Autodesk® Moldflow® Insight 2012

AMI Material Databases

Autodesk®

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Contents

Databases

1

Autodesk Moldflow Insight stores information about the materials that are available for use in databases, which are separated into a System or Personal database.

System database

The system database contains a large selection of material grades that are supplied with the product and expanded and updated at each release.

Personal database

A personal database is used to store material grades that you have created yourself. These databases become available the first time you copy materials from the system database, create materials, or import materials.

The database can be stored anywhere, and it can have any name. For example, an appropriate name for a database would be "Plastics Engineer". The materials stored inside a user database are generally stored on single user's machine, and not be accessible to other users.

You can search for material in a personal database.

Databases

A database is an efficent way of locating frequently used or modified material data.

Searching for a material

The Material Search dialog enables you to search for material, use customized search fields, select the sequence in which the results appear, and search the database by using terms and filters.

The material assigned to the study appears next to **Material** in the **Study Tasks** pane.

1   Click **Home tab > Molding Process Setup panel > Select Material**.
2   Click **Search**.

    The **Search Criteria** dialog appears.

3   Select the search parameter from the **Search Fields** pane.

> **NOTE:** If the search field you require is not available in the **Search Fields** pane, click **Add**. Select the search field from the **Add Search Fields** dialog and click **Add** again. To delete search fields from the **Search Fields** pane, select a search field and click **Remove**. The order in which the search fields appear is the order in which the search results columns will appear.

4   Enter a search term in the text box to the right of the **Search Fields** pane.
    The search terms appear after the search field in the **Search Fields** pane.

> **NOTE:** The **Clear Filters** button removes any previous search criteria.

5   Click **Search**.

    The materials that conform to your search criteria appear.

6   To refine the results, click **Search** to reopen the **Search Criteria** dialog.

> **NOTE:** You can use search criteria that has been saved. To load saved search criteria, click **Load Search Criteria** in the upper-right corner of the **Search Criteria** dialog, and select the required criteria from the **Search Criteria Name** drop-down list.

Saving material search criteria

Previously defined search criteria saves time because it enables you to save and reuse search fields, the sequence in which results appear, and search terms or filters.

The material assigned to a study appears next to **Material** in the **Study Tasks** pane.

1   Select (**Analysis > Select Material**).
2   Click **Search**.
    The **Search Criteria** dialog appears.
3   Define the required search criteria.

4   In the **Search Criteria** dialog, click **Save Search Criteria As**.
    The **Save Search Criteria** dialog appears.
5   Type a name into the **Search Criteria Name** box and click **Save**.

The saved search criteria is now available.

To access saved search criteria, click **Load Search Criteria** in the upper-right corner of the **Search Criteria** dialog, and select the required criteria from the drop-down list.

Checking the temperature limits for a particular material

The processing temperatures of a part must fall within the temperature range of the material being used. Before adjusting processing temperatures, the material temperature requirements should be checked.

1   Open a study.

2   Right-click **Material** in the **Study Tasks** pane.

3   Select **Details...** from the menu that appears.
    The **Thermoplastic material** dialog appears.

4   Select the **Recommended Processing** tab.

The recommended mold and melt temperature range, the Absolute maximum melt temperature and the Ejection temperature, for the current material are displayed.

Exporting material grades list to a text file

You can generate a text file of the **Description** of the materials listed in the Autodesk Moldflow database.

1   Select **Tools tab > Databases panel > Search**.

    The **Search Databases** dialog appears.

2   Select **Material** from the **Category** drop-down list.

3   Select the type of property you want to export from the **Property Type** list and then click **OK**.
    A list of materials for the selected property will be displayed.

TIP: You can refine the result by adding search criteria. For each material displayed in the list, the information presented on the **Description** tab of the material properties details dialog will be exported.

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4   Click **Export** and complete the **Save As** dialog.
    The material list has been exported to a text file.

To view the content, open the file in a text editor, such as Notepad.

NOTE: Material properties are not exported.

Editing the default properties database

The system default database properties used in Autodesk Moldflow Insight can be edited.

The properties are supplied in a (*****.udm) file format and stored in **My Documents\My AMI xxxx Projects\udm** for Windows XP or

Documents\My AMI xxxx Projects\udm for Vista users, where xxxx is the software version number.

