

Cross-disciplinary process optimisation

The continuing solution



Level of the technology

The existing information contained within the CAD volume model can usually not be passed on to subsequent processes intact and in a structured form. Many of the efficient CAD systems offer the possibility to form functional geometric groups, so called UDFs (User Defined Feature) that appear in various forms within a workpiece (for example a threaded blind bore) and thereby standardising them for design use. The features that belong to a geometric group will be pooled in a UDF and thereby „Grouped“.

Although the basic function offered by CAD systems for the creation and use of UDFs is easy to use, the possibilities for expansion of the UDF's contents and the flexible numbering of them is very limited. Furthermore there is no possibility for the export of UDF information from the volume model, for the use in subsequent processes.

Innovation

Introduction of a standardised system for the creation of structured and flexible expandable „intelligent UDFs“. Interrelated features will be consequently grouped over UDF and are therefore able to be identified and displayed at any time in subsequent processes.

The existing possibilities will be expanded upon by comfortable input masks and a system for a structured and continuous designation of all required data.

Structured and complete cross-process data and no drawing

The entire information for subsequent processes (manufacturing, measuring, etc.) is already produced through the creation of the volume model in CAD with intelligent UDFs. AfM offer a comprehensive library of universal useful UDF. The preparing of 2D drawings can be eliminated through the complete UDF information.

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All or individual UDF types on a workpiece can be clearly and quickly shown in any chosen picture format.

Interfaces for the continuous transmitting of the UDF information

Standardised interfaces (for example .xml) are available for exporting the entire CAD data into leading CAD systems.

Savings through standardisation

Through this standardisation, the unnecessary acquisition of new tooling can be avoided. As far as possible, operator influence and errors through manual input can also be avoided.

QPW for the preparation of data

The data will be read in to the QPW through existing interfaces. There it will be supplemented with further customer specific information for manufacture, measurement, Planning, purchasing and sales and then interlinked. Hereby are the subsequent processes simplified significantly. In QPW customer specific manufacturing methods can be defined, which are required for producing the UDF. The necessary tools will be allocated to these manufacturing methods. The information as to which machines the relevant tools can be used on will be stored. Additionally the tool-, machine-, operator- and general costs as well as the tool life for existing tools and production facilities can be stored.

Planning, purchasing and sales

The linking of the UDFs with this additional information permits an automatic planning process and the establishing of production costs at „the press of a button“. Offer can be prepared quickly and easily. For enquiries to supplies the realistic production costs already exist on the basis of the CAD data prepared in QPW. Tooling costs can be arrived at from the production quantity.

Manufacturing and measuring technique

Customer specific strategies regarding manufacturing and measurement techniques can be stored in QPW. The QPW automatically creates a complete and ready to run CNC program for coordinate measurement devices and machine tools using the stored strategies. For the creation of machining programs the manufacturing Know-How present in the existing machining cycles is used. This will be completed by QPW using the parameter values from the constructional elements (UDF).

Simplified communication

The clear designation (stamp number) created by the CAD system for the UDFs remain constantly unchanged throughout all processes. Hereby internal and external communication and the structured exchange of data is significantly simplified.

Comparable results

Machining and measuring results will be comparable, when the identical program is employed both internally and externally.

Continuous data exchange

Interfaces for the exchange of the created data to higher level ERP or CAQ systems exist.

Attractive prices models

Low acquisition costs (pay by use) as well as the user based billing for QPW reduces financial risks.

Your advantages

- Standardisation of UDFs + Parameters
- Library of intelligent, practice proven UDFs
- Interfaces to export UDF data
- Continuous clear designation
- 2D drawings can be eliminated
- Production costs „at the click of a button“
- Automated planning process
- Automated CNC program generation
- Cost savings and error reduction

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