

Autodesk® Moldflow® Insight 2012

AMI Analysis Sequence

Autodesk®

Revision 1, 22 March 2012.

This document contains Autodesk and third-party software license agreements/notices and/or additional terms and conditions for licensed third-party software components included within the product. These notices and/or additional terms and conditions are made a part of and incorporated by reference into the Autodesk Software License Agreement and/or the About included as part of the Help function within the software.

Contents

Chapter 1	Analysis sequence	1
	Analysis sequence.....	1
	Selecting an analysis sequence.....	1
	Analysis sequence.....	1
	Customize Commonly Used Analysis Sequences dialog.....	2
	Set Property dialog.....	2
	Select Default Analysis Type dialog.....	2
Chapter 2	Analysis sequence icons	3
Chapter 3	Choosing an analysis technology	4

Analysis sequence

1

The analysis sequence is the predefined sequence of analyses that you want to run.

The analysis sequences that are available depend on the analysis technology or the mesh type that is used, and the molding process that you have selected.

Analysis sequence


An analysis sequence is a predefined series of analyses.

Selecting an analysis sequence

You can set analysis sequences for a model in the pre-processing stage, provided that you know all of the analyses that are required.

Before you can select the analysis sequence, however, you must first select the molding process that you want to simulate.

NOTE: Selecting a new analysis sequence after already performing an analysis sequence invalidates any existing results. Select **Create Copy** from the prompt to retain the results and create a duplicate study.

- 1 Ensure you have set the required molding process.
- 2 Click  (**Analysis Sequence**).

The **Select Analysis Sequence** dialog appears containing a list of possible analysis sequences .

- 3 Select the required analysis sequence for your study.
- 4 Click **OK**.

The new analysis sequence is updated in the **Study Tasks** and **Project View** panes.

CAUTION: Running a large number of analyses simultaneously requires a large amount of run-time memory, and may cause the analysis to fail.

Analysis sequence

Use these dialogs to edit the model or workspace properties.

Customize Commonly Used Analysis Sequences dialog

Edit the default list of analysis sequences available from the current workspace.

To access this dialog, select **Tools > Workspace > Customize**, and then select **Analysis Sequences**.

TIP: You can also select **Analysis > Set Analysis Sequence > Customize Analysis Sequences** to access this dialog.

Depending on the mesh types and molding processes available in your current workspace, the content of this dialog may vary.

Once the workspace is setup to the user's requirements, the workspace can be saved for use on this or any computer on the local network.

Set Property dialog

The **Set Property** dialog is accessed from the **Analysis** menu, and allows you to define a particular model property for the selected molding process.

This dialog can be used to define:

- A coolant inlet for a Cool analysis.
- A gas entrance for a Gas-assisted Injection Molding analysis.
- A multiple-barrel reactive molding controller for a Multiple-Barrel Reactive Molding analysis.
- A hot gate pressure controller for a Dynamic Feed system.
- Whether material A or material B is injected at a particular injection location for a Co-injection analysis.
- Venting analysis location properties for a 3D analysis of a Thermoplastics Injection Molding, Thermoplastics Overmolding, Reactive Molding, or Microchip Encapsulation molding processes. At least one venting analysis location should be set on the model when the option to **Perform venting analysis** is selected.
- Dispensing controller properties for a 3D Underfill Encapsulation analysis when the option to **Perform dynamic analysis** is selected.

Select Default Analysis Type dialog

Specifies whether to run a model parameter check, whether to run a full analysis, and also whether the dialog is displayed prior to launching an analysis.














To access this dialog, click  > **Options**, and then select **Change Analysis options...** from the **General** tab.

Analysis sequence icons

2

Analysis sequence icons are displayed in the **Study Tasks** pane.

These icons indicate the following: Analysis not completed, or not launched/Analysis completed/Analysis failed.

Icons	Analysis sequence
	Cool
	Design of Experiments
	Fill
	Gate Location
	Molding Window
	Pack
	Process Optimisation
	Warp
	Shrink
	Stress
	Paddle Shift
	Wire Sweep
	Flow (Incompressible)

Choosing an analysis technology

3

The use of an appropriate analysis technology helps to ensure that analysis results are accurate.

Before choosing an analysis technology, consider the thickness and complexity of the part, and the analyses that you want to run.

For more information about supported analysis technologies, see the following topics.

- Midplane analysis technology
- Dual Domain analysis technology
- 3D analysis technology

Midplane analysis technology

A Midplane analysis technology mesh is appropriate when the following criteria are met:

- the part is thin-walled throughout.
- The analysis you want is available only in Midplane.

Dual Domain analysis technology

Dual Domain analysis technology is appropriate when the following criteria are met:

- The part is generally thin walled with few thick areas. The minimum length and width of any local region should be greater than four times the local thickness. A more conservative estimate of ten times the thickness ensures more accurate results.
- The analysis that you want to run produces results through the thickness of the part, for example, temperature, flow front, and shear rate.

3D analysis technology

3D analysis technology is appropriate when the following criteria are met:

- The part has many thick sections, corners, features or walls. 3D analysis technology is recommended for parts where the length and width of a section is less than four times the local thickness.
- You want to accurately model non-laminar flow around corners and features.