NOTE: Take care when editing the default properties. It is easy to create nonsensical processing conditions. It is usually safer to create a personal database with a copy of the default properties.

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1 Click **Tools tab > Databases panel > Edit Default Properties**.

The **Properties** dialog appears and indicates all database properties in the default udm folder.

2 Select a **Description**, and then click **Edit**.

3 Make any required changes in the dialog that appears, and click **OK**.

4 Click **OK** again to close the **Properties** dialog.

The modified parameters will now be the standard default value used in future analyses.

Databases

There are several ways that you can search inbuilt databases and use them to select material data.

Search Databases dialog

This dialog is used to select the database in which you wish to perform a search. To access this dialog, click (**Tools tab > Database panel > Search**).

Select a particular database category from the **Category** drop-down list, or select the entry **All**. The available databases are then listed in the **Property type** list.

Search Database Property dialog

This dialog allows you to search for, and review, properties from the database to be used in an analysis.

This dialog can be accessed from the **Tools tab > Databases panel > Search** dialog.

Search Criteria dialog

This dialog is used to search the selected database based on one or more specified search criteria.

To access this dialog to search for a particular material, click (**Home tab > Molding Process Setup panel > Select Material**), then click **Search**.

For example, you could search for all plastic materials whose family abbreviation includes TP, or whose melt-mass flow rate is in the range 10 g/10 min–15 g/10 min. After creating a criteria, you can also save it, and open that and any other saved criteria into other projects.

NOTE: This search functionality is available wherever you are required to select an entry in a Autodesk-supplied or personal database. The key access points are:

- ![icon] (**Geometry tab > Properties panel > Assign**).
- ![icon] (**Home tab > Molding Process Setup panel > Select Material**).
- A number of options from the **Boundary Conditions** tab.
- The database-related entries in the **Tools** tab.

Save/Load Search Criteria dialog

This dialog is used to save or load a database search configuration comprising a list of search fields and their filter values.

To access this dialog when searching for a particular material for the analysis, click ![icon] (**Home tab > Molding Process Setup panel > Select Material**), click **Search**, then click ![icon] (**Save Search Criteria As**) in the top right of the **Search Criteria** dialog, or if you have previously saved search criteria, you can open the search by clicking ![icon] (**Load Search Criteria**).

NOTE: This search functionality is available wherever you are required to select an entry in an Autodesk-supplied or personal database. The key access points are:

- ![icon] (**Geometry tab > Properties panel > Assign**).
- ![icon] (**Home tab > Molding Process Setup panel > Select Material**).
- A number of options from the **Boundary Conditions** tab.
- The database-related entries in the **Tools** tab.

Add Search Fields dialog

This dialog is used to add additional search criteria when searching a database.

To access this dialog when searching for a material with a specific property, click ![icon] (**Home tab > Molding Process Setup panel > Select Material**), click **Search**, then click **Add**.

NOTE: This search functionality is available wherever you are required to select an entry in an Autodesk-supplied or personal database.

The key access points are:

- ■ ▣ (**Geometry tab > Properties panel > Assign**).
- ■ ▨ (**Home tab > Molding Process Setup panel > Select Material**).
- ■ A number of options from the **Boundary Conditions** tab.
- ■ The database-related entries in the **Tools** tab.

Properties (Defaults Database) dialog

This dialog is used to view and/or edit the property sets stored in the default properties databases. To access this dialog, click **Tools > Edit Default Properties Database** .

As can be seen in the Properties drop-down menu at the top of the dialog, the default properties databases includes the following types of entries:

Process Conditions	This category includes default process settings for particular types of analyses, characteristics of the default injection molding machine, and various process controllers. These default settings will appear in the relevant **Process Settings Wizard** pages or advanced options dialogs whenever you create a new study.
Materials	Properties of the default material that will automatically be selected in the relevant **Process Settings Wizard** pages or advanced options dialogs whenever you create a new study.
Parameters	Default solver parameter values for the various type of analysis. This default settings will appear in the relevant advanced options dialogs whenever you create a new study.
Geometry/Mesh/BC	Default property values for the various properties that can be applied to geometry or mesh entities in the model.

