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Undocumented Autodesk® Architectural Desktop Tips & Tricks

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BD11-2

See dozens of tips and tricks that have been compiled over the years from actual Autodesk® Architectural Desktop users who rely on the product every day for their design and construction documentation. This is a fast-paced session with little filler and lots of good information to take away, including a supporting website with examples and step-by-step instructions. It is designed for Autodesk® Architectural Desktop users of all abilities -- from those who are very new to those with years of experience.

About the Speaker:

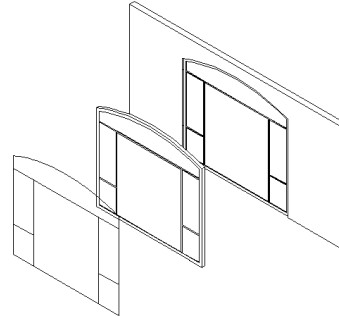
T.J. has worked for several architectural firms across the U.S. on projects ranging from single-family residential to medium-size commercial, as well as CAD management. He now works for one of the most successful resellers in the U.S., training and consulting with government agencies and private architectural firms focusing on Autodesk Architectural Desktop, AutoCAD, Autodesk Building Systems, and Autodesk Revit Building. T.J. has a degree in architecture and is currently finishing his exams to receive his architectural registration
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1 Create Door/Window Assemblies from Linework

Door/Window Assemblies (and Curtain Walls) can be very powerful and flexible objects in ADT, but they can be difficult to setup as a style. An easier method is to convert a sketch you create with lines and arcs:

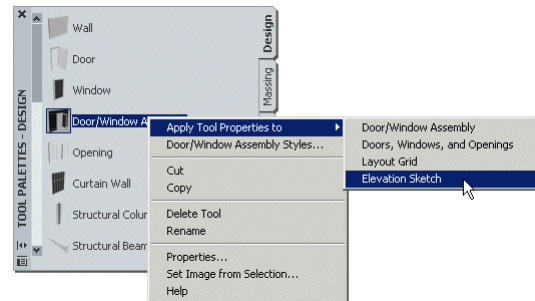
1. Elevation Sketch

Draw a sketch of Assembly you want using lines and arcs – use only single lines (don't draw the widths of the frames and mullions). Be sure to make your sketch dimensionally accurate using your linework to represent the outside edge of frames and the center of mullions.



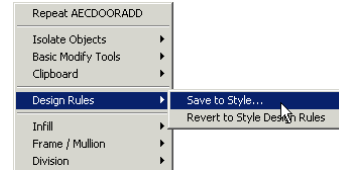
2. Convert to Door/Window Assembly

Right-click on the Door/Window Assembly tool on the Tool Palettes, chose "Apply Tool Properties to >", then "Elevation Sketch". Follow the command prompts to select your linework and the baseline (which will become the sill).



3. Save to Style

To Finish the process, highlight the newly created Door/Window Assembly, right-click and choose "Design Rules > Save to Style...". Then, click the "New..." button and give it a name.



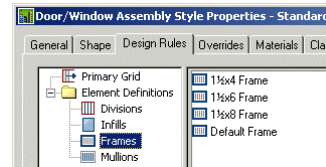
You are now ready to insert your new Door/Window Assembly Style

2 Add Elements to the Standard Style

When creating Door/Window Assembly Styles from linework, ADT will copy the “Standard” style, including all its element definitions, to use as a template for the new style. So, if you set the default elements in the “Standard” style to more usable sizes and you assign materials to those elements, you will have less work to do after. Some examples:

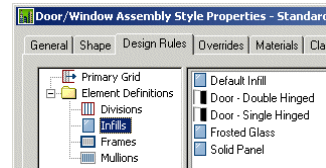
Frames and Mullions

Change the Default to be the size you typically use (i.e. 1 1/2"x4") and add other sizes for overrides



Infills

Change the Default to be the thickness of glazing you typically use (i.e. 3/4") and add other object styles for overrides (i.e. single doors, double doors, and solid panels)



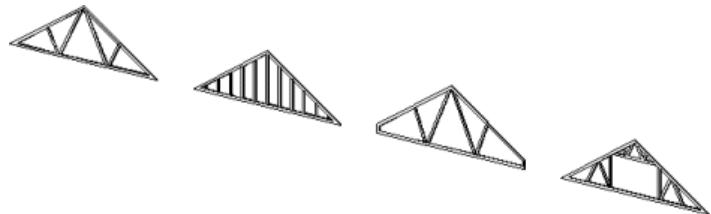
Materials

Assign your typical materials (i.e. glass for infill, aluminum for frames and mullions, etc.)

Component	Material Definition
Default Infill	Doors & Windows.Glazing.Glass.Clear
Solid Panel	Doors & Windows.Wood Doors.Ash
Frosted Glass	Doors & Windows.Glazing.Glass.Frosted
Default Frame	Doors & Windows.Metal Doors & Frames.Aluminum Windows.Painted.White
1 1/2x4 Frame	Doors & Windows.Metal Doors & Frames.Aluminum Windows.Painted.White
1 1/2x8 Frame	Doors & Windows.Metal Doors & Frames.Aluminum Windows.Painted.White
1 1/2x6 Frame	Doors & Windows.Metal Doors & Frames.Aluminum Windows.Painted.White
Default Mullion	Doors & Windows.Metal Doors & Frames.Aluminum Windows.Painted.White
1 1/2x4 Mullion	Doors & Windows.Metal Doors & Frames.Aluminum Windows.Painted.White
1 1/2x8 Mullion	Doors & Windows.Metal Doors & Frames.Aluminum Windows.Painted.White
1 1/2x6 Mullion	Doors & Windows.Metal Doors & Frames.Aluminum Windows.Painted.White

3 Create Roof Trusses with Curtain Walls

Since there is no Roof Truss object in ADT, you can usually create what you need by converting your elevation sketch to a Curtain Wall. Then, edit the default frame and mullion element definitions to get your chord sizes.



