

GlobalCAD Schedule 2010



Getting Started Guide

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GlobalCAD

Introduction

Working with schedules and bill of materials are a critical component of any project. Creating these documents presents many unique challenges. Among them are deciding what to schedule, how to format it and most importantly accurately reporting it and keeping it up-to-date. GlobalCAD Schedule 2010 provides the effective and reliable solution to all of these issues.

This user guide provides step-by-step instructions on getting started with GlobalCAD Schedule.

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GlobalCAD Schedule 2010 is compatible with the entire family of AutoCAD products including AutoCAD 2000-2010, AutoCAD Architecture, AutoCAD Civil 3D, AutoCAD Electrical, AutoCAD Land Desktop, AutoCAD Map 3D, AutoCAD Mechanical, AutoCAD MEP and AutoCAD P&ID.

The software can also be used in conjunction with other AutoCAD third-party applications. Multi-user licensing options are available and provide support for all major network platforms including Novell Netware and Windows NT Server.

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Working with Attribute Groups

An attribute is a label or tag that attaches data to a block. Examples of data that might be contained in an attribute are part numbers, prices, comments, and owners' names. The tag is equivalent to a column name in a database table. Attribute information extracted from a drawing can be used in a spreadsheet or database to produce a parts list or a bill of materials.

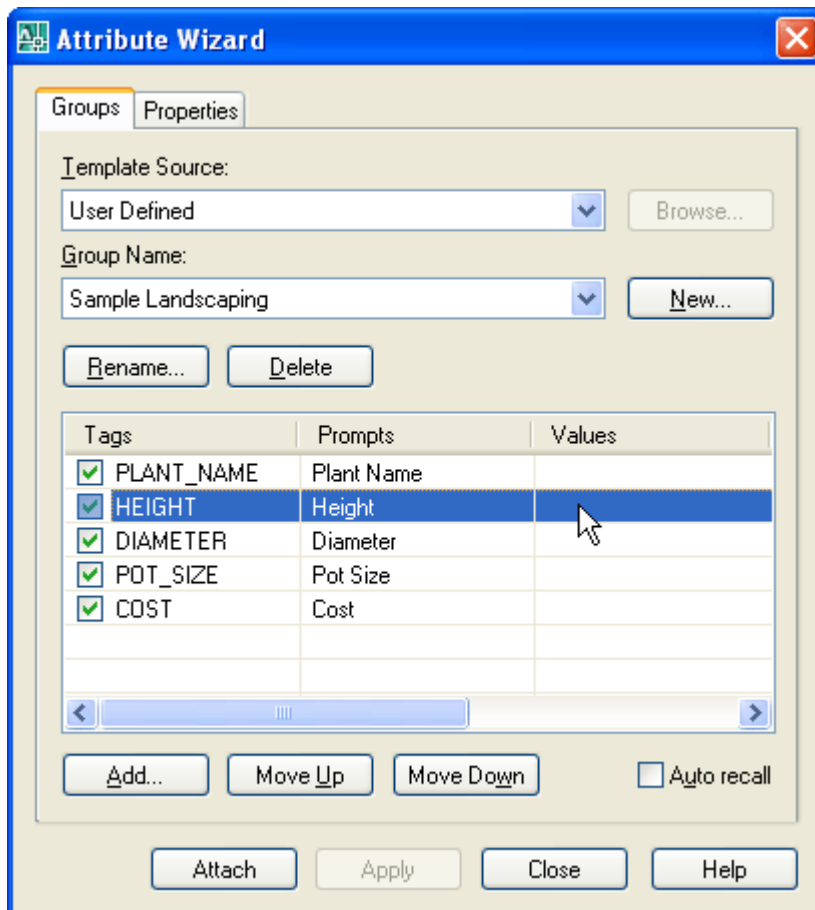
With Attribute Wizard, you can attach a group of attributes to drawing entities or blocks – all at the click of a button! Forget using the cumbersome AutoCAD ATTDEF and WBLOCK commands, now you can create and save attribute groups as templates for all your projects. Attribute Wizard provides full control over the properties of each attribute and lets you specify the order in which you wish them to appear.

With Attribute Wizard you can:

- Instantly attach a group of attributes to entities and blocks.
- View and compare attribute groups quickly and easily within libraries.
- Review and edit all tags, prompts and values in a single report.
- Control the display order of attributes within a group.
- Manage individual attribute properties.
- Share group attribute templates with full network compatibility.

