Hybrid CAD Modelling for Reverse Engineering

Tebis is a market-leader for CAD/CAM/MES technology with vast experience serving customers in many industries. Tebis offer specialist solutions for model, pattern, die and mould making as well as component manufacturing. Tebis also offer advanced hybrid CAD modelling for reverse engineering.

Reverse engineering generates a CAD surface model that precisely represents a scanned object. Reverse engineering is used everywhere where work is performed manually on real objects and a CAD model is required for the subsequent process.

Automatically generate high quality surfaces

Tebis CAD/CAM software automatically generate high quality and high precision surfaces from STL triangle mesh data, combined with conventional wireframe and surface modelling tools. Tebis software also offers advanced Reverse Engineering tools to automatically segment and create planar surfaces and free-form surfaces on triangle meshes.

Surface design and reverse engineering in a single application

In the same CAD file, the Tebis user analyses and optimises the quality of the digitised data and then creates a wire-frame model and then the surface model is created based on that. Using the practical curve and surface functions, the user supplements the surfaces generated by reverse engineering Free-form surfaces can be quickly generated using Tebis surface technology – and in class-A quality.

Precisely adjust surface quality in transition areas

High-quality design surfaces require first-class CAD surface quality, especially for defined characteristic lines. Tebis CAD/CAM software enables precise control of the transition areas between two main surfaces or connecting surfaces (natural or trimmed surfaces), in addition to the basic surface approximation settings. The user specifies an area around the edge where the surface approximates the boundary curve rather than the scan data. The change in the CAD surface is immediately visible in Tebis. The affected area can be easily adjusted until the optimal surface quality is achieved.

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