



# One-step Injection Molding solver

Optimize mold products  
during early design stages

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Streamline products development of plastic parts

## Aiding early-stage product design

The ANSA Injection Molding solver optimizes product's quality by running multiple loops during the early design stage and based on the geometry of the model, it estimates the essential mechanical properties.

### Completely integrated into ANSA environment

The bypass of switching among different software platforms minimizes the required resources deriving from lease costs, tasks assignment, as well as results mapping onto the working model. By using ANSA, Injection molding simulations can take place with an integrated one-step solver, at the same time taking advantage of a variety of other tools and functions to modify model's mesh or geometry.

### Simplified Interface

The one-step molding solver is accessible through a single window and requires minimal input, such as this for gates locations and the model area to run on. The interface is simple, and the user can setup, edit and view the results directly through it.

### Tools that eliminate bottlenecks

The one-step molding solver eliminates commonly faced bottlenecks when using standard injection molding solvers.

- It handles multiple runs in batch mode
- It delivers results much faster compared to a standard fill time analysis
- It is also easy to setup and run DoE analysis, having the capability to couple with an optimizer too
- The runs take place on the working model, for both tria and quad shell elements

Apart from the solver's capabilities and benefits, it is harmonically coupled with the standard ANSA functionality, specialized to molding applications. Such functionality includes:

- The setup, run and reading of the results through the Python API
- The Weld lines mapping tool
- The ANSA to CrachFEM interface
- The capability to export XML results format for use by third party software

### Results compatibility with META post-processor

Injection Molding results can be processed by the META post-processor, allowing, among others:

- Stream-lined calculations
- Photorealistic plastic part visualization
- Filling melt front time animation.
- Flatness and Roundness calculations
- Video recording
- Advanced reporting documents
- Full automation through the Python API and the session files

META can open directly within ANSA, while the geometry and results are already loaded, ready for post-processing

The video export of the simulation can be achieved by simply defining the export path for further results inspection.

### Features

- Integrated into ANSA environment
- No extra license required
- No training or expertise required
- Runs on working model
- Covered by Python
- Direct connection to META
- Easy to run multiple DoE analyses
- Export results in commonly used XML format

### Benefits

- Minimize working time by avoiding mapping results from third party software
- Optimize products' performance in early stages of development
- Every user can conduct a "what if" scenario at any time
- Utilize off-working time by running multiple loops in no-GUI mode
- Exploit results with third party software