4 Use Walls for Casework/Millwork

One of the most powerful features of Architectural Desktop is its Display System. It allows objects to be displayed differently based on either your design intent (i.e. a floor plan versus a reflected ceiling plan) or the view direction (i.e. a plan view versus an isometric).

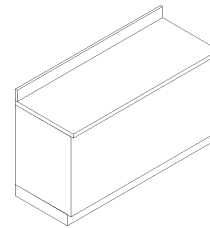
You can take advantage of the Display System with your wall styles by creating different components for the 2D plan view versus the 3D isometric and perspective views. This allows for more symbolic representations of objects when viewed in plan as opposed to more detailed representations when viewed in 3D (which lends realism to perspectives and renderings).

The following example uses a wall style to create casework. There are six components: four for the 3D view (a base cabinet with a countertop, backsplash, and a kickplate) and two for the plan view (countertop and backsplash):

Index	Name	Priority	Width	Edge Offset	Bottom Elevation		Top Elevation	
					Offset	From	Offset	From
1	Backsplash - 2D	141	-2"	0"	0"	Wall Bottom	0"	Wall Top
2	Countertop - 2D	141	2"+ BW * -1"	-2"	0"	Wall Bottom	0"	Wall Top
3	Backsplash - 3D	141	-3/4"	0"	0"	Base Height	0"	Wall Top
4	Countertop - 3D	141	BW * -1"	0"	-1 1/2"	Base Height	0"	Base Height
5	Cabinet - 3D	141	1"+ BW * -1"	0"	4"	Baseline	-1 1/2"	Base Height
6	Kickplate - 3D	141	2 1/2"+ BW * -1"	0"	0"	Baseline	4"	Baseline

3D Components

The 3D components make up the "Model" display representation of the casework wall style and should be as realistic as possible so they are designed with exact dimensions.



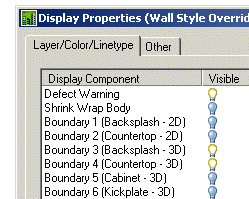
2D Components

The 2D components make up the "Plan" display representation of the casework wall style and are designed to be more symbolic. This is because if the backsplash was shown with its actual thickness (3/4" to 1"), it would not print legibly at a small scale (1/8" = 1'-0" or smaller). But, if the thickness of the backsplash is exaggerated to 2" only for the plan view, it will read better when plotted.

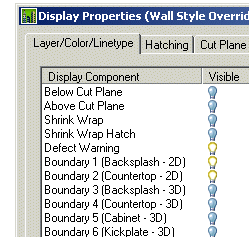


Display Properties

In order for the 2D components to show up in plan view and the 3D components in isometric, you will need to edit the display properties for each of the different display representations. For the "Model" display representation, turn off the 2D components, leaving only the 3D components visible.

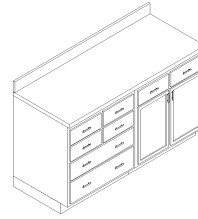


For the "Plan" display representation, do just the opposite - turn off the 3D components and leave the 2D components visible.



Using in Production

You can then copy this Wall style and remove the base cabinet and kick plate. Now, during your schematic design and design development phases, you use the first wall style. Later during design development and into construction documents, you can then change the Wall to the style without the base cabinet and add multi-view blocks instead.

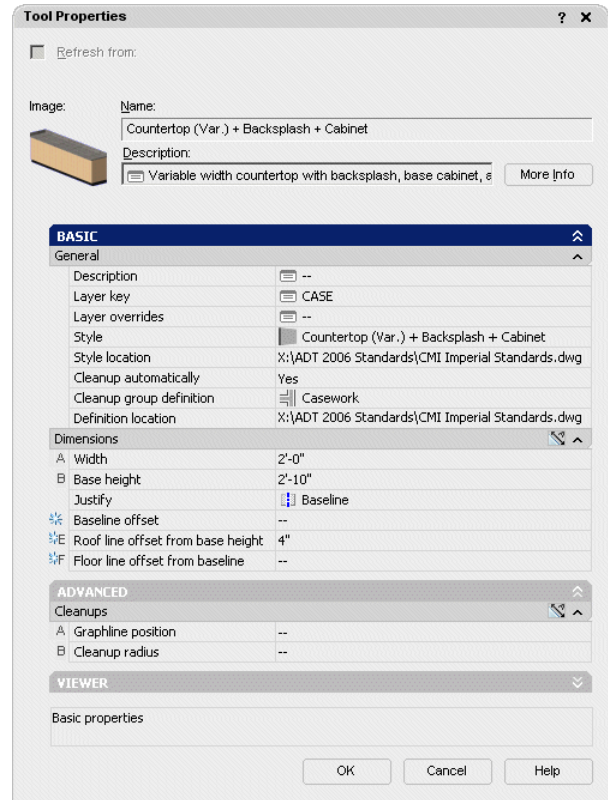


5 Take Advantage of Tool Palette Properties

Since the automatic layering in ADT is based on object types rather than styles, you can circumvent this by placing your objects on the Tool Palettes and assigning different Layer Keys. You can also assign default roof and floor line offsets, cleanup groups, widths, and base heights – and that’s just for walls. Each object has its own unique properties to vary.