Columns dialog

This dialog is used to show, hide, or sort the columns displayed in the results of a database search.

To access this dialog when searching for a particular material, click ▨ (**Home tab > Molding Process Setup panel > Select Material**), click **Search**, specify one or more search criteria and click **Search**, then click **Columns** in the search results dialog.

NOTE: This search functionality is available wherever you are required to select an entry in a Autodesk-supplied or personal database. The key access points are:

- ■ ▣ (**Geometry tab > Properties panel > Assign**).
- ■ ▨ (**Home tab > Molding Process Setup panel > Select Material**).

- A number of options from the **Boundary Conditions** tab.
- The database-related entries in the **Tools** tab.

Customize Material List dialog

To access this dialog, select **Tools > Workspace > Customize**, and then select **Material List**.

TIP: You can also click , and then click **Customize Material List** in the **Analysis Wizard** dialog, to access this dialog.

About this dialog

This dialog is used to edit the default list of materials available from the current workspace.

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.

Personal databases

2

A personal database, which is accessed from the **Tools** tab, is an efficent way of locating frequently used or modified material data.

The *MFSYN_USER_UDB* Windows environment variable can be set to define the path of the personal database, which is then be selected automatically when you select a material. You can set a system environment variable to allow all users to use the personal database, or you can set a user environment variable when required. Your PC must be restarted after you have changed the environment variable.

Personal databases

Materials that you frequently use or modify can be stored in a personal database for easy re-use.

Creating a personal database

A personal database is used to store frequently used, unique, or customized information. This provides faster access to targeted information for use across all studies and projects.

1   Click ![icon] **Tools tab > Databases panel > New**.

The **New Database** dialog appears.

2   From the drop-down list, select the category of information that you want to include in your database, for example, **Material**.

3   Select the **Property type** of information that you want to include in your database, for example, **Thermoplastics Material**.

4   Click ![icon] **Browse** from beside the **Name** box.

The **Database Name** dialog appears.

5   Enter a suitable name in the File name box and click **Save**.

NOTE: Personal databases are stored in the **udb** folder in your **Projects** directory.

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6   Click **OK**.

The **Properties** dialog appears ready for you to begin the process of building the personal database.

7   Click **Databases >>**.

The **Properties** dialog expands to reveal all the System database records relevant to the property type you set previously.

NOTE: If the required record is in another personal database, select that database from the drop-down list.

8   Select the record to be transferred to your new database.
9   Click **Copy**.
The selected record will be copied into the list at the top of your personal database.
10   Click **OK** when all the records required are added to your database.

You can now access these records in this database from any project or study.

NOTE: Records may be added after the creation of the personal database.

Editing a personal database

Personal databases are a quick and convenient method of accessing frequently used material information in any project or study. Editing the entries in the database will maintain its effectiveness.

NOTE: Before you can edit a personal database you must have first created one and have added materials to it.

1   Click **Tools tab > Databases panel > Edit**.
The **Open** dialog appears and indicates all personal databases (***.udb**) in the default folder (**My Documents\My AMI xxxx Projects** in Windows XP, or**Documents\My AMI xxxx Projects** in Windows Vista).

2   Select the required database and click **Open**.
The **Properties** dialog appears.

3   Select a material and then click **Edit**.
The Materials tab, where changes can now be made to the Description and Properties tabs, opens.

4   Click **OK** when finished.
5   Repeat step 3 as needed and then click **OK** to close the **Personal Database** dialog.

Changing personal database default location

By default, personal databases are stored in the projects directory. If you wish to change the default location of the personal database, set an environment variable to point to the required location. In Windows XP,

My Documents\My AMI xxxx Projects, or in Windows Vista, **Documents\My AMI xxxx Projects**, (where **xxxx** is the software release) is the default project directory, or you can specify a different directory by using the *MFSYN_USER_UDB* environment variable.

To change the environment variable:

1   Create the folder where you want to store the database (for example, **C:\Temp\newudb**).

> **NOTE:** The path you specify can not be the root directory of the C drive. If you do specify **C:**, the default location will remain unchanged.

2   From within the Windows explorer, navigate to the **Control Panel** (**Start > Control Panel**) and double-click on **System**.

