



## Elongation & Plastic deformation

- Elongation is a measure of the ductility of a material as determined by a tension test. It is the increase in the gauge-length of a test specimen after fracture divided by its original gauge-length. Higher elongation means higher ductility.
- Plastic deformation of the cutting edge occurs when the tool material softens at high temperature and begins to flow under the pressure of the cutting forces. Cutting edges made of tool steel or high-speed steel deform in inverse proportion to the difference between the temperature at the cutting edge and the yield temperature of the tool material.

