DEFORM™-3D is a powerful process simulation system designed to analyze complex, three-dimensional (3D) metal forming processes. It is a practical and efficient tool for the prediction of metal flow, heat transfer and more. Manufacturing operations can be simulated on the computer, avoiding much of the cost and delay of shop trials. Typical applications include hot forging (closed and open die), warm and cold forming, cogging, rolling, drawing, extrusion, heating, machining and mechanical joining.

Based on the finite element method (FEM), DEFORM has proven to be an accurate and robust solution in industrial applications for over three decades. The simulation engine is capable of predicting large deformation metal flow with high precision. An advanced mesh generator automatically applies an adaptive, optimized mesh to parts and tooling. This captures important model detail while minimizing the simulation time. User-defined meshing tools allow advanced users to customize the mesh to their requirements.

A coupled die stress analysis is shown. Maximum principal stress is in red. The small viewports show the forming shape and die contact. Courtesy Wiseco Piston.

While DEFORM-3D provides sophisticated analysis capabilities, the graphical user interface is intuitive and easy to learn. A ‘state of the art’ multiple operation interface provides guided data input for a wide range of processes types. Individual operations can be combined into process sequences that can be run one-by-one or sequentially. This is the foundation for a comprehensive modeling system that can incorporate forming, material modeling, design of experiments (DOE) and optimization.

Scientific Forming Technologies Corporation (SFTC) staff has a unique combination of industrial, academic and software experience. This diverse background enables SFTC to provide unparalleled training and technical support. Our support staff is personally committed to the success of each and every DEFORM user.
DEFORM™ -3D

Computer System Requirements

- The minimum recommended configuration is:
  - 16 GB RAM,
  - 1 TB free disk space,
  - DVD writer,
  - Windows 7/8/10 (64-bit) or select Linux configurations.

Licensing

- The FEM engine is licensed to run on one CPU thread. Parallel processing options are available.
- Node-locked licenses support one user on one computer. Floating licenses are available to use within a local-area network.
- One add-on module is included at no extra charge: forming, cogging, machining, shape rolling or extrusion.

General Information

- Training, support, updates and DEFORM User Group meetings are available to active users.
- Online documentation is provided in HTML and PDF formats.
- The DEFORM Material Database includes a wide range of steel, aluminum, titanium, superalloy, copper and other material data.
- Technical support is readily available by phone, email, web meetings and the online DEFORM User Area.

DEFORM is a trademark of Scientific Forming Technologies Corporation. HTC reserves the right to alter the product, price and/or computer system specifications at any time without notice. The HTC software license agreement, including terms and conditions of software purchase or lease, will be applicable. A perpetual license is subject to a maintenance fee for upgrades and ongoing system support.

Scientific Forming Technologies Corporation
2545 Farmers Drive
Suite 200
Columbus, OH 43235
Tel: (614) 457-8330
Fax: (614) 451-8325
www.deform.com

This automotive suspension forging involved multiple hammer blows across multiple die cavities. Heat transfer was calculated during transfer, forging and dwell. DEFORM-3D provides information such as material flow, forming load, energy, strain, temperature, tool stress and more. Courtesy L'Z Manufacturing LIZ.