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SOFTWARE SOLUTIONS

ME Channels / Tooling & Workholding

Tool Management: Start Small - Grow Big

PRESS RELEASE
Zoller

Tool management is a topic for every production facility. However, the first step is invariably the hardest. To begin with, this requires a big investment in terms of time and money, even though the rewards then arrive rapidly. What many do not know is this: When a ZOLLER tool presetter and measuring device is in operation, you can start work immediately on building up a tool database - an essential requirement for the introduction of tool management and for Industry 4.0 processes.

Entry into systematic tool management

If a tool presetter with a »pilot 3.0« control unit is in operation, it can be used without further investment in the building up of a tool database, and it can be expanded systematically. The basic version of the simple 'Standard Tool Management' system in »pilot 3.0« provides levels of functionality that enable tools and components to be set up in a database. This lays the groundwork required for introducing a tool management system. »pilot 3.0« works on the basis of the central ZOLLER database

One. All of the tool data generated on the tool presetter and measuring device are stored in this database. It is therefore a simple task to transfer these into the network when a comprehensive tool management system (TMS) is introduced.

Benefit from standardization
With the individual tool library structures that can be created in »pilot 3.0« on a ZOLLER tool presetter and measuring device, the tool structure already in use in production can be depicted. This creates the basis for efficient tool management. Once tools and components have been set up in the local measuring d library with measuring parameters, ID numbers, tolerances and graphics, employees then have a clear set of enduring specifications relating to how tools must be assembled correctly. Thanks to tolerance checks, it is immediately apparent if the tool complies with the desired values. This immediately pays for itself through reductions in tooling times and enhanced process reliability. This also eliminates the possibility of machine malfunctions being caused by incorrectly assembled tools.

Setting Up An 'Experience Database'

Once the tool data have been recorded, everyone can then access these experiential values for subsequent and for repeat processes. Tool parameters specific to the control system can also be filed for each tool and then called up again at a later date. Complex measuring processes – such as, for example, the measurement of single-blade reamers, molding tools, the setting of blade heads and milling tools or drill bars– can all be saved easily with the ZOLLER tool presetter and measuring device, then measured with repeatable precision. This means that the entire measuring process can be defined, and is therefore available for subsequent measurements.

One-Off Definition Saves Time - On A Lasting Basis

The tool data, once saved, can be used for identical subsequent processes– this makes it possible to apply the optimised NC programdirectly, without the need for another simulation run. Also, the tools, once defined, can be grouped together against specific orders on the setting sheet. This creates transparency and also enables new members of staff to retain a clear overview of what are often highly complex production projects, and to prepare the tools in a professional manner.

Fast Orientation For New Employees

They say that 'A picture says a thousand words' - and this is also true of tool management. The tool parts list including its photos and DXL drawings of tools and components can help employees to assemble tools correctly. This makes it easier for operators to choose tools, and to perform a swift visual inspection. Colleagues can rely upon established data records and, after entering a tolerance, can simply work'to specification'. This eliminates any possibility of machine crashes.

Process-Safe Data Transfer To the Machine

Once the tool data have been defined correctly, they serve as the basis for process-reliable and efficient data transmission from the central ZOLLER database directly into the NC control unit - for example via data matrix code

»zidCode«, file transfer via post-processor, RFID or higher-status production control systems.

Setting Up A Systematic Tool Management System

Once this system is in place,tool management can be implemented systematically - step by step. The modular design of ZOLLER TMS Tool Management Solutions enables the scope of functionality to be adapted to suit requirements, and can be scaled down again at any time.

Simple Entry Through Cloud Import

A large number of tools isin use, but to date no data have been set up on the tool presetter and measuring device? Even although some manual work is still involved, a great deal of data can be imported quickly from the Cloud, saving a considerable amount of time. For example, data can be loaded directly into the database from the Cloud portals in the MachiningCloud, from NOVO or ToolsUnited or as an import file. It is also possible to download component data from e-shops such as the electronic Hoffmann tool catalog as well as DIN 4000 information as well as graphics, and to store it all in the ZOLLER database. The imported tool data are now available in ZOLLER TMS Tool Management Solutions. They can be assembled to form complete tools and can be used for CAM systems. At the click of a mouse, the DIN 4000 technical features can be generated in the structurerequired for a given CAM system – saving the resource required for manual input!

If several CAM systems are in operation, these all access one central database.

Organizing Product In Operations In An Optimum Manner

Employees on the machine should concentrate on their core duties, which is to manufacture good components. This requires all production-related components to be on location on the machine - in particular, tools, fixtures, measuring equipment and NC programs. This is guaranteed with TMS Tool Management Solutions.

This is how the software function NC program management organizes the NC programs quickly and flexibly. This enables employees to retain an overview of version statuses, programming and the status of NC programs. These status definitions increase production reliability - while versioning increases transparency.

Relevant Production Data At a Glance

The 'Parts Management' module in TMS Tool Management Solutions assures greater transparency over the production-related data of components and assemblies. Through the assignment of set-up sheets to components and products, the set-up times required for production can be determined. At the click of a mouse, it becomes apparent which tool components are needed for which component. The merging of all component-related tool data in one central database creates transparency right acrossall steps in the production process.

Regardless of which ZOLLER solution is in service, since all work on the basis of one central ZOLLER database, flexible removal is possible - tailored to suit new challenges and bespoke production development.

http://www.sme.org/MEMagazine/Article.aspx?id=8589938228