

Whatever its use, the internal profile of a die is always defined by 5 zones.

Each zone has an essential purpose in the wire drawing process.

Entrance

- The entrance cone allows a sufficient and controlled flow of lubricants, liquids, grease or powders.

Reduction cone

- The reduction cone ensures a regular and controlled reduction of the wire diameter.
- The reduction angle depends on the type of drawn material and on the diameter reduction rate or wire elongation rate.

Bearing

- The bearing allows to bring the wire to the precise required diameter and roundness, and keep these requirements all the way to the exit of the die. The bearing also ensures the wire is straight.
- Its length depends on the type of drawn material and on the required specifications.

Back relief

- This little rounded off zone between the bearing and the exit angle ensures that no sharp angle is present.
- The back relief reduces the risk of the wire being scratched and reduces the creation of metal particles which would contaminate the lubrication bath. This is essential for the wire quality and the reliability of the process in avoiding early die wear, wire breakages...

Exit cone

- The goal of the exit cone is to position the die working area (reduction cone and bearing) at the right height inside the diamond, in order to get the best control of the mechanical stress created by the drawing process.

