness that T<sub>E</sub>X will tolerate on each line when it is choosing line breaks for a paragraph. The badness is a measure of how far the interword spacing deviates from the ideal. `\pretolerance` specifies the tolerable badness for line breaks without hyphenation; `\tolerance` specifies the tolerable badness for line breaks with hyphenation. The tolerable badness can be exceeded in either of two ways: a line is too tight (the interword spaces are too small) or it is too loose (the interword spaces are too big).

- If T<sub>E</sub>X must set a line too loosely, it complains about an “underfull hbox”.
- If T<sub>E</sub>X must set a line too tightly, it lets the line run past the right margin and complains about an “overfull hbox”.

T<sub>E</sub>X chooses line breaks in the following steps:

- 1) It attempts to choose line breaks without hyphenating. If none of the resulting lines have a badness exceeding `\pretolerance`, the line breaks are acceptable and the paragraph can now be set.
- 2) Otherwise, it tries another set of line breaks, this time allowing hyphenation. If none of the resulting lines have a badness exceeding `\tolerance`, the new set of line breaks is acceptable and the paragraph can now be set.
- 3) Otherwise, it adds `\emergencystretch` (see below) to the stretch of each line and tries again.
- 4) If none of these attempts have produced an acceptable set of line breaks, it sets the paragraph with one or more overfull hboxes and complains about them.

Plain T<sub>E</sub>X sets `\tolerance` to 200 and `\pretolerance` to 100. If you set `\tolerance` to 10000, T<sub>E</sub>X becomes infinitely tolerant and accepts any spacing, no matter how bad (unless it encounters a word that won't fit on a line, even with hyphenation). Thus by changing `\tolerance` you can avoid overfull and underfull hboxes, but at the cost of making the spacing worse. By making `\pretolerance` larger you can get T<sub>E</sub>X to avoid hyphenation (and also run faster), again at the cost of possibly worse spacing. If you set `\pretolerance` to  $-1$ , T<sub>E</sub>X will not even try to set the paragraph without hyphenation.

The `\hbadness` parameter (p. ‘`\hbadness`’) determines the level of badness that T<sub>E</sub>X will tolerate before it complains, but `\hbadness` does not affect the way that T<sub>E</sub>X typesets your document. The `\hfuzz` parameter (p. ‘`\hfuzz`’) determines the amount that an hbox can exceed its specified width before T<sub>E</sub>X considers it to be erroneous.