

▶ **RELEASE NOTES**

# Altair<sup>®</sup> Inspire PolyFoam<sup>™</sup>

## 2024.1

# New Features and Enhancements 2024.1

Altair Inspire PolyFoam 2024.1 includes the following new features and enhancements.

## Release Highlights

### Material Characterization

This new feature lets you characterize materials using experimental data. You can obtain this data by measuring the rising and temperature profiles in a simple cup test. You can then use the data in PolyFoam to fully characterize a new material effortlessly, utilizing AI in the background.

The Material Characterization window includes the following components:

- Input Parameters:**
  - Soft Material Name: Crash Pad copy
  - Base material: Crash Pad
  - Variable Limits: Lower and Upper values for Gelling E, Gelling dH, Chemical Blowing E, and Chemical Blowing dH.
  - Material Properties: Polyol (0.05 kg), Water (0.002 kg), OH Value (79.75 mg/KOH/g), NCO (31.29 %).
  - Quick run checkbox.
- Graphs:**
  - Raising Curve:** Height (m) vs Time (s). Shows a curve starting at 0 and rising to approximately 0.15 m at 100 s.
  - Temperature Curve:** Temperature (K) vs Time (s). Shows a curve starting at 300 K and rising to approximately 370 K at 100 s.
- Materials Table:**

Gelling Rate	Dynamic Viscosity (N·s/m <sup>2</sup> )
1 0.0	0.35
2 0.01	3.9
3 0.04	28.0
4 0.1	380.0
5 0.2	600.0
6 0.5	1000.0
7 1.0	1200.0
- Dynamic Viscosity Graph:** Dynamic Viscosity (N·s/m<sup>2</sup>) vs Gelling Rate. Shows a curve starting at 0 and rising to 1200 N·s/m<sup>2</sup> at a gelling rate of 1.0.

For more details, see the help: [https://2024.help.altair.com/2024.1/polyfoam/en\\_us/topics/polyfoam/setup/pouring\\_cup\\_test\\_t.htm](https://2024.help.altair.com/2024.1/polyfoam/en_us/topics/polyfoam/setup/pouring_cup_test_t.htm)

### Mold Temperature Visualization Selection

The Mold Temperature result type is disabled by default to minimize simulation run time. You can re-enable the Mold Temperature result type in File → Preferences → Inspire Foam Analysis.

The Preferences dialog box shows the following settings:

- Category:** Inspire Foam Analysis
- Results Types:**
  - Temperature:
  - Head ID:
  - Material ID:
  - Polyol:
  - Isocyanate:
  - Pressure:
  - Residual Stress:
  - Velocity:
  - Viscosity:
  - Isocyanurate:
  - Shear Rate:
  - Shear Stress:
  - Mold Temperature:
- Results Stages:** (empty)

### **Improved Calculation Speed**

Time step calculation algorithm and core scalability have been improved and calculation is now 10-20% faster in PolyFoam 2024.1.

### **Resolved Issues**

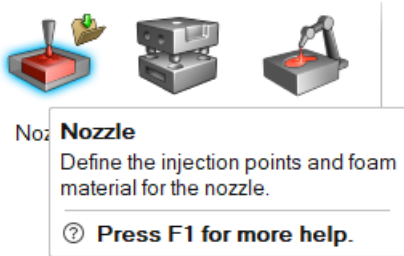
Issues with respect to FSI analysis, subdivision shape detection, moving nozzle, and others have been resolved.

# Learn More About Inspire PolyFoam

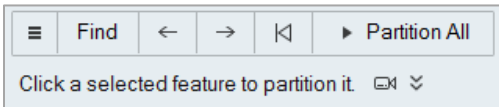
You can learn more about new and existing features in Inspire using the following resources:

## In-Application User Assistance

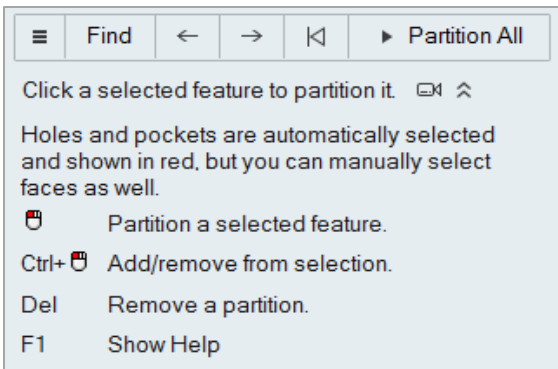
Inspire provides two types of user assistance. **Enhanced tooltips** appear when you hover over icons and other features. They describe what the tool does.



**Workflow help** appears when you select a tool that opens a guide bar or microdialog. The text prompts you what to do next.



Click to view additional tips and shortcuts. Some tools also include a video .



## Online and Offline Help

Press **F1** or select **File > Help > Help** to view the online help.

### Altair® Inspire™ PolyFoam

2024.1 (Latest) ▾

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# Welcome to Altair Inspire PolyFoam

How to Use Altair PolyFoam's Moving Parts Feature to Close an Open Mold

File Measure Move Variables Foam Part Node Tooling Process Altair

Home Foaming Run

History Object

**HOW TO USE MOVING PARTS TO CLOSE A MOLD**

Watch on YouTube

ALTAIR Manufacturing 3D

### More Resources

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You can download an offline version by selecting **File > Help > Download Offline Help**. An internet connection is required to download.