Initial Steps

Attribute Wizard's main dialog displays the contents of the attribute group database. The **Groups** tab displays the current group name, followed by the associated attribute tags, prompts and values in the report view below. The **Properties** tab defines the standard AutoCAD properties and text options for the current group. Each group definition is stored within the GlobalCAD...\Attributes folder.



Creating a working attribute group is the first step in adding your attributes to the database. The group can be assigned a full and meaningful description, such as the working discipline e.g. 'architectural finishes' or maybe a project name.

Creating an Attribute Group

From the Groups tab, select the **New** button next to the Group Name drop-down list.

- 1 Enter the proposed group name within the text box and click on the **OK** button.
- 2 Next, to add an individual attribute to the group, click the **Add** button below the report view.
- 3 In the Add Attribute dialog, enter the attribute tag, prompt and value (optional). You can also set the options for attribute mode i.e. Invisible, Constant, Verify and Preset.

Notes

- Attribute tag values are forced to uppercase and spaces are not permitted.
- Attribute modes: Invisible specifies that attribute values are not displayed or printed when you insert the block (ATTDISP overrides Invisible mode). Constant gives attributes a fixed value for block insertions. Verify prompts you to verify that the attribute value is correct when you insert the block. Preset sets the attribute to its default value when you insert a block containing a preset attribute.
- To edit an existing attribute's tag, prompt, value and/or mode see **Help** topic Editing Group Attributes.
- If an attribute group is deleted, its corresponding contents (attributes) are also deleted.

Editing Group Attributes

Highlight the attribute for editing in the report view and double-click it to display the Edit Attribute dialog.

Attributes can also be re-positioned within an attribute group by using the **Move Up** and **Move Down** buttons. This will affect the prompt sequence when the attribute group is next attached to a block.

To edit the current attribute group's standard AutoCAD properties and/or text options, select the **Properties** tab.

To delete an attribute from the current group, highlight the attribute and press the **Del** key.

Attaching Groups to Blocks

Attribute groups can be attached to a set of entities or an existing block.

- 1 Choose the relevant group and click on the **Attach** button.
- 2 Select the objects that will make up the new block.
- 3 Specify the insertion point for the first attribute within the group and, if not already defined, the text height.
- 4 Specify the insertion point for the next attribute or press **Return** to position it below the last attribute.
- 5 Repeat point 4 until all attributes are correctly positioned.
- 6 Specify the insertion point for the block.
- 7 Next, enter a description in the Create New Block dialog and click on the **OK** button.

Note the standard AutoCAD Edit Attributes dialog will then prompt for any vacant attribute values (optional).

Generating Schedules and Bill of Materials

The tools in GlobalCAD Schedule let you query drawings for block attribute data and save it to a variety of file formats. Unique formatting options mean you can pre-set the style for each spreadsheet and export only the data that's critical to your needs.

With GlobalCAD Schedule you can:

- Query block attribute values within multiple drawings.
- Process Xrefs and nested blocks.
- Set spreadsheet styles with unique formatting options.
- Merge tabled items based on user-defined criteria.
- Quantify blocks for Bill of Materials.
- Share block attribute templates with full network compatibility.
- Preview schedules fast with an intuitive graphical interface.
- Export data to Microsoft Excel, Access, CSV, XML and TXT.

Initial Steps

GlobalCAD Schedule allows the easy extraction of block attribute data to Microsoft Excel, Access and other formats. You can attach helpful alias names to blocks and attributes and publish data from multiple drawings and Xref attachments. In addition, you can save templates of selected blocks, attributes, and alias information for reuse within other drawings.

The advanced GUI interface employs tabs so you can easily jump to different stages in the export process or simply query drawings for attribute data at any time. Select the **Schedule** option from the left places bar to display the tabs.

Selecting Drawings

The Drawing List on the **Drawings** tab displays the drawings to query for block attribute data. The current drawing is pre-selected by default.

From the **Select Drawings** group box, choose one of the following methods to extract the required block information:

- **Select Objects.** Select this option followed by the pick button to create a selection set of blocks from the current drawing. When done, **right-click** the mouse or press **Enter** to return to Drawings tab.
- **Current Drawing.** Pre-selects all blocks defined in the current drawing.
- **Select Drawings.** Select this option followed by the pick button to process all blocks in one or more external drawings files. The Select Drawings dialog permits the selection of individual drawing files or multiple selections by using **Shift** or **Ctrl**.