Examples

- Create a “Casework” Wall style with the “CASE” layer key assigned, a 2’-0” default width, a 2’-10” default height, a 4” roof line offset (for the backsplash), and a “Casework” Cleanup Group Definition assigned.
- Create a “Toilet Partition” Door and Wall style with a custom layer key pointing to a toilet partition layer as well as floor line offsets to keep them 12” off the floor
- Create tools for “Demolition” and “Existing” wall styles with custom layer keys pointing to the correct layers (i.e. “A-Wall-D” and “A-Wall-E”)

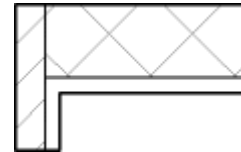


6 Create a Standard Priority List

Each wall style is made up of one to twenty components and each component has its own priority for cleanup. The lower the number, the higher the priority:

Index	Name	Priority	Width	Edge Offset
1	Brick	810	4"	3 1/2"
2	Air Gap	700	2"	1 1/2"
3	Rigid Insulation	600	1 1/2"	0"
4	CMU	300	8"	-8"
5	Stud	500	7/8"	-8 7/8"
6	GWB	1200	5/8"	-9 1/2"

If you keep consistent priorities for all your wall components, your walls will cleanup better. For example, if you draw a wall with CMU and furring components to a wall with brick and furring components, consistent priority numbers will allow the furring from both wall styles to cleanup while the brick and CMU will not:



There are three different methods to use when deciding on your priority standard: by status, by material, or using the Architectural Desktop defaults. The following outlines all three methods.

By Status

One method is to base the wall component priorities on the status or construction type. This is usually better suited for interior architectural work. The following table is an example:

STATUS	PRIORITY
Existing/Core	100
Framing	110
Millwork	120
Base	122
Overheads	124
New	200
Rated	210
2 Hour	212
1 Hour	214
Slab to Slab	220
Grid Break	230
Floor to Ceiling, Furring	240
User Defined	242
Low Walls, Partitions	250
Glass Walls	260
Millwork	270
Base	272
Overheads	274
Demolition	300
Framing	310
Millwork	320
Base	322
Overheads	324

By Material

Another method is to base the wall component priorities on the material of the component. This is usually better suited for base-building architectural work. The following table is an example:

MATERIALS	EXISTING	NEW	DEMO
Concrete	10	110	210
Poured	11	111	211
CMU	13	113	213
Framing	20	120	220
Metal Stud	21	121	221
Wood Stud	23	123	223
Exterior Finishes	30	130	230
Airspace	31	131	231
Brick	33	133	233
Stone	35	135	235
EIFS / Stucco	37	137	237
Siding	39	139	239
Interior Finishes	40	140	240
Countertop	41	141	241
Glass	43	143	243
Tile	45	145	245
Paneling	47	147	247
Gypsum Board	49	149	249
Insulation	50	150	250
Batt	51	151	251
Rigid	53	153	253

Architectural Desktop Defaults

Architectural Desktop includes hundreds of wall styles out-of-the-box. If you choose to base your wall styles on those, the following table outlines the component priorities used.

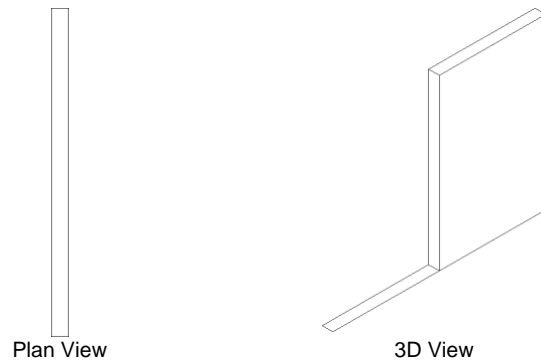
The methods outlined above are merely a starting point. Choose a method that is best for your type of work and modify it to fit your needs.

WALL COMPONENT	PRIORITY	WALL TYPE
Air Gap	499	Stud
Air Gap	700	CMU
Air Gap	700	Stud with Brick
Air Gap (Brick Separation)	805	Brick
Air Gap (CMU)	305	CMU
Brick	810	CMU
Brick Veneer	810	Brick
Brick Veneer (Structural)	800	Brick
Bulkhead	1800	Bulkhead
Case - Backsplash	2030	Casework
Case - Base	2010	Casework
Case - Counter	2020	Casework
Case - Top	2000	Casework
CMU	300	CMU
CMU (Veneer)	350	CMU
Concrete	200	CMU with Footing
Concrete (Footing)	200	Concrete
GWB	1200	Brick
GWB	1210	Stud - only for outside second layer
Rigid Insulation	600	CMU
Rigid Insulation	804	Brick
Sheathing	600	Stud
Siding	900	Stud
Stud	500	Brick
Unnamed	1	Standard

7 Create Endcaps with an Open End

You can create wall endcaps with open ends by adding a width (anything greater than 0) to the polylines you use to generate your endcaps. This can be done for an entire endcap or just one wall component.

This can be useful if you are modifying a large drawing that was drawn with just lines but you need to add walls to just a small section of that drawing. An open endcap will allow you to draw wall objects for the new work while still leaving the old lines.



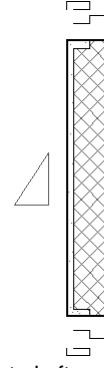
8 Draw Endcaps Right to Left

Always draw wall endcaps from the right face of the component to the left face of the component, not necessarily counterclockwise (as is usually published).

