Autodesk® Simulation Moldflow® Insight
Scandium 2014

What's New

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AUTODESK

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Autodesk® Simulation Moldflow® Insight Scandium 2014

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What's New

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This release introduces new features and enhancements that improve interoperability among Autodesk products, expand the range of simulation capabilities, enhance solution accuracy and reduce time to solution.

License prerequisites

The Autodesk Simulation Moldflow Synergy - User Interface and Autodesk Simulation Moldflow Insight - Solvers applications are licensed and installed separately. To complete the product installation, you must install both applications. Before you run the product for the first time, you must have installed, and be able to access, the Autodesk Network License Manager.

IMPORTANT You must have a valid 2014 serial number and product key for both the user interface and solvers applications, and you must register your products and activate your licenses in order to use the product.

Refer to the *Autodesk Simulation Moldflow Insight 2014 Installation Guide* for detailed instructions.

Material Database Changes

Changes to the material database that have been implemented since the 2014 release are summarized here.

These changes accommodate new data required to support solver changes implemented in this version, as well as newly tested materials and new information received from material suppliers.

Details of these changes are found in the *Material Database Changes* document provided separately.

Changes to the Thermoplastics material database

- Total number of suppliers: 468
  - New suppliers added: 2
  - Suppliers deleted: 0

Supplier added to the database	Supplier deleted from the database
Solvay Engineering Plastics	
Solviva Biomaterial	

- Total number of grades: 8944
  - Grades added: 332
  - Grades deleted: 236
  - Grades amended: 729

- Specific data:
  - Grades with specific PVT data: 5711
  - Grades with long-fiber Filler Initial Length data: 181
  - Grades with specific Crystallization Morphology data: 18
  - Grades with default Shrinkage Properties data: 2295
  - Grades with Crystallization - Residual Stress data: 17
  - Grades with Crystallization - Residual Strain data: 20
  - Grades with RSC or ARD-RSC Fiber - Residual Stress data: 836
  - Grades with RSC or ARD-RSC Fiber - Residual Strain data: 887
  - Grades with RSC/ARD-RSC and Crystallization - Residual Stress data: 11
  - Grades with RSC/ARD-RSC and Crystallization - Residual Strain data: 12

Material database improvements

The Moldflow Quality Index portion of the material database has been reviewed to incorporate appropriate data from external sources, adjust the weighting of different parameters, and to review how data aging is handled.

New Features 2

The following features are new with this release:

Parametric optimization method

Parametric studies have been added to the available optimization options.

Dependant on the analysis sequence and molding process selected, the user can select a range of input values for relevant processing variables. All possible process setting combinations are then run and a chosen set of results are presented in tabular form.

Individual studies that generate favorable results can be selected for a more detailed investigation.

Support for IPv6

Up until this release, the Job Manager only supported work on IPv4 networks. This was a problem specifically in Asia where IPv4 network addresses are no longer available.

With this release there is support for IPv4 only networks, IPv6 only networks and IPv4/6 or Dual Stack networks.

Additional Compression Molding and Injection Compression molding features

Cool and Cool (FEM) analysis sequences have been added to both the injection compression and compression molding processes, bringing it in line with the other molding sequences available within Autodesk Simulation Moldflow Insight.

Part inserts can now be incorporated into a 3D meshed compression or injection compression molded analysis.

Core shift enhancements

There are now enhanced core shift constraints available.

There is support for a spring constraints along with one sided constraints for a core shift analysis.

Additional overmolding capabilities

The thermoplastic injection-compression overmolding process is now supported for 3D mesh types

Solver enhancements 3

Enhancements have been implemented to improve the performance of analysis solvers.

New Midplane and Dual Domain results

Flow front velocity is a new result added for midplane and Dual Domain mesh types. This result was already available for 3D.

The velocity of the flow front at the center of the part is represented by the Flow front velocity result. It is available for thermoplastic injection molding processes including overmolding, gas injection, co-injection, bi-injection and injection compression molding.

The result is not available for a Fast Fill analysis sequence.

New 3D solver result

A Hold Pressure result is now available for a 3D analysis

The Hold pressure plot shows the maximum pressure during packing. This result is not shown by default and so has to be added to the displayed results. This result is only available for analysis sequences that include Pack.

This result is already available for Midplane and Dual Domain mesh types.

Gate freeze improvements

Recent work has improved the consistency of gate freeze prediction between parts modeled using either Dual Domain or 3D mesh technologies.

Improved mesh speed, quality and accuracy

Several improvements to the way a model is meshed have been incorporated into this release.

Improved gate refinement

By default, the mesh surrounding an injection location is now automatically made finer. This allows for a more accurate representation of the flow an thermal characteristic in this area. This option can be turned off by deselecting the **Apply extra refinement near gates** option on the **Generate Mesh** dialog

Mesh statistics

The mesh statistics reporting has been improved to properly incorporate connectivity, mesh volume, mold blocks and cooling channels.

Surface mesh

Part surface The surface mesh for Dual Domain mesh has been optimized by the removal of sharp edges. As a Dual Domain surface mesh is the basis of a 3D mesh, this improvement also flows through to 3D meshes.

Mold surface The surface meshing of a mold has been improved using the same algorithm used for the gate refinement improvement. This means that points of contact with the mold surface (cooling lines or feed systems) also have the localized mesh refined

Area refinement

The refinement of mesh in selected areas has been improved.