From the **Drawing Options** group box, choose from the following preferences:

- **Include Xrefs.** The current Drawing List may contain drawings for extraction that have Xrefs (external references) attached. With this option enabled you can also extract block information from these associated Xrefs.
- **Include nested blocks.** Permits the extraction of data from nested blocks (blocks within blocks).
- **Include frozen layers.** Permits the extraction of block data located on layers that are frozen.
- **Current space only.** Extracts block data from the current space only (can be model space or paper space).

Notes

- Drawing List entries can be sorted into ascending or descending by simply clicking the desired column heading. This will display a small direction arrow indicating the sort direction. To reverse the sort order, click the column heading again.
- Clicking the **Apply** button will apply any changes you've made, such as Drawing Options, without closing the dialog.
- For increased performance, purge all drawings before exporting data.

Selecting Blocks and Attributes

The **Attributes** tab block name view displays the block names selected for extraction. Clicking on a block name displays the associated attribute names and values in the attributes view shown opposite.

You can check/uncheck blocks and attribute values depending on the data you want to export to file. See also notes on the **General** tab under **Formatting Options** help topic for further options.

Aliases can be assigned to block and/or attribute names by clicking in the relevant **Alias** column location in the **Block Name** or **Attributes** view and entering the chosen alias name.

- **Working with Block Attribute Templates**

You can save and retrieve template files containing block attribute settings and apply them to the current drawing selection. For example, you may want to automatically de-select blocks or attributes with a particular name or value. Templates can also store pre-defined aliases for block and/or attribute names.

To save a template based on the current Attribute tab state, select the **Templates** button, followed by **Save Template**. Save the template file to a suitable location. Templates are saved with the **.gst** file name extension.

To open a template and apply it to the current drawing selection, select the **Templates** button, followed by **Open Template** and double-click the template file name to open it.