Drawing the wall from South to North will help you establish which is the left and which is the right face:

CORRECT

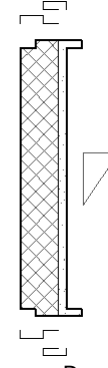
Drawn Right-to-Left
(counter-clockwise)



Drawn Right-to-Left
(clockwise)

INCORRECT

Drawn Left-to-Right
(counter-clockwise)



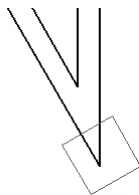
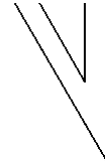
Drawn Left-to-Right
(clockwise)

9 Use Mass Elements for Difficult Wall Cleanups

Sometimes walls do not cleanup exactly as they would be built. Because of this, you may need to do some extra work to get them to display exactly as intended.

The following example uses two walls cleaning up at a sharp angle. The resulting pointed intersection does not represent the true construction.

To fix this problem and give the wall a butt end, follow these steps:

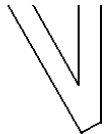
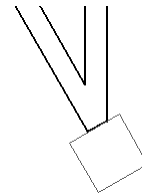


1. Insert a Mass Element

Add a mass element the correct size and shape to mask the problem. Make sure to size it big enough (including the height). This example uses a "Box" mass element.

2. Add an Interference Condition

Highlight the walls, right-click, go to "Model Tools", and choose "Interference." Use the "Add" option, select the Mass Element, then choose "Subtractive" for the shrinkwrap plan effect.



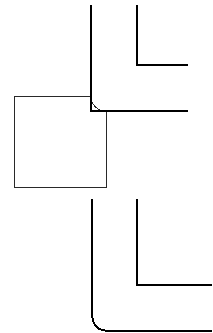
3. Freeze the Mass Element

Finally, place the mass element on its own layer (preferably a non-plotting layer) and freeze it or turn it off. A suggestion would be to have a layer just for these situations such as: "A-Wall-Nplt"

10 Use Body Modifiers to Create a Bullnose

You can create rounded wall corners (bullnoses) using Wall Body Modifiers. Follow the steps below:

Create either a 3D Solid or Mass Element in the shape of a square with a "bite" out of the corner (a quarter-round piece with the same radius as the desired bullnose). Insert it at the wall corner like the example. You may want to create a block for each bullnose radius that resides in your template.



Subtractive Body Modifier

Highlight the first wall, right-click and choose "Body Modifiers", then "Add...". Select the body you created, choose component of the wall to add the bullnose, and set the operation to be "Subtractive", give it a description, but don't erase the original so you can use it for the other wall. Finally, repeat the process for the other wall, this time checking the box to have the Body Modifier erased.

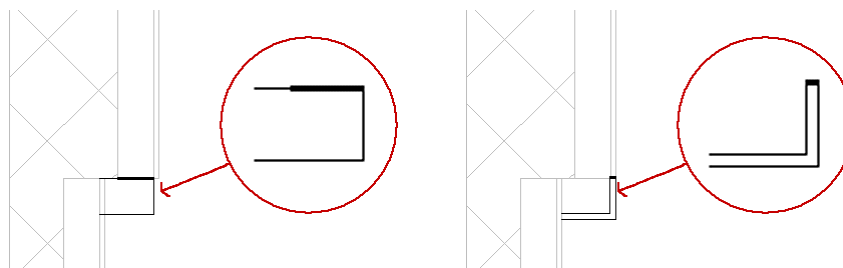
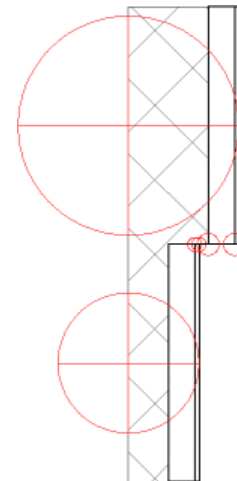
11 Use Wall Modifiers for Complex Cleanups

When components change width from one wall to the next, sometimes the other components cannot adjust and cause a defective wall cleanup. In this example, the CMU becomes wider and the stud furring does not know how to cleanup properly.

You can make the furring and gypsum board wrap around the CMU and continue on without a defect by using wall modifiers with open ends.

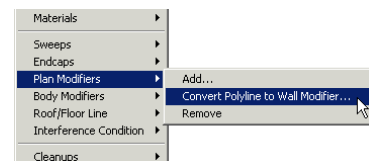
1. Draw Polylines

First, draw a polyline for each component you need to fix (in this example, one for the furring and one for the gypsum board). Draw the polyline so that it starts and ends from one side of the component. Do not draw a closed polyline, leave it open. When drawing the polyline, make sure to keep the width of the polyline set to zero (0), except where it connects to the same component on the other wall segment. The following picture shows the two walls segments with the defect, the polyline to use for the stud component drawn in bold, and an enlarged view of that same polyline. Notice the segment of the polyline with its width set to something greater than zero.

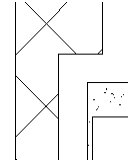


2. Convert Polylines to Wall Modifiers

After the polylines are drawn, place them in their correct position. Then, highlight the wall the polylines start from, right-click, and choose "Plan Modifiers > Convert Polyline to Wall Modifier..."

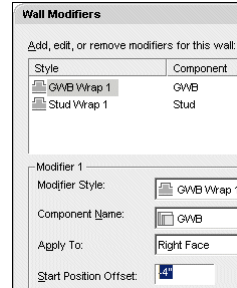


Follow the prompts to erase the polyline, give the modifier a name, and then choose which component is being modified when the dialog box prompts you. Repeat for the other modifiers if necessary. Sometimes, because you are placing a modifier so close to the end of a wall, the modifier may shift away from that end. Notice how the Gypsum Board has shifted.