3   From the **Advanced** tab, click the **Environment Variables** button.

4   Scroll though the **System variables** list to locate the environment variable to change.

    The environment variable is named *MFSYN_USER_UDB* in Autodesk Moldflow Insight.

    If the environment variable name is included in the list, select it and click **Edit**. Enter the full path to the folder where you will store the database (for example, **C:\Temp\newudb**) in the **Variable value** field of the dialog box.

    If the environment variable is not in the list, click **New** and enter the name in the **Variable name** field. Enter the path to the required folder in the **Variable value** field.

5   Click **OK** on the open panels until you return to the **Control Panel**.

6   Restart your computer for the changes to take effect.

The default location for your personalized database is now the folder you have specified.

Importing a study-specific material grade into a personal database

If you edit the properties of a material using the advanced options of the **Process Settings Wizard**, the edited material is only available in the current study. If you want to make it available to all future studies, you need to import the material into a personal database as described below.

1   Ensure that you saved the study containing the edited material.

2   If you do not have a Thermoplastics material personal database, create one before you proceed.

3   Click **Tools tab > Edit Personal Database**.

    The **Open** dialog appears.

4 In the **Open** dialog, browse to and select your personal material database (***.udb**), and then click **Open**.

The **Properties** dialog appears.

5 Click **Databases** >>.

6 Click **Open**.

7 Browse to and select the study containing the edited material, and then click **Open**.

TIP: By default, the **Files of type** option is set to UDB Files (***.21000.udb**). To display study (***.sdy**) files for selection, change the **Files of type** option to All Files (***.***).

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8 Select the edited material in the Database pane of the dialog, and click **Copy**.

The edited material appears in the Destination pane.

9 Click **OK**.

Adding materials to a personal database

NOTE: Before you can add materials to a personal database you must create one.

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1 Click **Tools tab > Databases panel > Edit**.

The **Open** dialog appears and indicates all personal databases (***.udb**) in the default folder (My AMI xxxx Projects\udb).

2 Select the required database and click **Open**.

The **Properties** dialog appears.

3 There are two methods to add materials to a database:

| **Add from System Database** | 1 | Click **Databases** >> to display the system database. |
| | 2 | Select a material from the system database and click **Copy**. The selected material is copied to your personal database. |

| **Create a Custom Material** | 1 | Click **New** to display the Material dialog. |
| | 2 | Enter a Name, complete the description and properties tabs, and click **OK.** |

4 Click **OK** to close the **Properties** dialog.

Deleting a material from the database

You can delete any unwanted materials from a personal material database.

1   Open a project.

2   Click **Tools tab > Edit Personal Database**.
    The **Open** dialog appears.

3   Browse to and select your personal material database (.udb), and then click **Open**.
    The **Properties** dialog appears.

4   Browse to and select the appropriate material, and then click **Delete**.

5   Repeat step 4 until all the unwanted materials are deleted, and then click **OK** to close the **Properties** dialog.

Importing material data (C-MOLD, pre MPI 3.0)

A legacy Moldflow material (***.asc**) or a legacy C-MOLD material (***.udb**) file can be used in the current study.

NOTE: Materials from versions of MPI 3.0 onwards do not need to be imported in a personal database again. They can be directly imported from a study or from a personal database.

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1   Click (**Tools tab > Databases panel > Import Legacy Moldflow**), or (**Tools tab > Databases panel > Import Legacy C-MOLD**).
    The **Open** dialog appears.

2   Navigate to the material file location, select the material file, and click **Open**.
    The **Save As** dialog appears.

3   Enter a new file name and click **Save**.

Legacy materials can be used in an analysis.

Using legacy materials in an analysis

Legacy Autodesk Moldflow materials (***.asc**) or legacy C-MOLD materials (***.udb**) can be used in your analysis.

NOTE: Before a legacy material can be used in an analysis, it must first be imported into a personal database.

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1   Open a new or existing project.

2   Click **Home tab > Molding Process Setup panel > Process Settings**.

3   Click **Advanced Options**.

4   Click **Select** in the **Molding Material** box.
    The **Select Thermoplastics material** dialog appears.

5   Select **All Thermoplastic material (User)** from the drop-down list.

6   Select the material you want to use and click **Select**.

7   Click **OK** to close all dialogs.
    Your legacy material is now available for use in the current study.

Personal databases

You can store frequently used or modified materials in a personal database.

