

Laser cutting is performed in accordance with the PN-EN ISO 9013:2017, 04 standard – Thermal cutting – Classification of thermal cuts – Geometrical product specification and quality tolerances.

This standard defines the quality of thermal cutting. It defines, among other things, how to measure the quality of cutting, depending on the thickness of the processed material. The dimensions are specified in mm.

Dimensional tolerance limit for a given material thickness, tolerance grade 1 (Laser)

Range of dimensions								
Thickness	>0<3	≥3<10	≥10<35	≥35<125	≥125<315	≥315<1000	≥1000<2000	≥2000<4000
>0≤1	±0.04	±0.1	±0.1	±0.2	±0.2	±0.3	±0.3	±0.3
>1≤3.15	±0.1	±0.2	±0.2	±0.3	±0.3	±0.4	±0.4	±0.4
>3.15≤6.3	±0.3	±0.3	±0.4	±0.4	±0.5	±0.5	±0.5	±0.6
>6.3≤10		±0.5	±0.6	±0.6	±0.7	±0.7	±0.7	±0.8
>10≤50		±0.6	±0.7	±0.7	±0.8	±1.0	±1.6	±2.5
>50≤100			±1.3	±1.3	±1.4	±1.7	±2.2	±3.1
>100≤150			±1.9	±2.0	±2.1	±2.3	±2.9	±3.8
>150≤200			±2.6	±2.7	±2.7	±3.0	±3.6	±4.5
>200≤250						±3.7	±4.2	±5.2
>250≤300						±4.4	±4.9	±5.9

Radius tolerance limit on the cutting edge for a given material thickness, Δa , specifies the maximum acceptable radius on the edges of the cut material

Material thickness, Δa	
≤ 3	0.1
> 3 to 6	0.3
> 6 to 10	0.6
> 10 to 20	1.0
> 20 to 40	1.5

> 40 to 100	2.0
> 100 to 150	3.0
> 150 to 200	5.0
> 200 to 250	8.0
> 250 to 300	10.0