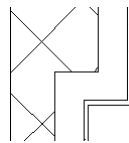


3. Change the Position of the Wall Modifier

You can edit the position of any wall modifier through the wall properties by clicking the small grey icon next to the "Plan Modifiers" property. There you will be able to highlight the shifted Gypsum Board modifier and change the value for the "Start Position Offset" to 0".



The final product should look like this:



12 Change Insertion Points on Multi-View Blocks

When inserting certain multi-view blocks from the DesignCenter, you may have noticed some extra points on them. These extra points allow you to change their insertion points as you add them.

Changing Insertion Points

Just double-click on the multi-view block from the DesignCenter to bring up the "Add Multi-View Block" dialog box. When you see the block on your cursor, simply tap the CTRL key and it will cycle through all the extra insertion points.

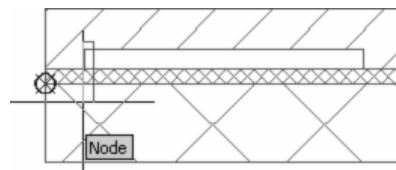


Creating Your Own Extra Insertion Points

You can create your own extra insertion points in your multi-view blocks by adding POINT's to one of the view blocks of your multi-view block (usually the one shown in the Top view). Just place these points on the DefPoints layer and they will be recognized whenever that multi-view block is inserted.

13 Take Advantage of the NODE OSnap

The most effective way to get walls to cleanup correctly is to have their "grip lines" match up. Sometimes it is difficult to know where another wall's grip line is located. Using the NODE Object Snap (OSnap) will allow you to snap directly to the endpoint or midpoint of a wall's grip line.

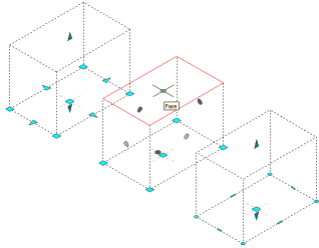


14 Don't Use Solids for Multi-View Blocks

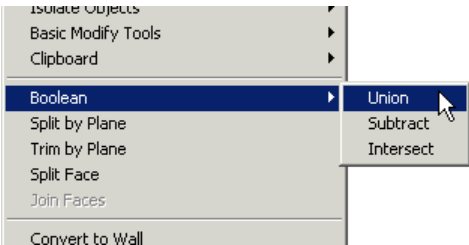
ACES Solids, a standard AutoCAD entity, are the preferred tool for AutoCAD 3D modeling. But, there is a better option to use when creating the 3D view blocks for Multi-View Blocks, instead use Mass Elements. Here are the advantages...

Easier to Edit

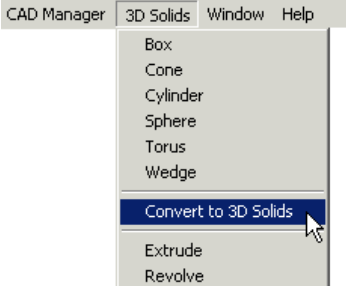
They are easier to edit because sizes can be easily adjusted with trigger grips. Depending on the way the Mass Element is created - either by adding one using a primitive shape (box, cylinder, etc.), converting a closed polyline, or converting a 3D solid - will yield different types of trigger grips including: edge, face, location, and vertex.



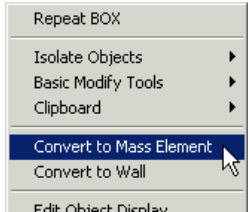
They also support Boolean operations (add, subtract, union) just as 3D Solids do as well as other functions such as trimming by a plane or splitting by a plane or a face:



The only operations Mass Elements do not support that 3D Solids do is Fillet and Chamfer. To get around this, you can convert a Mass Element to a 3D Solid to use these two commands:



Then convert it back to a Mass Element when you are finished:

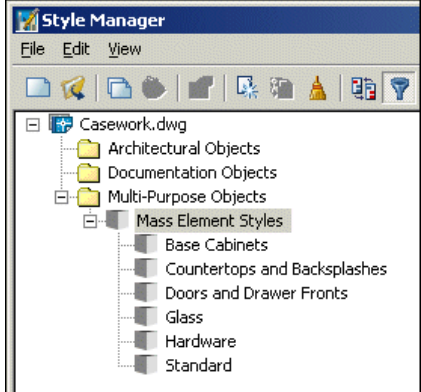


More Efficient

Mass Elements not only result in a smaller file size, but are more efficient than 3D Solids when shading and rendering.

Contain Materials

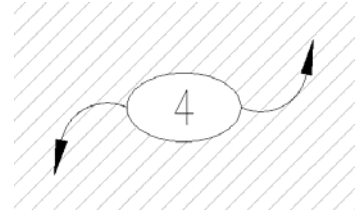
You can create different Mass Element Styles based on the Material you want to represent and then assign that Material to the style. For example, you could create Mass Element Styles such as "Countertops and Backsplashes", "Base Cabinets", "Doors and Drawer Fronts", and "Hardware" to use when creating components to use for casework Multi-View Blocks.



15 Add Wipeouts to Symbols

Instead of constantly having to trim linework and hatch inside of your furniture and annotation symbols, add a Wipeout to each symbol so they can hide anything behind them.

Just make sure to use the DRAWORDER command to move the Wipeout to the back of the symbol and to turn the frames off in your template (using the IMAGEFRAME command). If you have 2006, you can set it to "2" which will keep the frames from plotting.



