

STATISTICAL PROCESS CONTROL

IMPROVED WIRE PRODUCTION

Task

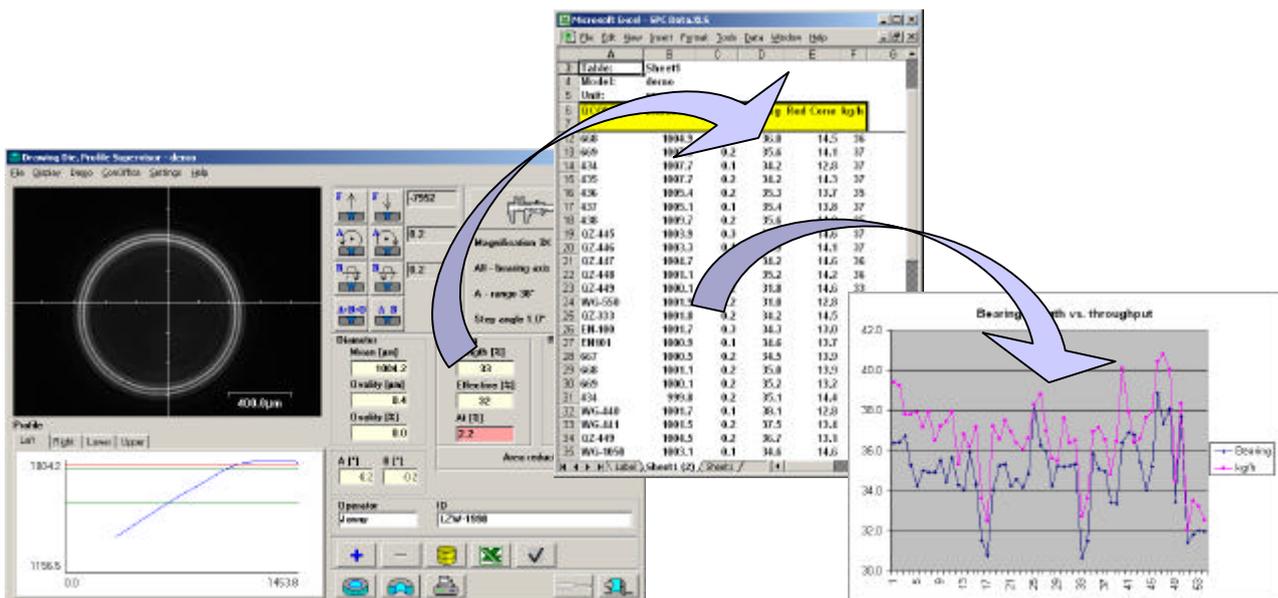
A large volume of drawing dies is used in production. All dies in each series must function correctly together in order to make high quality wire with maximum speed and a minimum of breakage. The inner geometry of the dies is important in obtaining these goals. What is the optimum die geometry? Simply looking at a single dies is not enough here.

Solution

Accumulated measurement data from the dies in production can be analysed using statistical methods. Statistical Process Control (SPC) consists of recording and analysis of data, and application of the analysis results to the production process. Correlate results from production with the characteristics of the dies, and search for relations, for example between reduction cone angle and breakage probability or between bearing length and die lifetime. Only Conoptica offers the complete solution for profile measurement, recoding and analysis.

Benefit

This way, you get to know the optimum die geometry for your production line, and you can specify exactly the dies you need. The use of final control can then easily detect bad dies and classify others. The need for trial and error in line setup vanishes, because problems can be solved before that point. Production speed increases, wire breakage is minimized, and dies last longer.



Step by Step

- Store all measurements with your Conoptica Measurement System in a database and/or Excel using ConOffice.
- Add observations from the production lines to the database. For example, tag dies that caused wire breakage as "Break", and enter the number of kg's drawn through the die.
- Sort the measurement data by diameter, bearing, quality tag or any other parameter.
- Correlate the data with the observations from production in order to find patterns and relations between die parameters and yield.
- Draw conclusions and replace dies with more optimal ones.