New Database dialog

This dialog is used to create a personal, customizable databases, to give you easy access to the particular materials, machines, process conditions, and properties you typically use.

To access this dialog, click (**Tools tab > Database panel > New**).

For example, you can develop a personal database of the thermoplastic materials you typically use, by copying any of the thousands from the Autodesk Moldflow database. Optionally, you can modify data. For example, in a machine database, you might change the maximum machine hydraulic pressure for an injection molding machine to match the machine you use on your shop floor.

NOTE: Each database includes data of only one property type.

Properties (Personal Database) dialog

This dialog is used to add/edit/delete entries in a personal database.

To access this dialog, click (**Tools tab > Database panel > Edit**) and open a database that you have previously created.

There are three ways that you can create a new entry in the personal database:

■   Click **New**. A copy of the current default property set is opened from the default properties database. You can then edit the values and save them as a new personal database entry.

■   Click **Databases** >> to access the relevant standard database provided in this release. Select one of the standard databases entries and click **Copy** to transfer the entry to your personal database in the top half of the dialog. You can then edit the values in this new personal database entry as required.

■   Select one of the existing entries in your personal database and click **Duplicate**. You can then edit the values in this new personal database entry as required.

Selecting a material

<div style="text-align: right; font-size: 200%; font-weight: bold;">3</div>

The material that you select for an analysis impacts heavily on the analysis results. By default, a generic polypropylene is used for a thermoplastic analysis.

The material being used in an analysis is specified to the right of the material icon in the Study Tasks pane.

Selecting a material

An extensive list of materials is available for inclusion in an analysis.

Selecting a material

The material used in an analysis impacts heavily on the results. A generic material is assigned to an analysis by default.

If the default material is inappropriate, follow these steps to select another material:

1   Select **Home tab > Molding Process Setup panel > Select Material**.
2   Click **Manufacturer** and select the manufacturer of the required material.

> **NOTE:** If you have previously established a personal database of materials and have it stored in the default (***.udb**) folder, select the database name from the **Manufacturer** drop-down list. Your personal materials will be in the **Trade name** drop-down list.

3   Click **Trade name** and select the trade name of the required material.

> **NOTE:** The original material's Energy usage indicator and Resin identification code icons will be updated to the selected material's environmental impact properties.

4   Click **Details** if you need to view the properties of the selected material.

The material is updated in the **Study Tasks** pane.

The default material settings in the **Process Settings Wizard**, such as Recommended Processing and pvT Properties, will now be those of the selected material.

> **TIP:** If you click **Search**, you can enter a property to search for in the Autodesk Moldflow materials database.

Select a shrinkage tested material grade

In order to run a Shrink analysis, you must select a material that has been shrinkage tested.

1   Click ▩ **Home tab > Molding Process Setup panel > Select Material**, or double-click the material icon in the **Study Tasks** pane.

    The **Select Thermoplastics Material** dialog appears.

2   Click the **Details** button to view the material characteristics of any of the listed materials, and when you have chosen a material, click **Select** and then **OK**.

    The name of the selected material will appear in the **Study Tasks** pane.

Selecting a material from a personal database

1   Create a new Personal database.

2   Open a study.

3   In the **Study Tasks** pane, right-click on ⏧ **Select Material** and then click on **Select Material**.

4   In the **Manufacturer** drop-down list, select your Personal database.

    Your database will be in the name that you saved it.

5   In **Trade name**, select a material.

6   Click **OK**.

Selecting a thermoplastic material from a personal database via process settings

1   Open a new or existing project.

2   Double-click 🌡 **Process Settings** in the **Study Tasks** pane.

    The Process Settings Wizard appears.

3   Click **Advanced Options**.

4   Under the **Molding Material** area, click **Select**.

    The **Thermoplastics material** dialog appears.

5   Click the drop-down arrow and change **All thermoplastic material (System)** to **All thermoplastic material (User)**, or click 📂 **Open** and read in a database individually.

6   Click and highlight the material you want to use, and then click **OK**.

If no materials are listed, click the **Search** button, click the **Clear Filters** button, and then click **OK**.

