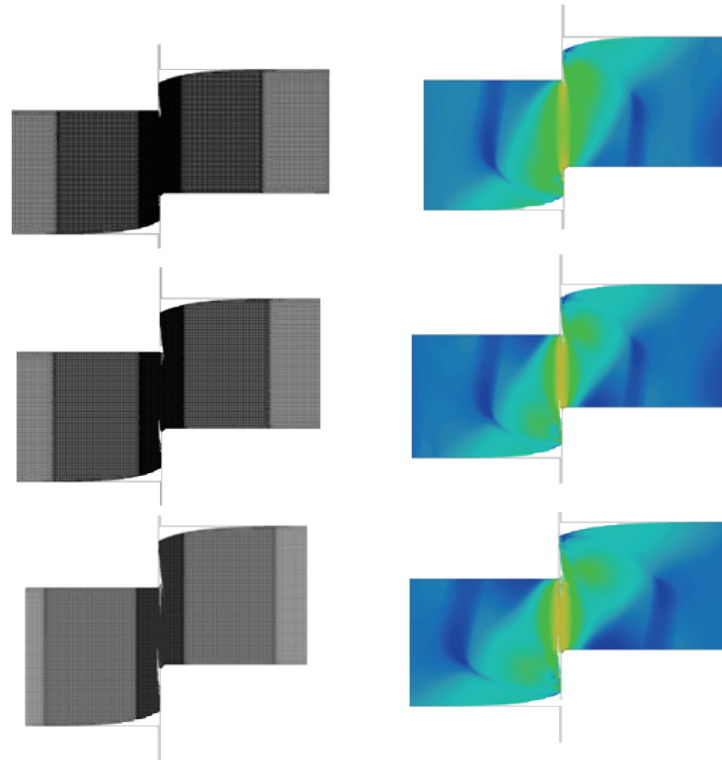


TP- MFORM 2D

TP-MFORM2D is a comprehensive 2-dimensional finite-element-based metal forming simulation software. It covers formability, springback and fracture propagation prediction for the combined stamping and forging process. TP-MFORM2D delivers a cost-effective solution that allows you to develop complex high accurate products with multiple wall thickness.



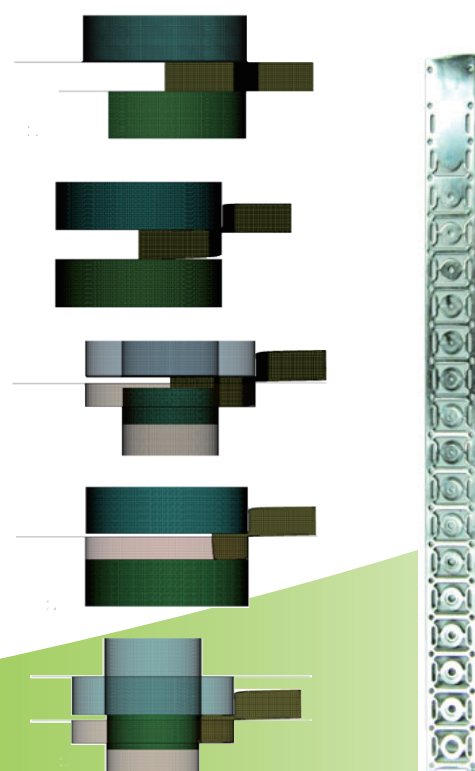
Benefits

- Reduce costs and the overall product development cycle time by validating the conceptual or a real die
- Develop the combined stamping and forging process by performing a full -forming simulation
- Capture ductile fracture phenomena in the shearing process and deliver fast die compensation
- Improve the product quality with the communication between different field engineers by utilizing the visualization of forming process.

Stamping -Forging Forming Solution for Every Need

The combined stamping and forging forming technology can be adopted to form a high value added shape with thickness reduction or increase, steps and gear. It is required to accommodate a higher accuracy closed to net shape of the components, and prevent the unnecessary costs associated with die machining and die try-out.

TP-MFORM2D delivers a cost-effective solution to develop the manufacturing process for your product.