16 Create Custom Components

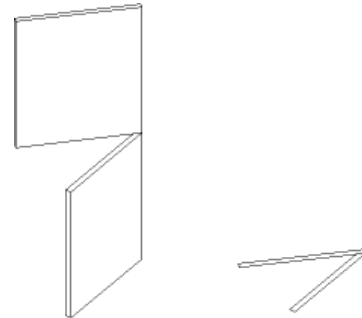
It is possible to add your own components to objects, such as hardware and panels to a Door or a custom mullion profile to a Curtain Wall. Many objects allow you to add your own custom components by creating standard blocks and attaching them to one or more Display Representations of an object. These objects include:

- Openings, Doors, and Windows
- Door/Window Assemblies
- Curtain Walls and Units
- Railings
- Structural Members

These are the general steps you would take to create a custom component:

1. Draw Your Custom Component

Use lines and polylines for 2D geometry, Mass Elements for 3D. In this example, the custom components are the panels on a Dutch door.



2. Set All the Properties

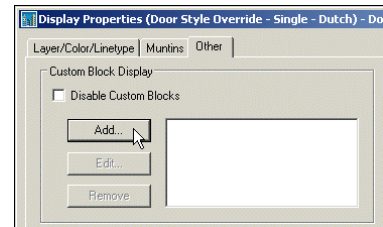
Set the layer, color, linetype, and lineweight to "BYBLOCK" – this is important and will be necessary if you ever want to modify the display properties of that component (i.e. so that the component you created as door hardware shows up with a different color in 3D view versus the door panel).

3. Make a Block

Turn it into a standard AutoCAD block, making note of its insertion point.

4. Add the Custom Block to the Style

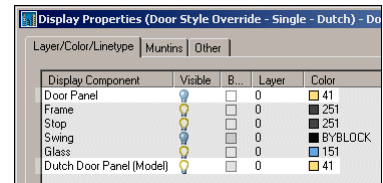
Go to the "Other" tab in the Object Display Properties of the object to change (modify at the Style level or Object level, never at a Drawing Default level).



Attach your custom component to each Display Representation that is appropriate and change the settings for where it is inserted and how it scales (in this example, there is a 2D block of the door panel attached to the "Plan" Display Representation and a 3D block attached to the "Model" one).

5. Change the Display Properties

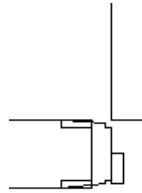
Modify its properties on the "Layer/Color/Linetype" tab for each Display Representation.



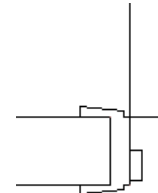
17 Have Those Custom Components Automatically Resize

The custom blocks you create for objects (see the previous tip called "Create Custom Content") can automatically size themselves to fit in all three directions (X, Y, and Z). Whenever these calculations are made to automatically resize, they are based on the overall extents of the custom block. This may not always be what is desired.

The following example shows a custom door frame that is resizing based on its overall extents. You will see that because of this, the casing ends up inside the wall (since it is fitting to the wall width).



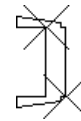
This is how the frame should react.



This can be accomplished by adding POINT entities to the custom block and placing them on the DefPoints layer. For this example, the original block looked like this:



The POINT's were added to the opposite corners of the jamb. This way, the width of the custom block is sized based on the extents of the POINT's on the DefPoints layer and not the overall extents of all the geometry. Now, the custom block will change its width so that the jamb matches the wall width.



18 How Best to Define Display Properties

Whenever editing the Display Properties of all object components, it is best to follow these two rules. They will give you more flexibility by allowing components to be controlled by layers as well as make your consultants happy when they receive your drawings.

0, ByBlock

Choose Layer 0 for the layer, then set all properties to "ByBlock". This will cause the component to take on all the properties of whichever layer the object is inserted.

Layer, ByLayer

If you need a particular component to be different than the object layer, then set that layer and change all the other properties to "ByLayer".

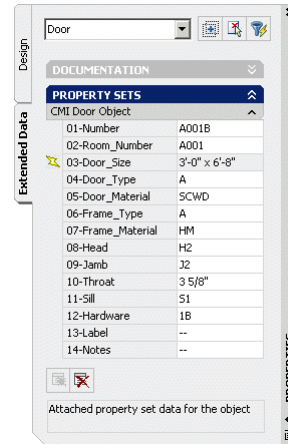
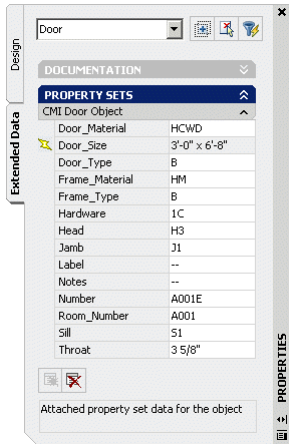
Display Component	Visible	By Mat...	Layer	Color	Linetype	Lineweight
Below Cut Plane		<input type="checkbox"/>	A-Wall-Prht	BYLAYER	ByLayer	ByLayer
Above Cut Plane		<input type="checkbox"/>	A-Wall-Head	BYLAYER	ByLayer	ByLayer
Shrink Wrap		<input type="checkbox"/>	0	BYBLOCK	ByBlock	ByBlock
Shrink Wrap Hatch		<input type="checkbox"/>	0	BYBLOCK	ByBlock	ByBlock
Defect Warning		<input type="checkbox"/>	A-Anno-Nplt	BYLAYER	ByLayer	ByLayer
Boundary 1 (Metal Stud)		<input checked="" type="checkbox"/>	0	BYBLOCK	ByBlock	ByBlock
Hatch 1 (Metal Stud)		<input checked="" type="checkbox"/>	0	BYBLOCK	ByBlock	ByBlock

19 Organize Schedule Data

Schedules allow you to extract information from objects and entities that can be placed in tables for reference. This schedule information can either be automatically generated from the properties of the object (such as size), or can be manually assigned (such as material and cost).

