TOLEDO STEEL SUPPLY, INC

Standard Burning Tolerances

PLATE THICKNESS	BURNING TOLERANCE	EDGE SQUARENESS
1/8" to under 3"	+/- 1/16" (.0625)	Within .0625"
3" to under 4"	+/- 1/8" (.125)	Within .125"
4" to under 8"	+/- 3/16" (.188)	Within .125"
8" to under 12"	+/- 1/4" (.250)	Within .188"

Toledo Steel Supply's standard burn tolerance is +/- 0.0625" (1/16th of an inch) up to 3.00".

3.00" thick and up is as follows:

Toledo Steel will burn all "thru" holes that we are capable of burning according to our quality standards unless otherwise specified.

Toledo Steel's standard burn tolerance for ID's allows inner cutouts that are able to accommodate one diameter equal to ¾ of the plate thickness to be burned. (i.e. 1" thick plate, minimum ID size .75" diameter.)

Toledo steel will add 0.125" (1/8 of an inch) to any areas with a 'machine mark' (i.e. VV, $\sqrt{\ }$) per provided print unless otherwise specified.

Please include any special instructions with your request for quote or purchase order so that we may complete your quote or order with efficiency and accuracy.

Cutting Tolerances

Modern flamecutting machines are CNC controlled machine tools that will trace the programmed path with a very high degree of accuracy, generally to within a few thousandths of an inch. The cutting oxygen stream from the cutting tip creates a consistent and uniform kerf. Why, then, does flamecutting require tolerances like these?

The reason for these more generous tolerances is that the intense heat of the burning process causes the steel along the cut to expand, creating powerful stresses in the plate. Due to the destructive nature of flamecutting, the plate cannot be fixtured, these stresses will cause the plate to shift or "walk" during the cutting process.

Beyond this dimensional tolerance, there is also a need to account for how the cut will deviate from square. Generally, a flamecut edge can be expected to be perpendicular within 1-1/2 degrees to the top surface of the plate. This has a minimal effect on lighter plate, but on heavy plate it can mean a possible deviation that is significant. In inches, the edge can be out of square.