

Raw material (diamond)

- Regarding natural diamond dies, the stones have to be selected according to very precise factors (weight, internal purity, tension and stress ...) in order to withstand better the drawing process strains and to maximize the number of recuttings that can be done.
- Regarding polycrystalline diamond (PCD) dies, the choice of the blanks suppliers is essential in order to achieve the best balance between surface finish and lifetime. PCD blanks quality is regularly tested before approval.

Mounting powder

- The mounting powder in which the diamond is inserted must be robust and also have properties to remove the heat generated by drawing.
- It is crucial to resist the drawing stress and then ensure the best die life time.

Polishing

- A quality polishing (mirror finish) allows to reduce drawing stress and defects.
- It will determine the wire surface finish and is particularly essential for set finishing dies.

Profile blending

- The junction between the various parts within the die is worked in order to smooth and blend together the sharp angles.
- It will avoid creation of metal chips or dust which would contaminate the lubricant bath.

Respect and repeatability of the geometry

- The required geometry must be achieved and also be absolutely identical from one die to another and from one die set to another in case of multiline machines.
- The risk of die early wear and wire breakages is therefore reduced.