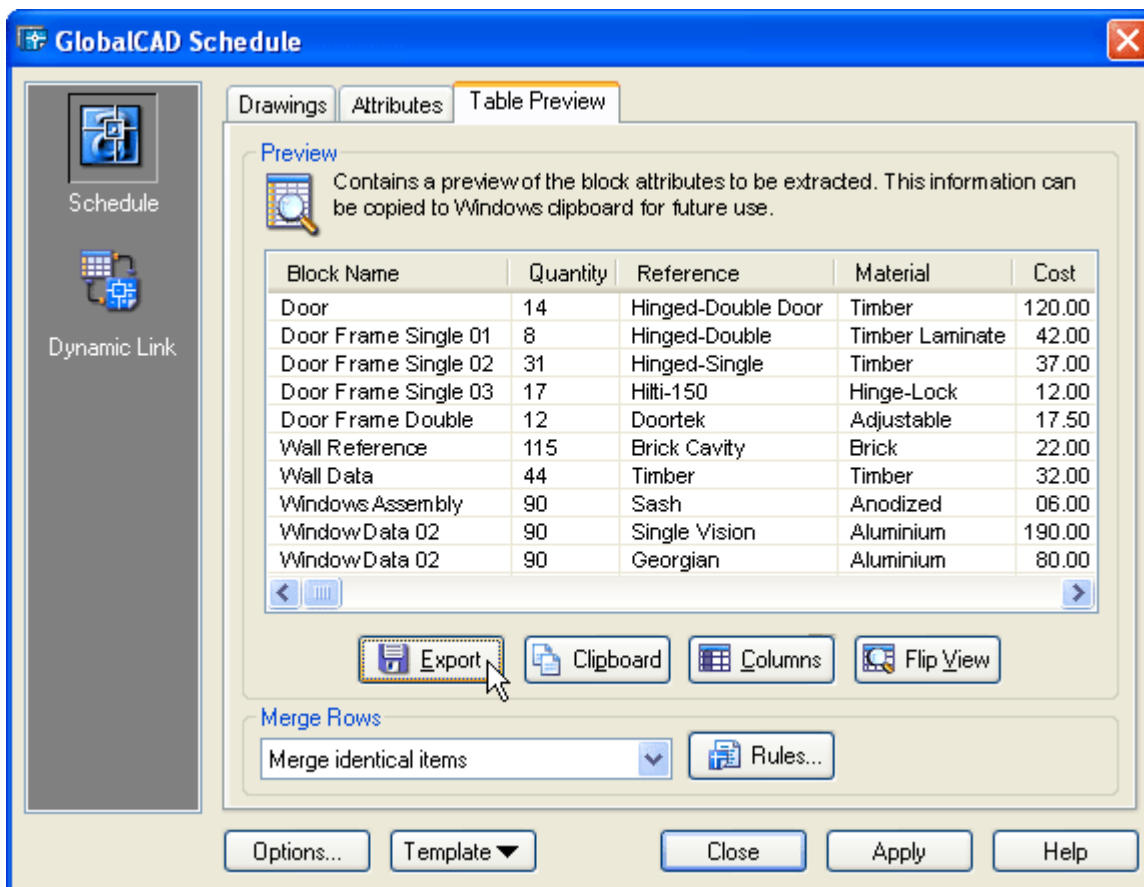
Notes

- **Block Name** and **Attribute** entries can be sorted into ascending or descending by simply clicking the desired column heading. This will display a small direction arrow indicating the sort direction. To reverse the sort order, click the column heading again.
- Clicking the **Apply** button will apply any changes you've made to the **Attributes** tab layout without closing the dialog.
- The current drawing units determine the number of decimal places used in the display of standard AutoCAD properties for a block, e.g. the X insertion point.

Exporting the Data

The **Table Preview** tab contains a preview of the blocks and block attributes to be exported to file. The **Flip View** feature provides 2 alternative views for the display of information and this affects how the data will be exported to file:

- **Landscape**. The Block Name column displays the names of the blocks selected for attribute extraction. Other columns display names of attributes associated with each block. The rows display the values for each attribute. Landscape is the default view.
- **Portrait**. The Block Name column displays the names of blocks selected for attribute extraction. The Attribute column displays the name of the attribute. The Attribute Value column displays the value of the attribute.



Clicking the **Clipboard** button copies all or selected portions of the table to the Windows clipboard.

Select the **Columns** button if you want to re-arrange the table columns into a particular order before exporting. The column view permits the selection of individual column headings or multiple selections by using **Shift** or **Ctrl**.

The **Merge Rows** group box contains a drop-down list of rules that define how rows within the table are merged, depending on user-defined criteria. Clicking the **Rules** button displays the Merge Rule Manager dialog – from here you can select an existing rule or create a completely new one based on your own personal preference.

When you are ready to save the data to file, click the **Export** button. From the **Export Table** dialog, choose the file format from those listed and enter the filename followed by **Save**. Depending on the amount of drawing data, this may take several moments.

- **Working with Multiple Drawings**

GlobalCAD Schedule renames blocks of the same name but that have different attributes that are found in multiple drawings or Xrefs. For each duplicate-named block after the first instance, with different attributes, GlobalCAD Schedule renames the block by appending to the block name a tilde character (~) and the path name and file in which the block was found.

For example, a block named WINDOW is in both C:\Drawings\Office Layout1.dwg and C:\Drawings\Office Layout2.dwg, but the block has different attributes in each file. Using GlobalCAD Schedule, the instance of WINDOW in the first file is shown with the block name WINDOW. The instance of WINDOW in the second file is shown with the block name WINDOW~C:\Drawings\Office Layout2.dwg.

Notes

- **Block Name** and **Attribute** entries can be sorted into ascending or descending by simply clicking the desired column heading. This will display a small direction arrow indicating the sort direction. To reverse the sort order, click the column heading again.
- Clicking the **Apply** button will apply any changes you've made to the **Table Preview** tab layout i.e. switching the layout with **Flip View**, without closing the dialog.

Formatting Options

Unique formatting options mean you can pre-set the style for each spreadsheet and export only the data that's critical to your needs.

From the main GlobalCAD Schedule display, select the **Options** button followed by the **General** tab. From here you can choose which standard AutoCAD property fields you want to include in exported files.

Pick the **Export quantity** option (set by default) if you want to include a quantity value with your exported data. This is useful to create a bill of materials and introduces a **Quantity** column listing block quantities, positioned to the right of the Block Name column. De-selecting this option means that all blocks selected for export will be exported to file independently of each other with a unique spreadsheet entry.

GlobalCAD Schedule allows for the export of block attribute data to the following file formats:

- **Microsoft Excel Workbook (XLS)**
- **Microsoft Access Database (MDB)**
- **Comma Delimited (CSV)**
- **Tab Delimited (TXT)**
- **Extensible Markup Language (XML)**

Note the file formats available depend on the applications currently installed. Microsoft Excel and/or Microsoft Access must be installed in order for the XLS and/or MDB file formats to be available. The CSV, TXT and XML formats are always available.

From the main GlobalCAD Schedule display, select the **Options** button. Format tabs are available for each file format and include a number of pre-formatting options:

- **Microsoft Excel Workbook (XLS)**

One block definition per sheet. Specifies that each individual block definition will be placed on a separate sheet.