When you design your own Property Set Definition containing the different properties you would like to schedule (i.e. door number, width, height, remarks, etc.), those properties will be listed alphabetically when you use the "Extended Data" tab of the Properties palette:

Instead, add a number before each property so that they end up in a more logical order:



This way, when you edit the different properties, they are displayed in the same order as your schedule table, making it less confusing.

DOOR SCHEDULE													
DOOR TAG	ROOM NUMBER	DOOR SIZE	DOOR TYPE	DOOR MAT.	FRAME TYPE	FRAME MAT.	HEAD	JAMB	THRT	SILL	HWR.	IP	NOTES
A001A	A001	3'-0" x 6'-8"	A	SCWD	A	HM	H1	J1	3 5/8"	S2	1A	---	1 HR. RATEC
A001B	A001	3'-0" x 6'-8"	A	SCWD	A	HM	H2	J2	3 5/8"	S1	1D	---	
A001C	A001	3'-0" x 6'-8"	B	HW	A	HM	H2	J2	3 5/8"	S1	1B	---	---
A001D	A001	3'-0" x 6'-8"	B	HW	E	HM	H1	J1	3 5/8"	S1	1C	---	---
A001E	A001	3'-0" x 6'-8"	B	HW	E	HM	H2	J1	3 5/8"	S1	1C	---	---

Some Things to Consider

If you use this technique, make sure you update the attribute definition in your schedule tag (more specifically, the plan View Block of the Multi-View block definition used for the schedule tag) to account for the added number in front of the property. See the tip called "Creating Tags for Scheduling" for more information.

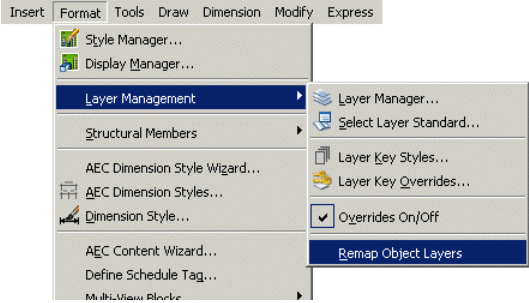
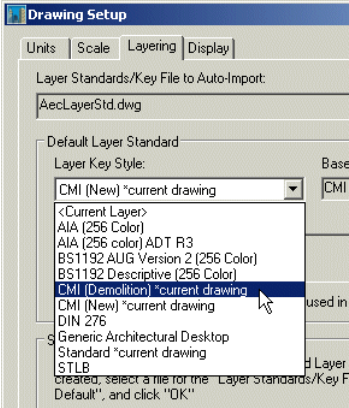
20 Use Layer Key Styles to Change the Status of Objects

Even though AEC Objects (walls, doors, windows, etc.) are "keyed" to a particular layer upon insertion, they can also be re-keyed to a different layer afterwards. In other words, you can move an entire set of objects, without selecting them individually, to different layers with one command.

A good example of this would be to take an existing drawing and move part or all of the objects to their corresponding demolition layers (i.e. doors would move from "A-Door" to "A-Door-D"). This can be achieved by using two different Layer Key Styles - one for your new work and one with the layers adding the "-Demo" or "-D" status field at the end of the layer name (as well as changing the color and linetype).

Have the new work Layer Key Style set current for most of your drawings, but when you're ready to make a Demolition plan, set that Layer Key Style current:

Then, use the "Remap Object Layers" command accessed from the "Format" pulldown, then choosing the "Layer Management" option (for ADT 3 and 3.3, from the "Desktop" pulldown, "Layer Management"):



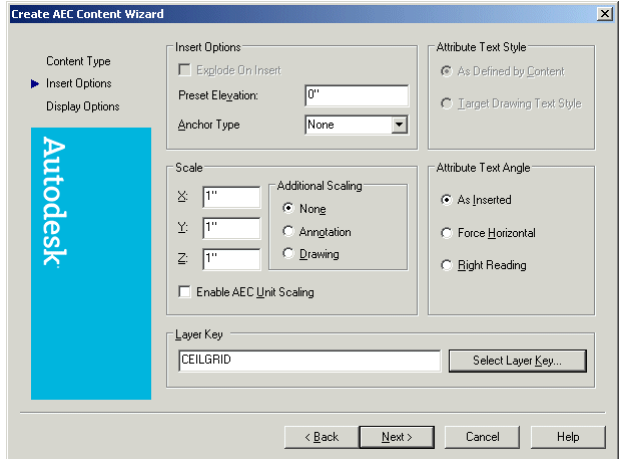
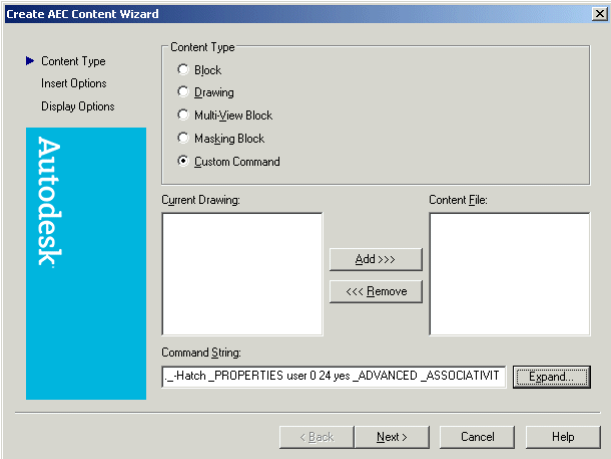
Finally, select the objects to change and use the "ByObject" option.

