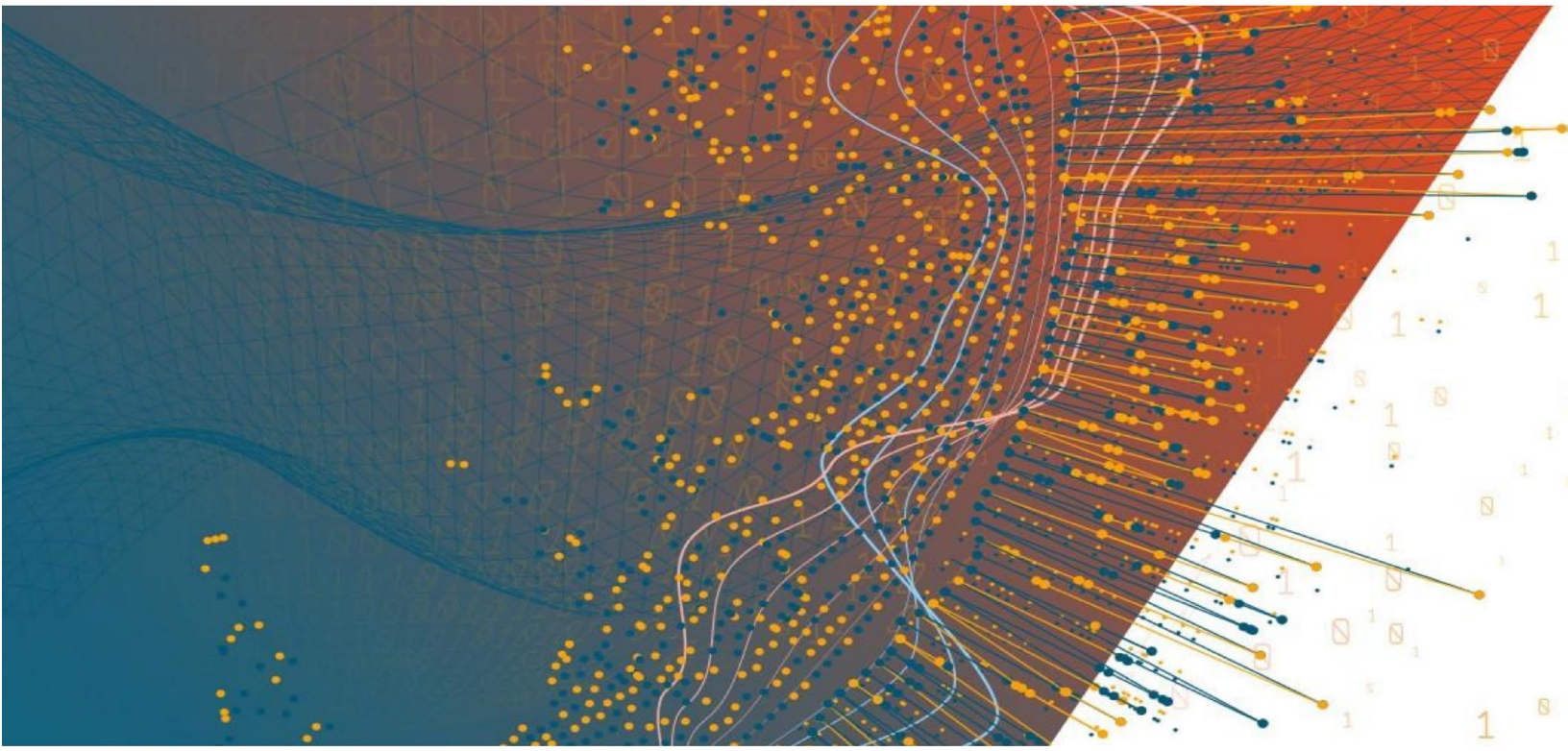

Altair® Inspire Mold™ 2025.1

RELEASE NOTES

NEW FEATURES

Part Inserts with Warpage

The mechanical interaction between the polymer and part inserts is now supported. The final shape of the combined structure can now be visualized, including the stresses in both. The connected structures are automatically detected, so any combination of polymer parts and inserts is valid.

For details on this update, see Part Insert in the help.

