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Trends of stamping die making technology

Mold developing focus on more about four factors "short delivery", "good quality", "low price", "high precision" to win the challenge in the modern mold field. Those need urgent to develop to achieve this requirement in the following items:

(1) CAD / CAM / CAE technology

Die CAD / CAM / CAE mold design and manufacturing technology is the development direction. With the computer software development and progress, popular CAD / CAM / CAE technology, conditions are ripe, the company will increase the CAD / CAM technology training and technical service efforts; to further expand the application of CAE technology. Computer and network development is the CAD / CAM / CAE technology trans-regional, cross-enterprise, campus-wide are in the industry to promote possible technical resources to achieve re-integration of the virtual manufacturing possible.

(2) High-speed milling

Abroad in recent years, the development of high-speed milling, greatly improve the processing efficiency, and availability of high surface finish. In addition, the module can process high hardness, also has a low temperature, thermal deformation is small. High-speed milling technology, automotive, home appliance industry, a large cavity mold injected new vitality. It currently has more agile, intelligent, integrated direction.

(3) Scanning and digitizing systems

High-speed scanner and scanning system provides a mold or in kind from the model to the process of scanning required for the model number of the desired functionality, greatly reducing the mold in the development of the manufacturing cycle. Some quick scanning system, can be quickly installed in the existing CNC milling machines and machining centers, fast data acquisition, automatic generation of a variety of CNC machining process, the CAD data in different formats, for mold manufacturing "reverse engineering". Mold scanning system has been in the automotive, motorcycle, household appliances and other industries has been successfully applied, I believe in the "15" will play a greater role during the period.

(4) Discharge milling

Discharge milling technique is also known as EDM machining technology, which is an alternative to traditional processing electrode

cavity with molding new technology, it is a high-speed rotation of the tubular electrode for a simple three-dimensional or two-dimensional contouring (CNC milling, as the same), so no longer need to create complex forming the electrode, which is obviously a major field of EDM development. This technique has been used abroad in the mold processing machine application. Expected that this technology will be developed.

(5) Degree of standardization

China Mold degree of standardization is increasing, it is estimated using standard mold our country has reached 30% coverage. Developed countries is generally about 80%.

(6) Reliable materials and advanced surface treatment technology

Application of high quality steel and the corresponding surface treatment technology to improve the life of the mold it is very necessary. Mold heat treatment and surface treatment of tool steel can fully play the key material properties. Mold the direction of heat treatment is the use of vacuum heat treatment. In addition to the mold surface should improve the development process of advanced vapor deposition (TiN, TiC, etc.), plasma spraying technology.

(7) Mold polishing automation

The quality of the mold surface mold life, the appearance of quality parts and so have a greater impact, research automation, intelligent alternative to existing methods of grinding and polishing by hand, in order to improve the quality of the mold surface is an important trend.

Development of automatic processing system

This is our long-term development goals. Mold automatic processing system should be the rational combination of multiple machines; with accompanying positioning fixture or positioning plate; a complete equipment, CNC tool library; a complete CNC flexible synchronization system; quality monitoring and control system.

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