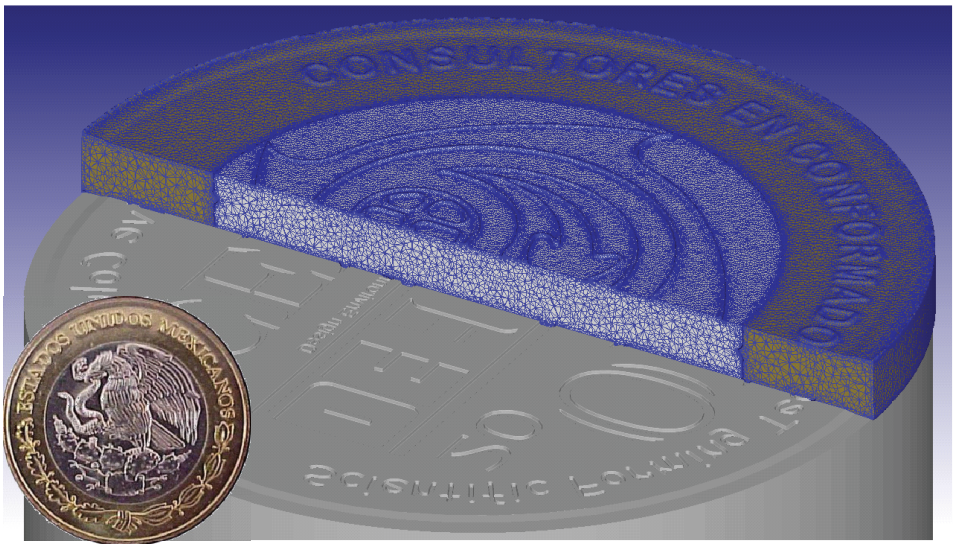
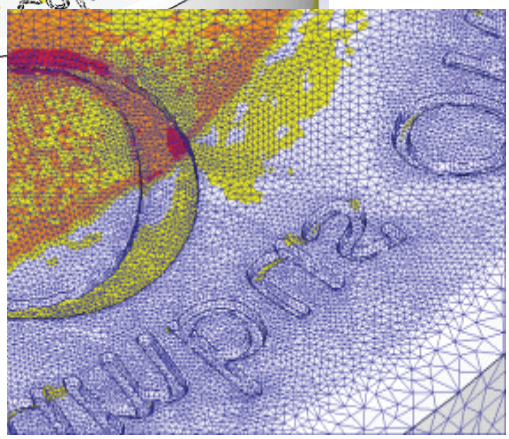
Multiple deforming body forming three dimensional simulations are computationally intense. This is especially true when each deforming object has over one million elements like the coining example, below. The simulation was intended to replicate the coining of a bimetallic coin, as the one shown in the inset image. This coin had a stainless steel core and a copper rim which were mechanically joined together during the final forming. The simulation result shows the formed coin, which has 1.3 million elements in the core and one million elements in the rim.



The die used in this coining process extensive engraved text and other fine details. In order to investigate the stresses in the die, a large number of elements was required. The die was meshed using 1.9 million elements. A decoupled die stress analysis was run. The image below shows the effective stress in the die (red is higher). The close-up view shows the mesh resolution in this model. Note the resolution around the text.



DEFORM Version 11 Release

SFTC will continue to support the current integrated 2D/3D and F2/F3 interfaces as the new user interfaces are introduced.

DEFORM version 11 release includes:
- DEFORM integrated 2D/3D (similar look and feel to version 10.x)
- DEFORM integrated F2/F3 (similar look and feel to version 10.x)
- DEFORM new Multiple Operations (MO) interface with design of experiments and optimization capabilities (new look and feel interface)
- DEFORM next generation post-processor with automated report generation
- DEFORM License Manager version 3.0.4 with core licensing capability

A new DEFORM.PWD license file is required to run version 11.

Basic version 11 capabilities are supported by License Manager version 3.0.3 (released with version 10.2.1)

Design of experiments, optimization and core licensing require License Manager version 3.0.4

Major New Features

New multiple operations system

New cogging module

Much wider 64 bit support

New solvers:
- dynamic explicit elastic-plastic solver
- MUMPS sparse direct solver
- improved conjugate gradient iterative solver

New material models:
- crystal plasticity
- mesoscale
- improved handling of precipitation hardening alloys
- flow stress as a function of grain size

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