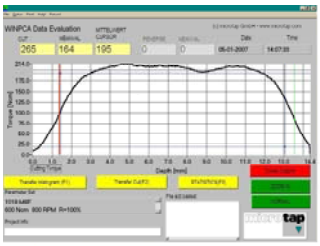
WinPCA – PC Control and Data Acquisition Software

THREAD TAPPING WITH RELIABLE QUALITY ASSURANCE INCLUDING ALL STATISTICAL DATA AND DOCUMENTATION.



On the production line:

- for establishing optimum operating values before a production run.
- for quality control during production. If quality drops below limit, production can be stopped automatically.
- for failure modes and effects analysis.
- for economic production in accordance with ISO 9000 (BS 5750) requirements, complete with QA documentation and certificates.
- for thread cutting and forming, 100% control of quality is maintained.

For manufacturers of taps and lubricants:

- to deliver the R & D tools for comprehensive analysis and product effectiveness
- to establish the optimum operating parameters for developing better products.

WITH WinPCA IT IS POSSIBLE:

- to optimize the operating parameters to ensure the desired tool life and the production of threads within ISO quality limits,
- to record applied torque and tapped depth for all threads and to evaluate the results statistically,
- to identify and rectify potential faults (such as cold welds) by measuring increase in torque due to worn taps or lack of lubricant,
- to ensure correct tapping by monitoring torque values to stay within preset limits,
- to evaluate the effectiveness of lubricant, tool geometry and coating as operational factors.

Most displayed data can be stored and may be printed out on an associated printer as documentary evidence, or can be further processed with a spreadsheet program.

microtap USA, Inc., 2146 Avon Industrial Drive, Rochester Hills, MI 48309, USA, Telephone (248)-852-8277, Fax: (248)-852-5298
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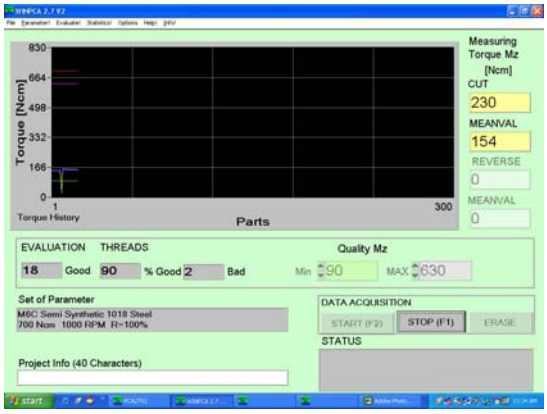
THE WAY TO FULLY DOCUMENTED QUALITY CONTROL:

The PARAMETERS:

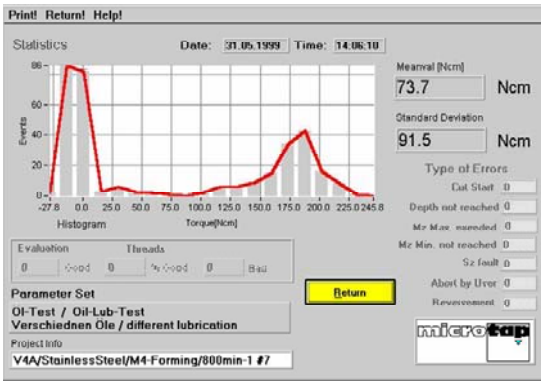
Set input operating values and program options, such as, auto start, chip clearance. Send values to the tapping machine.

The HISTOGRAM:



Shows the number of good and bad parts produced with the percentage total of good parts. Applied instantaneous torque is indicated and the histories of maximum and minimum torque values are shown by a continuous graph, to insure maintaining limits required for production within specified tolerances. This will graph the prior 300 hits to observe performance and tool wear.

The STATISTICS:

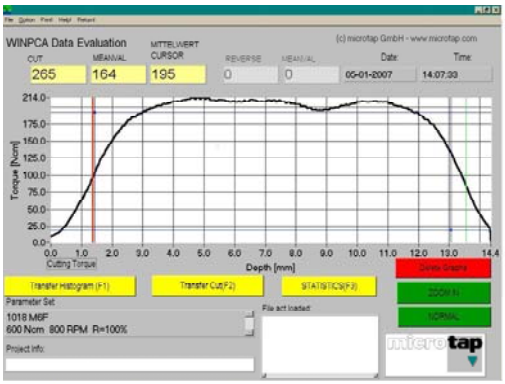


Quality control is documented by displaying applied torque as a bar chart of values, plus mean value and standard deviation.
Purpose
Computes the standard deviation and the mean (average) values of the input array. The formulas used to find the mean and the standard deviation are as follows:

Average or mean value = $\sum_{i=0}^{n-1} x_i / n$

StdDev = $\sqrt{\sum_{i=0}^{n-1} [x,-ave]^2 / n}$

The EVALUATION:



Display of cutting process with torque plotted against depth. This display permits optimum parameters to be established and faults to be avoided.
New **auto**save function stores all or selected CUT files for further processing with a spreadsheet program.

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