7   Click **OK** and to close all dialogs.

Your material is now available and listed as the Molding Material. You can proceed with setting up all study tasks and run the analysis as you would normally.

NOTE: For more information about personal databases, see Editing a personal database, Locating and using a personal database, and Adding materials to a personal database.

Selecting a material

Select from an extensive list of materials.

Select Material dialog

The Select Material dialog is used to select the material to be used in an analysis from the Autodesk Moldflow materials database.

To access the dialog, click (**Home tab > Molding Process Setup panel > Select Material**).

You can access the material database through this dialog in order to plot the properties of a material, search for a specific material, select a material, and add the material to a commonly used list.

Select Thermoplastics Material dialog

This dialog lists the results of a search on the material database.

To access this dialog, select (**Home tab > Molding Process Setup panel > Select Material**). In the resulting dialog, click **Search**. In the **Search Criteria** dialog click **Search**.

NOTE: This dialog can be used to select two or more materials on which to perform a comparison.

Selecting a similar material

<div style="text-align: right; font-size: 3em; font-weight: bold;">4</div>

Material properties have a significant impact on an analysis, but sometimes the material you want to use is not available in the public Autodesk Moldflow database. When this happens, there are alternative methods of obtaining suitable material parameters for use in an analysis.

The following alternative methods of sourcing a similar material are available:

■ Material testing by Autodesk Moldflow Plastics Labs

   Autodesk Moldflow Plastics Labs performs commercial testing of injection molding grades either confidentially or for inclusion in the material database.

   For more information, email mplmoldflow@autodesk.com.

■ Material data fitting by Autodesk Moldflow Plastics Labs

   You can provide raw material data from your laboratory or material manufacturer. Non-confidential data fitting is performed free for inclusion on the public material database. Confidential data fitting has associated fees.

   For more information, email datafittingmoldflow@autodesk.com.

■ Material supplier's recommendation

   Suppliers are familiar with the different materials in a material family so they can recommend suitable alternatives.

■ Similar materials on a public database

   You can select a similar material based on the following:

   Polymer family
   Trade name
   Filler
   Filler percentage

   NOTE:

   The accuracy of the analysis results will be affected if you choose this option. The severity of the effect will depend on how similar the material properties that you select are to the actual resin that is used.
   Color properties and other additives can affect the propertis of the material.
   Autodesk Moldflow technical support will not recommend a material to substitute.

   Compare the following parameters where possible:

Melt mass-flow rate
Viscosity index
Viscosity curve sweeps
pvT curves if using packing analysis
Solid density
Melt density
Transition temperature
Mechanical properties if using Warp analysis (E, v, G, CTE)
Energy usage indicator
Resin identification code
Durometer hardness if comparing a TPE/TPO or rubber-like material

Selecting a similar material

If the material to be used in an analysis is not available in the supplied database, a similar material can be selected based on material properties. The use of the actual material's parameters increases the accuracy of the final result. Autodesk Moldflow Plastics Labs has the facilities to test materials, eliminating the need for substitution.

Comparing material properties

Comparing the relative material properties will help you select an appropriate alternative material.

NOTE: This feature is only available for Thermoplastic Injection Molding.

1   Open a study.

    The material assigned to the study appears next to **Material** in the **Study Tasks** pane.

2   Right-click **Material** in the **Study Tasks** pane, and select **Compare With...** from the menu.
    After the thermoplastics database is loaded, the **Select Materials To Compare With...** dialog appears.

3   Select the Thermoplastic material(s) to be compared.

    TIP: Use the Search function to find a material to compare. To select/deselect more than one material to compare, hold the **Ctrl** key while selecting.

4   Click **Compare**.
    The **Material Test Method and Data Comparison Report** appears. The column on the left is the property being compared. The second column is the material assigned to your study. All subsequent columns to the right represent the comparative material(s) you selected.

Customizing material database columns

The **Columns** option on the **Select Materials to Compare With** dialog can be used to add, delete, or position columns within the dialog.

1   Open a study.

2   Right-click **Material** in the **Study Tasks** pane, and select **Compare With**.
    After the Thermoplastics materials database has loaded, the **Select Materials To Compare With** dialog appears.