Single sheet. Specifies that all block definitions will be placed on a single sheet.

Export to odd lines. Block attribute data is exported to odd lines only.

Start row. Determines the start row for exported data, when the **Single sheet** option is selected.

Include header row. Displays a header row with titles for each column.

Display header bold. Displays the header row bold.

Apply autofit to columns. Makes all column widths fit the contents of the exported data.

Autorun Microsoft Excel when done. Runs Excel and opens the spreadsheet when data is exported to the XLS format.

- **Microsoft Access Database (MDB)**

One block definition per table. Specifies that each individual block definition will be placed in a separate table.

Single table. Specifies that all block definitions will be placed in a single table.

Autorun Microsoft Access when done. Runs Access and opens the database when data is exported to the MDB format.

- **Comma Delimited (CSV)**

Include header row. Displays a header row with titles for each column.

Open CSV file when done. Opens the CSV file with the system's default CSV editor when data is exported.

- **Tab Delimited (TXT)**

Include header row. Displays a header row with titles for each column.

Open TXT file when done. Opens the TXT file with the system's default TXT editor when data is exported.

Notes

- The delimiter used in the comma-separated file format (CSV) is based on the locale – the list separator for the locale separates the exported data.
- XML is a standard, simple, self-describing way of encoding both text and data so that content can be processed with relatively little human intervention and exchanged across diverse hardware, operating system and applications.
- For attribute names that will be assigned as field names in files exported to Microsoft Access, GlobalCAD Schedule substitutes an underscore character (_) for the characters shown in the following table:

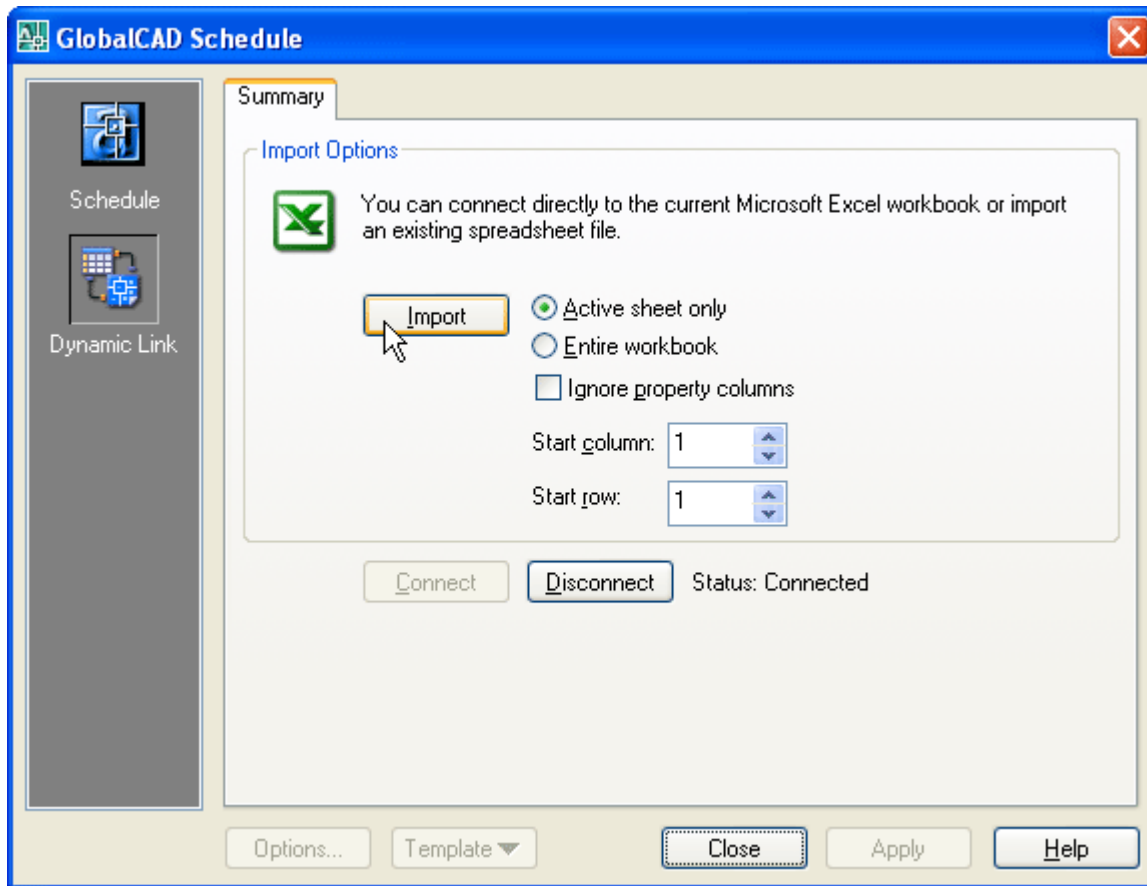
Restricted Characters in Microsoft Access Fields

Character	Character Name
.	Period
!	Exclamation mark
[Left square bracket
]	Right square bracket

For example, attribute tag names that appear as column headings will be field names in Microsoft Access and any instance of the restricted characters will be replaced by an underscore.

