

Understanding tolerances on a waterjet cut part

0—50mm material = $\pm 0.25\text{mm}$ + Positive Taper of 0.3mm per cut side.

50mm + material = $\pm 0.25\text{mm}$ + Positive Taper of 0.5mm per cut side.

$\pm 0.25\text{mm}$ Tolerance

If a part is a 45mm O/D ring, with the tolerance the part may be 45.25mm when cut.

Positive Taper of 0.3mm (or 0.5mm)

(Not including tolerance) On material that is 25mm thick, when the part (as above) the top of the part will be 45mm O/D but the bottom of the cut the part may be 45.6mm O/D.

Overall

A 45mm O/D disc in 25mm material may be 45.25mm O/D at the top and up to 45.85mm O/D at the bottom. This is taking into account the tolerance and the taper.

