

Vertical Metrics

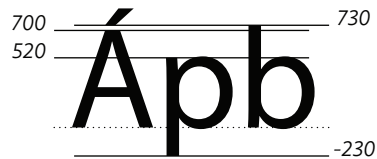
By Andy Clymer for Type@Cooper, July 2013

Based on the recommendations of John Hudson and Karsten Luecke:

<http://typophile.com/node/13081>

<http://www.kltf.de/downloads/FontMetrics-kltf.pdf>

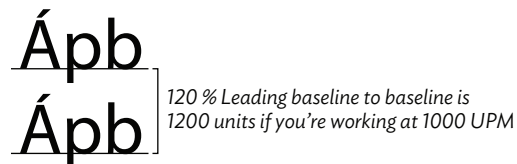
Start by making sure that the values are correct in the General: Dimensions section of the Font Info, based on the actual height of the Ascender, Descender, and Cap-height.



Decide how much leading should be built in to your font when it's used in an application that doesn't have fine grained control over leading, such as Text Edit or Microsoft Word.

120% of the font's point size is a good starting point for leading, and it's the default in InDesign and Illustrator. This would mean that text set at 10 point would have 12 points of leading from baseline to baseline.

Since the font has been drawn on a grid of 1000 Units Per Em, the goal will be to end up with vertical metrics that add up to 1200 (120% of 1000).



General: Dimensions

Units Per Em	1000
Descender	-230
x-height	520
Cap-height	700
Ascender	730
Italic Angle	0

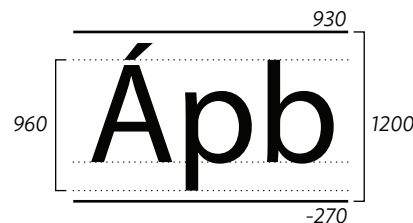
OpenType: hhea Table

Ascender	930
Descender	-270
LineGap	0

OpenType: OS/2 Table

sTypoAscender	730 = Dimensions: Ascender
sTypoDescender	-230 = Dimensions: Descender
sTypoLineGap	0 = hhea: LineGap
usWinAscent	930 = hhea: Ascender
usWinDescent	270 = hhea: Descender (but as a positive value)

In this example, the distance from the Ascender to the Descender is 960 units (730+230). Find a way to center your font between these 1200 units where there's enough of a gap above the Ascender and below the Descender to give enough room for accent marks or other drawings that extend past the Ascender or Descender values.



In this case, something like 930 gives enough room above the Ascender to comfortably include accent marks, and 270 units below the baseline looks good as well. This span from 930 to 270 below the baseline add up to the 1200 units of spacing that we were aiming for.

For best results, try to find values that will work throughout the entire range of weights of your font family.

You now have all of the values that you need, the OpenType "hhea Ascender" should be set to this new top measurement, and the "hhea Descender" should be set to the bottom measurement. Leave the "hhea LineGap" at zero because the leading between lines has now been built in to the other two measurements.

Continue by filling out the OpenType "OS/2" table with values that you've already worked out, using the table above.