3   Click **Columns**.
    A list of the possible parameters appears with the check-box selected for the parameters that will be displayed in the dialog.

4   Select any additional parameters and ensure the check-box beside any unwanted parameter is clear.

5   To change the order of a column in the dialog, highlight the column name and use the navigation buttons to promote or demote the parameter in the list. The parameter values appear across the dialog in the order you have selected.

Customizing the material list

The **Customize Material List** dialog is used to edit the default list of materials available from the current workspace.

1   Double-click **Select Material** in the **Study Tasks** pane, and click **Customize Material List**.

The **Customize Material List** dialog appears.

2   Use the search option to refine the list of available materials.

NOTE: The order in which the search fields appear is the order in which the search results columns will appear.

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3   Use the **Add** or **Add All** button to move selected entries or the entire list to the **Selected Material List** pane. If necessary, use the **Remove** or **Remove All** button to manipulate the list.

4   Click **OK**.

Selecting a similar material

You can compare materials, in order to select one with similar properties to the one you generally use.

Select Materials To Compare With dialog

This dialog is used to select two or more materials for which you want to create a comparison report. To access this dialog, right-click on **Material Selection** in the **Study Tasks** pane and select **Compare With**.

TIP: The material comparison feature is also available in the dialog that appears after performing a search in the materials database.

NOTE: This functionality is only available for thermoplastics material.

Editing material properties

5

Material properties can affect the quality of an analysis. Customized material property values can be saved for use in all studies and projects.

To view the properties of the current material, select **(Home tab > Molding Process Setup panel > Select Material)** and then click **Details** in the **Select Material** dialog. This information, however, is write protected.

To edit material properties, the material must first be added to a personal database. Once the material is added to a personal database, it can then be edited. The edited material can be used in any study.

NOTE: You can edit materials in the **Advanced options** section of the **Process Settings Wizard** but the edited data is only available for the current study.

Editing material properties

The actual processing conditions should fall within the recommended material processing range.

Editing material properties

The properties of materials that have been entered into personal databases, can be edited at any time.

NOTE: You can only edit the properties of materials in your personal databases.

If you already have a personal database open, skip straight to step 3. If not, follow the steps from the beginning.

1   Click **(Tools tab > Databases panel > Edit)**.

The **Open** dialog appears and indicates all personal databases (***.udb**) in the default folder (**My Documents\My AMI xxxx Projects** in Windows XP, or**Documents\My AMI xxxx Projects** in Windows Vista).

2   Select the required database and click **Open**.

The **Properties** dialog appears.

3   Select a material and then click **Edit**.
The material dialog opens so you can make your edits.

4   Click **OK** when finished.
5   Repeat step 3 as needed and then click **OK** to close the **Personal Database** dialog.

Checking the temperature limits for a particular material

The processing temperatures of a part must fall within the temperature range of the material being used. Before adjusting processing temperatures, the material temperature requirements should be checked.

1   Open a study.

2   Right-click **Material** in the **Study Tasks** pane.

3   Select **Details...** from the menu that appears.
    The **Thermoplastic material** dialog appears.

4   Select the **Recommended Processing** tab.

The recommended mold and melt temperature range, the Absolute maximum melt temperature and the Ejection temperature, for the current material are displayed.

Legacy material data

6

Legacy material data using either the ***.asc** or ***.udb** format can still be used in the current study.

Legacy material data

Material data using the legacy formats of either ***.asc** or ***.udb** can still be imported and used in the current study.

Using legacy materials in an analysis

Legacy Autodesk Moldflow materials (***.asc**) or legacy C-MOLD materials (***.udb**) can be used in your analysis.

NOTE: Before a legacy material can be used in an analysis, it must first be imported into a personal database.

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1   Open a new or existing project.

2   Click **Home tab > Molding Process Setup panel > Process Settings**.

3   Click **Advanced Options**.

4   Click **Select** in the **Molding Material** box.
     The **Select Thermoplastics material** dialog appears.

5   Select **All Thermoplastic material (User)** from the drop-down list.

6   Select the material you want to use and click **Select**.

7   Click **OK** to close all dialogs.
     Your legacy material is now available for use in the current study.