Linking MS Excel and AutoCAD

Working with cost estimates, schedules and bill of materials are a critical component of any project. Having created them with GlobalCAD Schedule, the challenge is to ensure they remain accurate, up-to-date and synchronized with your drawing data. With integrated support for Microsoft Excel, Dynamic Link provides the effective and reliable solution to all of these issues.



The tools in Dynamic Link enable you to bi-directionally link AutoCAD drawings with Microsoft Excel – simply edit the Excel spreadsheet and your drawing updates automatically!

With Dynamic Link you can:

- Hot-link AutoCAD drawings with Excel spreadsheets.
- Dynamically update block attribute values.
- Modify the standard AutoCAD properties of blocks.
- Connect 'live' to spreadsheet or import from spreadsheet file.
- Share the technology with full network support.
- Work with Microsoft Excel 97, 2000 and XP.

Initial Steps

Dynamic Link analyzes the cells from the current Excel spreadsheet and dynamically updates the associated 'live' AutoCAD drawing with any changes as they occur.

Each block, with its own attribute values, is linked to a unique spreadsheet row by using the block's handle value (a unique hexadecimal value generated by AutoCAD at the time of block creation). The first cell in each row, located under the **Block Name** column, is dedicated to the handle value of the block to which it is linked.

Select the **Dynamic Link** option from the GlobalCAD Schedule left places bar.

Working with Microsoft Excel

Both of the methods described below assume you have already used **GlobalCAD Schedule** to export block attribute data, relating to the current drawing, to the Microsoft Excel **XLS** format.

- **Dynamic Update**

This option creates a connection (link) between the current AutoCAD drawing and Microsoft Excel spreadsheet.

The connection 'captures' the **SheetChange** event, issued by Excel whenever data in the spreadsheet is changed. When a change is detected, and the spreadsheet directly relates to the current drawing, Dynamic Link finds the index of changed row and column and performs the change in AutoCAD.

- 1 From the **Dynamic Link** display, select the **Connect** button and open the relevant Excel spreadsheet.

The spreadsheet is displayed in an Excel window in front of the current AutoCAD drawing.

- 2 Edit the Excel spreadsheet in the normal way, saving changes as necessary.

Individual block attribute values and selected standard AutoCAD properties (see table below) can be edited. Clicking outside the current cell or pressing **Enter** performs a 'live' visible update of the associated block properties in AutoCAD.

Warning! Do not edit values in the **Block Name** column as these cells contain unique block reference keys necessary for communication with AutoCAD.

Standard AutoCAD Properties (Editable)

X insertion point	X scale	X extrude
Y insertion point	Y scale	Y extrude
Z insertion point	Z scale	Z extrude
Orient		

- **Update from File**

This option imports an existing Microsoft Excel spreadsheet and automatically applies any updates to the current AutoCAD drawing.

Dynamic Link reads the cells from the selected spreadsheet and identifies the associated blocks in AutoCAD. Any changes to block attribute values and/or standard AutoCAD properties are then applied to the current drawing. If an attribute value in the Excel spreadsheet is not present in the AutoCAD drawing it is ignored.

- 1 From the **Dynamic Link** display, select the **Import** button and specify the Excel spreadsheet to open.

The spreadsheet is imported and the current drawing updated. Note the spreadsheet must share one or more unique block reference keys with the drawing for it to be correctly identified and accepted.

- 2 Close the **Dynamic Link** display and **Save** the current drawing when you are satisfied with the spreadsheet updates.

The following options are available when importing the Excel spreadsheet:

Active sheet only. Only the active Excel sheet is referred to. All other sheets are ignored.

Entire workbook. All Excel sheets are referred to when updating the drawing.

Ignore property columns. Any changes to standard AutoCAD properties are ignored.

Start column. Text box displays the starting column number (range 1-255).

Start row. Text box displays the starting row number (range 1-65536).