21 Use the DesignCenter for Standard Commands

Only Objects use Layer Keys, allowing them to automatically place themselves on designated layers. But, you can make entities behave the same way by placing standard AutoCAD commands in the DesignCenter using the AEC Content Wizard. Then, you can either drag-and-drop that command from the DesignCenter, or you can place it on a tool palette for one-click access.

Just use the "Custom Command" option and type in the command in the "Command String" field:

Then, on the next window, assign a Layer Key:



22 Use Meaningful Colors

Everyone is accustomed to AutoCAD colors equating to lineweights (as well as plotted color and screening) when plotting. There are a few other ways to use colors in AutoCAD.

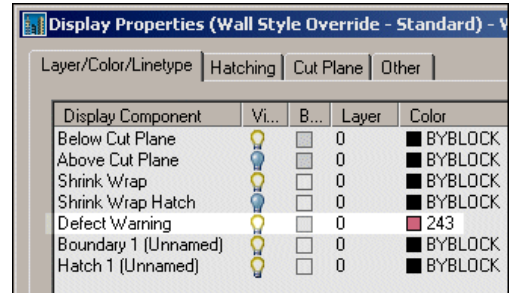
"Wrong Layer" Color

Select a color to let users know that any object with that color is on the wrong layer and needs to be moved to the correct layer. A good way to utilize this is to make layer "0" this color so that users know to not keep objects on that layer.

Non-plotting Color

Reserve a color so that your users will know that whenever they see that color, that object will not plot out, regardless of what layer it is on. Use this color for the following:

- All non-plotting layers such as DefPoints, Viewports, etc.
- Assign it to AEC Object components that should be visible, but not plotted, such as defect warnings, markers, baselines, etc.

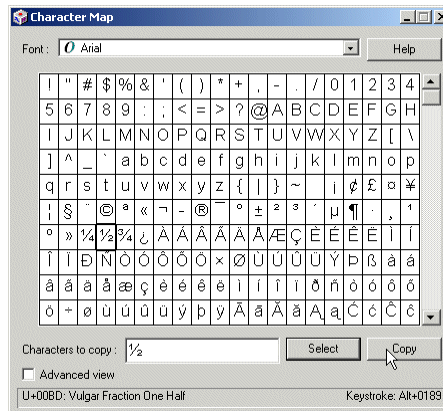


23 Use Special Characters for Names

Even though you cannot use system characters (such as / \ ? :) to name items (such as layers, object styles, layouts, etc.), there is another way. The Windows Character Map will allow you to use special characters such as ¼, ½, and ¾. It is usually found from:

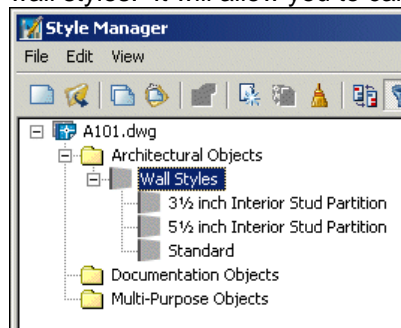
Start > Programs > Accessories > System Tools > Character Map

You may have to change the font (from the top pulldown) to Arial, but then you can double-click on the character you want and then choose the "Copy" button. Not all characters will work; you will need to experiment with different ones.

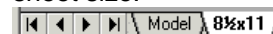


Examples

One way to take advantage of special characters is with wall styles. It will allow you to call out actual sizes:



Another way is to name layouts by their sheet size:



24 Simple but Helpful LISP Routines

Many people see the term “LISP” and assume you need to be a programmer to work with it. That’s not the case. Use the following diagram to design your own LISP routines that will use AutoCAD and ADT commands, including their options.

```
(defun c:ZE ()(command "._zoom" "extents")(princ))
```

ZE

Replace this with whatever you want to type in at the command line to run your new routine.

._zoom

Replace this with the actual AutoCAD or ADT command. The “.” part is there to make sure it uses the English version of the command, even if it is undefined.

extents

Replace this with any options for the command. You can put more than one option and these are some helpful ones”

- "" – use this to represent an <ENTER>
- pause – use this (without the quotes) to wait for input, like to pick a point

Just type these in Notepad, then save the file as “Acad.lsp” in your support file search path. Now, you will be able to use these routines on any drawing. Here’s some of my favorites:

Zoom Extents

```
(defun c:ZE ()(command "._zoom" "extents")(princ))
```

Zoom Extents then zoom out 10%

```
(defun c:ZZ ()(command "._zoom" "extents")(command "._zoom" ".9x")(princ))
```

Zoom to 1/8" = 1'-0" scale

```
(defun c:Z8 ()(command "._zoom" "1/96XP")(princ))
```

Thaw all layers

```
(defun c:LTA ()(command "._-layer" "thaw" "*" "")(princ))
```

Offset 6 inches

```
(defun c:6 ()(command "._offset" "6"))
```

Break at a single point

```
(defun c:BA ()(command "._break" pause "first" pause "@")(princ))
```

Purge everything in the drawing

```
(defun c:PG ()(command "._-purge" "all" "*" "no")(princ))
```

All of these Tips and Tricks and more can be found at: www.caddmicrosystems.com/adt