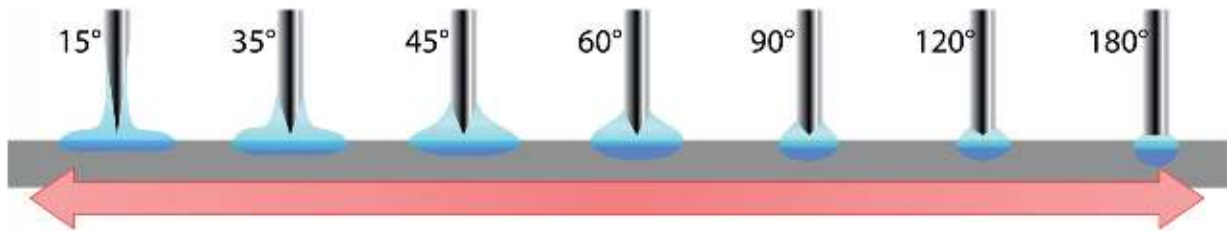


When and why truncate the tip of the electrode?

In TIG welding, several factors influence the quality and shape of the arc.

In addition to material, power source, current type, amperage, shielding gas and forming gas, polarity and much more, a **Tungsten electrode tip** optimised for the respective purpose is crucial.



Source: GCE

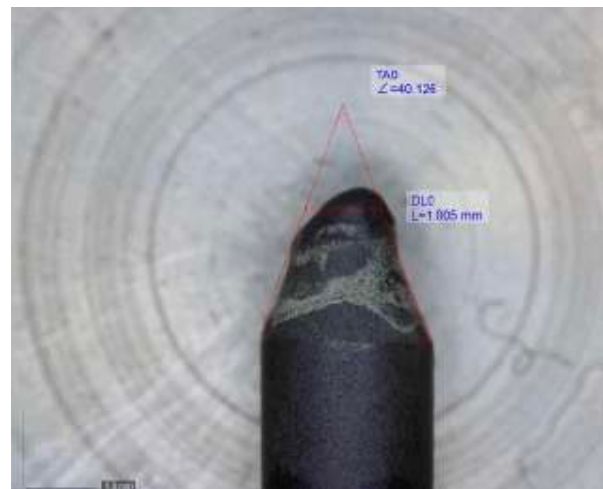
In addition to the selected tip geometry, a ground and truncated electrode tip can be beneficial for the following applications:



- When welding in direct current with low currents and thin-walled sheets, the arc pressure and the arc width can be defined by a truncated tip.
- This is particularly advantageous when using electrodes in orbital welding heads and automation applications, as the seam geometry can be modelled accordingly, the arc stabilised and reproducible welding results achieved.
- At high amperage in direct current and alternating current, melting due to overheating of the electrode tip and the associated contamination of weldpool is avoided.

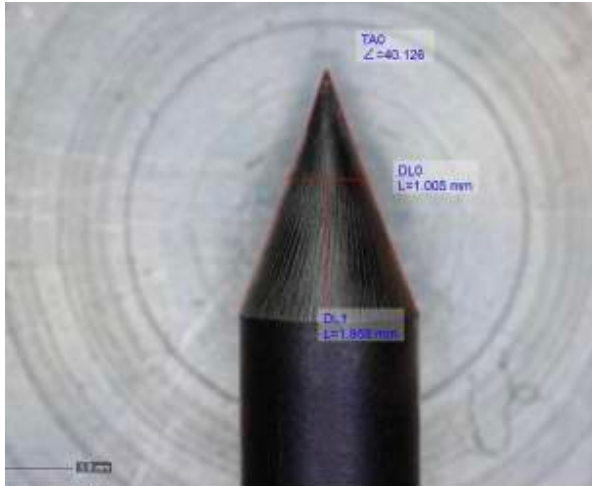


Sharpened electrode before welding

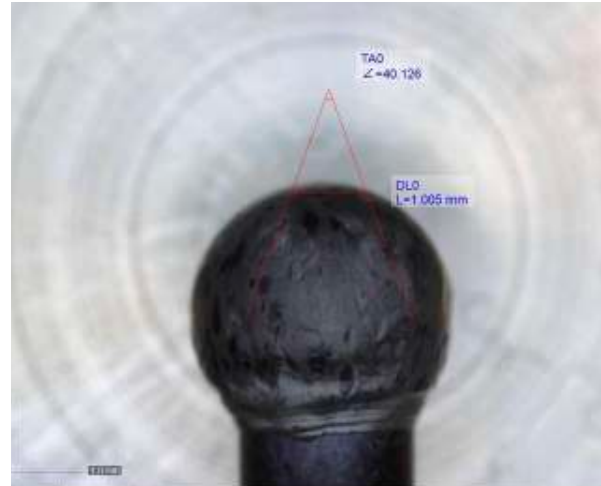


Melted electrode tip

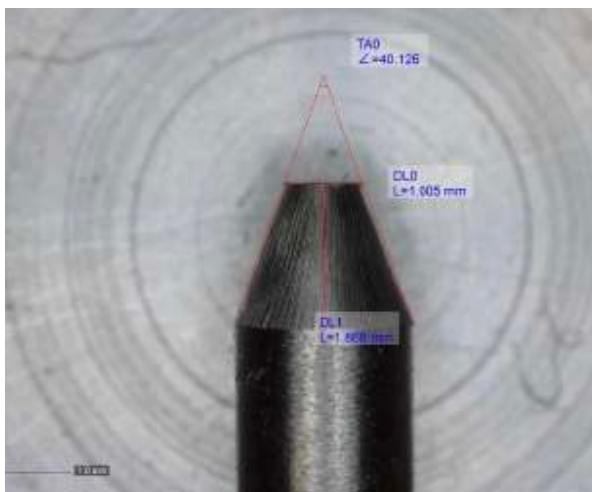
- Similarly, truncating the electrode during AC welding prevents uncontrolled ball formation and overheating of the electrode tip and produces a more stable arc.



Sharpened electrode for alternating current



"Balled up" electrode tip
($\varnothing$ approx. 2.5 x electrode diameter)



Truncated electrode tip
(approx. 10%-30% of the electrode diameter)



Optimally formed electrode tip
under AC load

CONCLUSION:

By truncating the electrode tip of a longitudinally and wet-ground electrode

- **the arc is stabilised**
- **the arc geometry and the arc pressure on the weldpool can be influenced**
- **overheating and thus melting is avoided and wear of the Tungsten electrode is reduced**
- **reproducible welding results are achieved in orbital and automation**
- **the service life of the electrode tip is increased**