Capabilities

Complete solution for every process

TP-MFORM3D employs the updated Lagrangian rate formulation and the explicit time integration scheme. Therefore, it offers a complete solution for simulating combined stamping and forging process.

Springback Calculation

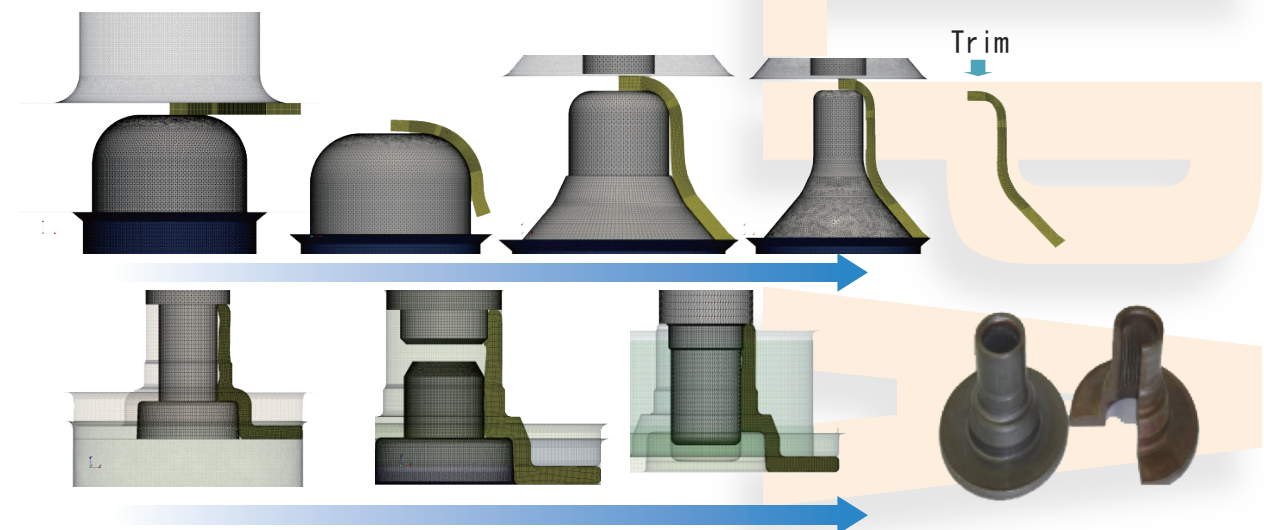
Springback is the elastic recovery during unloading at the end of the elastic-plastic forming process. The spring back has to be compensated to achieve the dimensional accuracy of a finished product. Our original method "r-min" in conjunction with an efficient force cancelling algorithm allows the accurate springback calculation to show the expected deformation after the forming and release.

Shearing with ductile fracture propagation

The appropriate solutions-oriented tools for the shearing process can provide your product with the smooth edges and high accuracy, and eliminate many secondary operations such as grinding, milling, etc. In addition to the metal stamping-forging forming simulation capabilities, TP-MFORM2D enables shearing process simulation including the crack propagation phenomena. It allows you to validate the shearing behavior of the material which shows the shear droop, fractured surface and burnished surface. It can achieve flatness and cut edge characteristics that are unobtainable by conventional stamping methods.

Fastest Feasibility Analysis

Plane stress, plane strain and axial symmetrical elements are applied for efficiently performing analysis of complex symmetric geometries. A mesh can be adapted dynamically by deriving a new mesh from the old mesh with respect to the contact status or mesh distortion. It provides the powerful capabilities to analyze the large deformation phenomena in a very short time.



Characteristics

TRIALPARK was awarded the contract from RIKEN to commercialize their own world-class scientific achievements. We are committed to the continued development of TP-STRUCT, which is built on work done by RIKEN researchers for many years.

ABOUT RIKEN

(<http://www.riken.jp/>, <http://vcad-hpsv.riken.jp/>)

RIKEN is Japan's largest and most comprehensive research organization for basic and applied science and a world leader in a diverse array of scientific disciplines. For nearly a century since its foundation in 1917, RIKEN has fostered pioneering, innovative research in fields spanning the entire range of the natural sciences, from developmental biology and neuroscience to quantum physics and computer science.



Your Objective, Our Creation

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