

Altair Inspire Form enables users to better design products while reducing lead time by enabling early consideration of formability, process parameters, material utilization, and cost.

Product Highlights

- Stamping simulation software with the ability to do product design, feasibility analysis and cost estimation
- User-friendly interface facilitating natural workflow for innovative user experience
- Identify potential stamping defects such as splits and wrinkles and modify product design early in the design cycle
- Quick and optimal nesting of blank in the sheet metal coil to maximize material utilization for progressive and transfer die forming

Learn more:
altair.com/inspire-form

Benefits

Inspire Form is a unique software that enables users to optimally design sheet metal components considering manufacturing feasibility and material cost. Thanks to the fast and accurate inverse/one-step simulation technology, users can analyze the design quickly for forming feasibility. The nesting functionality rapidly proposes an efficient layout of flattened blank on the sheet metal coil for maximum material utilization and minimum material cost. Inspire Form offers an innovative user experience allowing natural transition between analysis, design modifications, and costing through a simplified user-friendly interface designed for beginners and experts alike.

Design Better Products

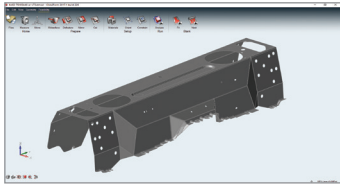
- Quick and reliable check on stamping feasibility of design
- Visualize potential defect areas (splits, wrinkles, loose metal)

- Modify design and gauge materials quickly to eliminate defects to finalize the design
- Optimal blank nesting in transfer die or progressive die layout within manufacturing constraints for maximum material utilization and reduction of material cost
- Guide the user with the design and reduce trial and error

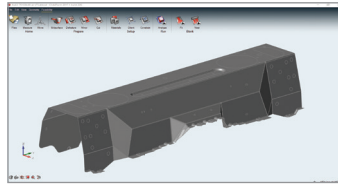
Accelerate Die Face Design and Process Planning

- Evaluate product designs for feasibility and quoting
- Quickly check die face designs for stamping feasibility
- Predict common stamping defects in die face design upfront and correct them before detailed incremental analysis
- Assist die face designers to identify process conditions like blank holder force, draw bead location, and drawbead force before detailed incremental analysis

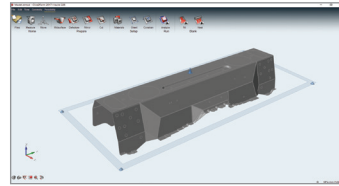
Altair Inspire Form Workflow



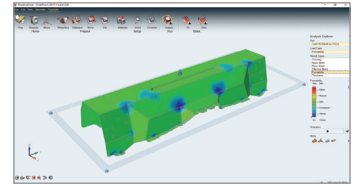
Import geometry



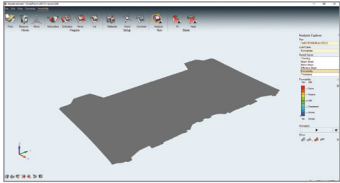
Prepare geometry



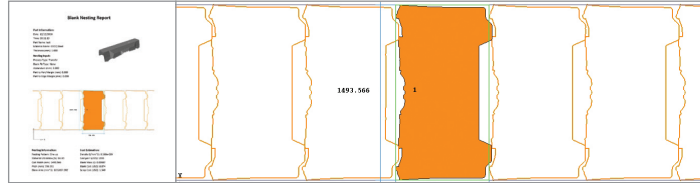
Process set-up



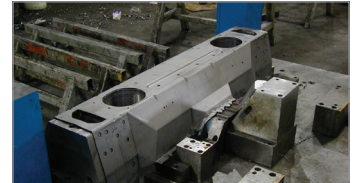
Analyze



Flatten blank



Material utilization report



Manufacture

- Accurate net-shaped blank predictor based on die face for incremental analysis and cost estimation
- Quickly estimate forming load for press selection, process planning and costing

Capabilities

Inspire Form comes with powerful and complete features that enable designers and engineers to do geometry based design, stamping feasibility analysis, and nesting on the product before moving on to manufacturing.

Ease of Use

Geometry based user interface with natural workflow left to right:

- Import geometry
- Prepare geometry
- Assign material
- Define stamping direction
- Define constraints

- Run analysis, visualize result
- Blank fit and nesting

Geometry Tools for Product Design and Analysis

- Sketching tool set
- Solid modeler
- Boolean tools
- Geometry cleanup tools
- Midsurface extraction

Comprehensive Support for Feasibility Analysis

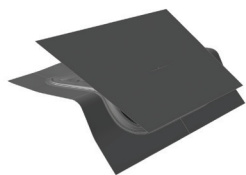
- Feasibility check for regular and tailor welded parts
- Feasibility check for single and double attached manufacturing scenarios
- Option to define arbitrary stamping direction
- Ability to capture detailed process conditions: pins, blank holder force, drawbeads
- Built in material database based on SAE standard with option for user database

- to manage own materials
- Fast and most accurate inverse solver in the marketplace

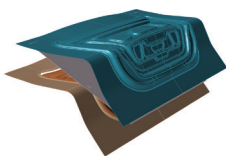
Complete Nesting Solution

- Accurate blank shape prediction
- Option to add additional material to account for addendum
- Nesting for transfer die forming with blank fit option to standard shapes: rectangle, parallelogram, trapezoidal, miter, chevron, and sweep
- Nesting with one-up, two-up, and mirror layout for progressive die forming with standard carrier options: single, central, nested double-sided, double-sided, and central and double-sided and nested

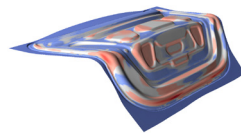
Altair Inspire Form Tryout Workflow



Import model



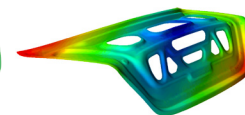
Set up drawing



Analyze drawing



Set up trimming & springback



Analyze springback



Form