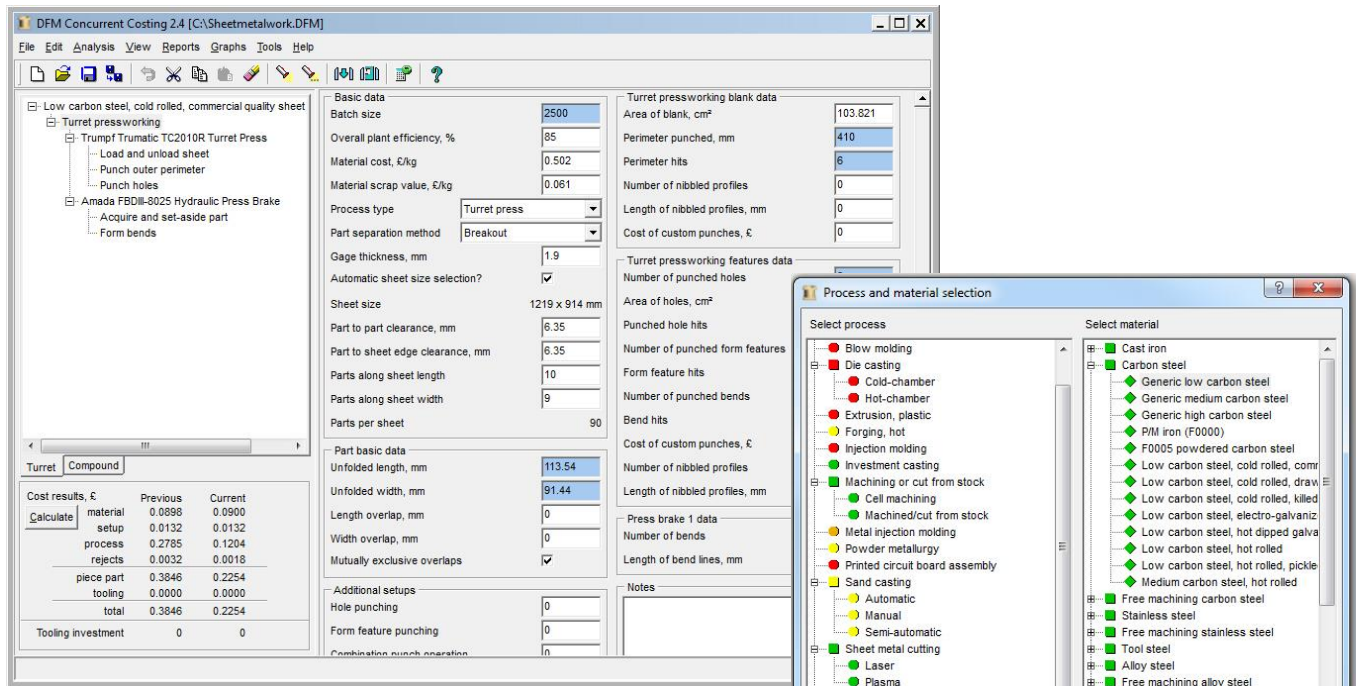


DFM Software - Product Costing

Boothroyd Dewhurst, Inc.'s Design for Manufacture (DFM) Product Costing software makes the task of optimising product design while lowering costs easy by allowing fast and accurate cost estimating.

Design for Manufacture is a systematic approach that allows engineers to identify and anticipate manufacturing issues in advance, during the design process when changes can still be made, and even when only rough details are known about the product.



Given the large number of processes and materials available, few design engineers have detailed knowledge of all the major shape-forming processes. Consequently, engineers tend to design for processes with which they are familiar. DFM software encourages individual engineers and concurrent engineering teams to investigate alternative material and process combinations and to develop designs that may be more economical to produce. With more information about viable processes and materials, users can quantify manufacturing costs for competing design alternatives and decide which design is best.

DFM software helps

DFM software allows you to develop rapid estimates of the cost to manufacture a part. The software gives design teams more than 20 years of industry-validated research and data. The benefits from using DFM software are many and include:

- **Highly Accurate Cost-Estimator** - Gain quick insight into the tremendous cost impact of even simple changes to a part. DFM provides a fast, accurate way to review evolving designs for cost efficiency by quickly exploring the use of alternate materials and comparing various shape-forming processes.
- **Shorten product development cycles** - DFM supports collaborative working of designers and engineers with marketing, finance, service, quality, purchasing and more, to analyse options.



- *Effective Supplier-negotiating* - Evaluate supplier quotes by comparing the information the software provides on such items as total cost, cycle time, machine size and die cost. DFM gives non-specialists unrivalled depth of information for more meaningful discussions with potential suppliers.
- *Competitive Benchmarking Tool* - Compare your designs with competitors' products to determine market feasibility and to target costs. Because of its accuracy in predicting costs, DFM adds advantage to companies seeking to enter competitive industries.
- *Minimal information required* - DFM starts in the analysis window, where you enter the part name, life volume, and overall envelope dimensions for the part. Select a material and the desired manufacturing process and the first-cut results are produced from default values already built into the factory libraries of machines, materials and operations. You can then customise the analysis by entering more-detailed part geometry and company-specific values to more closely match the actual manufacturing scenario.
- *Material and Process Compatibility* – DFM guides by indicating material and process compatibility.

Context-sensitive help provides background information and diagrams for shape-forming processes. The software gives the steps in each manufacturing process, so that you can identify all costs. For example, hot chamber die-casting includes both the die casting process and the trimming operation, so DFM software gives cost values for each step. The software also allows you to fine-tune a cost estimate by adding secondary operations such as die threading or finishing or even packaging. Engineers, purchasing professionals, and other decision makers on the product development team will value the significant manufacturing knowledge at their fingertips.

Finally, you can save each cost estimate as a separate file for comparison. A variety of reports in graph or table format that allow you to compare the material, setup, process, and tooling cost breakdowns for each analysis. Within each breakdown, you can also see how changes in such parameters as number of mould cavities affect cost. A special Cost Reduction Report identifies significant cost contributors that can serve as a focus for redesigning the part.

The Link to Design for Assembly

DFM complements Design for Assembly (DFA). Engineers use DFA software to reduce the assembly cost of a product by consolidating parts into elegant and multifunctional designs. DFM software allows the design engineer quickly to judge the cost of producing the new design and to compare it with the cost of producing the original assembly. Used together, DFM and DFA software give engineers an early cost profile of product designs, providing a basis for planning and decision-making. Such analysis, when performed at the earliest stages of concept design, has the potential to greatly influence manufacturing and other life cycle costs before they are locked in.

DFM Software export capabilities

Analysis results/reports can be exported in the following formats: .BMP, .EMF, .WMF, .JPG, .JPEG, .PDF, .HTM, .HTML, .RTF, .TXT, .XLS.

DFM software requirements

DFM software minimum [recommended] requirements: Windows Vista, Windows 7, 8 (64bit compatible). Core 2 Duo processor [Quad core]. 2GB [4GB or more] RAM. XGA 1024x786 [WXGA 1280x800 or better] display. 100Mb disk space for installation [1Gb+].

