

# TOWER METAL WORKS MATERIAL EDGE DEFINITIONS

## MILL EDGE:

*Is a pristine untreated edge from the steel mill. This edge is very inconsistent and will vary in quality, straightness, and is not square to adjacent edges.*



IMAGE 1

## SHEARED EDGE:

*Will be slightly rounded on the top edge, and sharp burrs on the bottom edge. Be cautious while handling, can be extremely sharp.*



IMAGE 2

## LASER CUT EDGE TYPES:

*Laser cut edges will be square on both top and bottom. The material can feel sharp due to crisp square edges. Thicker gauge steel will develop "dross" (cut waste as seen in "image 3"). Dross is from liquid metal being ejected during the cutting process. Dross is sharp to the touch in most cases and should be handled with caution. Laser lead in and out during cutting can leave a ridge or subtle burr.*

**OXYGEN CUT:** (mild steel only): Will develop Iron Oxide laser scale. If parts require plating or paint, the scale will cause adhesion problems.

**NITROGEN CUT:** (mild/stainless/aluminum): Known as clean cut. This process will not leave laser scale. Mild steel nitrogen cut is limited to 12GA and thinner material due to power limitations.

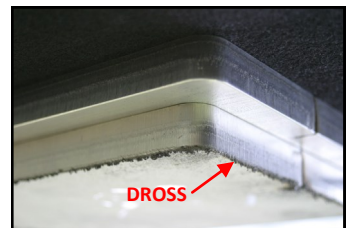


IMAGE 3

## CNC PUNCHED EDGE:

*Very similar to the sheared factory edge. It will be slightly rounded on the top edge, and sharp burrs on the bottom edge. Nibble marks can be visible for each tool strike and more prevalent on thicker materials. The parts can exhibit sharp barbs where they were tabbed to a sheet. De-tabbing and/or de-burring the part should be considered depending on its use. Be cautious while handling.*



IMAGE 4

## THE 3 LEVELS OF EDGE DEBURRING

Material **SURFACES** are **NOT** part of the deburr process.

1

### STD DEBURR:

*Most edges are acceptable. Sharp trouble spots are knocked down by sanding or grinding.*

2

### LATEX DEBURR:

*Edges and trouble spots are sanded or ground to a degree that a latex glove will slide across edges without snagging.*

3

### EXTREME DEBURR:

*All accessible edges are sanded or ground smooth. Burrs, tabs, nibble marks, and dross are removed.*

## DE-TAB:

*A tab is where a part was held to a sheet. All tabs will be removed by sanding or grinding until soft to the touch.*