Savable Machine Parameters

In the Process Parameters window, you can now save your settings from the Machine tab to a .json file. This is useful when creating many prototypes that will be manufactured with the same equipment.

For details on this update, see Process Parameters in the help.

Cycling

When running a detailed molding analysis, you can now simulate the process of opening the mold, ejecting the molded part, and waiting an interval before molding the next part multiple times before doing the full injection molding simulation. This is useful when determining how many cycles it takes for the mold to reach its steady-state temperature. It also makes the simulation more accurate, since mold temperatures will reflect production conditions.

For details on this update, see Run Analysis in the help.

Compensated Geometry Tool

You can use the new compensated geometry tool to export an .stl file of the mold cavity that will create a part that, after cooling, will shrink/warp into the geometry that you designed. This is helpful when working with material that is prone to deformation.

For details on this update, see Compensated Geometry in the help.

Compensated Displacement

With this new result, you can now see the effect of adding an isotropic (homogeneous) expansion to the mold cavity. You can use the Uniform Compensation field in the Analysis Explorer to adjust the expansion percentage in real time, meaning that you can see the effect of different values and find the optimal compensation for thermal contraction. Note that, unlike the Compensated Geometry Tool's .stl file, this result's Uniform Compensation field can only eliminate an isotropic contraction. Any warpage in the part will remain, regardless of the value entered.

For details on this update, see Show Analysis Results in the help.

Filling Stage Update

The filling stage of the molding simulation now considers the compressibility of the polymer, both inside the mold and in the barrel. This has two main outcomes: since the polymer can now contract during filling, pressure decay may happen during this stage, and sink marks predictions are enhanced. At the same line, this contraction will increase the filling time, thus no longer matching the predicted incompressible prediction.

For details on this update, see Filling Results in the help.

Individual Scaling for Warpage Result

You can now scale the Warpage result along individual axis lines. This can help you gain a greater

understanding of how warpage affects your part.

For details on this update, see Show Analysis Results in the help.

Gate and Inlet Contribution

When running a molding simulation with as cavity that has several inlets or gates, you can now see the new Tracer ID Core result. This shows the volume of the cavity filled by material from each inlet or gate.

For details on this update, see Filling Results in the help.

Auto Report Tool

You can now automatically generate reports based on analysis runs. This is helpful for quickly and easily sharing technical information about your model.

For details on this update, see Report in the help.

New Result Types

Data for Tracer ID, Average Temperature, Shear Stress, Peak Shear Stress, Average Temperature (Velocity Weighted), and Average Bulk Temperature have been added to the result types.

For details on this update, see Result Types in the help.

ENHANCEMENTS

Mold Opening Direction Update

You can now set the mold opening direction to any vector, no longer limited to the global X, Y, or Z axes. This is helpful when working with a model that will be part of a larger assembly; you can orient the model exactly as it will be used. This improvement also makes it easier to use analysis results such as stresses, displacements, or fiber orientation.

For details on this update see Mold Opening Direction in the help.

Valve Gates Update

Now, when you designate one gate as a valve gate, all gates will be designated as valve gates at the same time. This makes the workflow more efficient.

For details on this update, see Valve Gates in the help.

Cooler Tool Update

You can now specify coolant fluid, coolant flow rate, and other parameters when designing a cooler system. This improves the accuracy of the heat transfer between the mold and coolant.

For details on this update, see Cooler in the help.

Additional Changes and Enhancements for 2025.1

- Saved files (*.imold) now include materials data to make collaboration easier. [INSMOLD-2869]
- Meshing is now more robust. [INSCAST-4212].
- Clamp force centroid is now included in results plots. [INSMOLD-2945]

RESOLVED ISSUES

- Shear stress is now excluded from the Molding Window evaluation to avoid overestimation.

KNOWN ISSUES

The following known issues will be addressed in a future release:

- As of October 14, 2025, Microsoft Windows 10 will reach its end of support. Following Microsoft's messaging, all Altair 2026 applications will no longer support Windows 10. Altair is providing this information to help our customers prepare and accommodate for this change. Altair 2026 will support the Windows 11 operating system, along with our other Linux-based operating systems. Please contact your local Altair support teams if you have any questions or concerns.