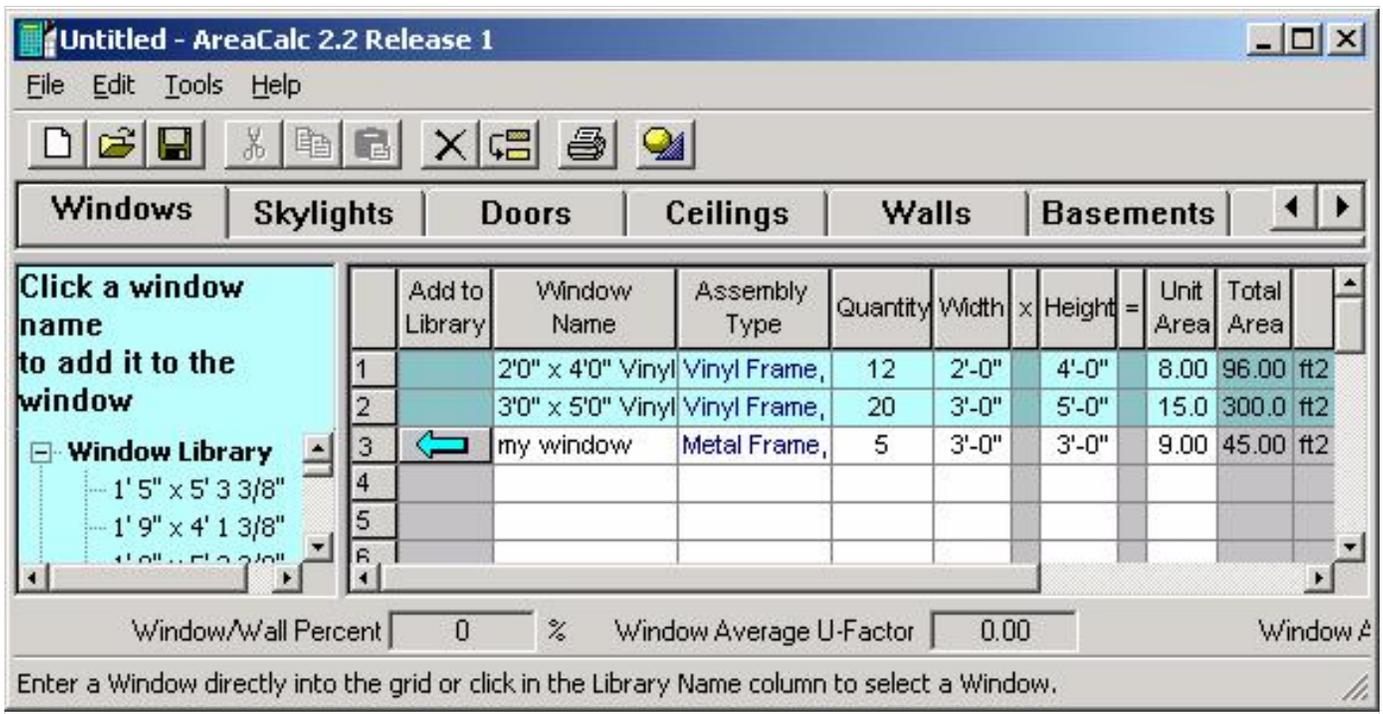


## About the AreaCalc Software

AreaCalc is a tool to simplify the process of calculating the building areas needed to demonstrate energy code compliance. A spreadsheet-like interface is used to calculate window, door, skylight, roof, wall, and floor areas. These areas can then be transferred directly into RES *check* where the code compliance results for those assemblies can be displayed.

Completing a building area take-off includes recording and adding the areas of different building components (e.g. windows, doors, walls, etc.) within the building. Building take-offs are primarily used to estimate the material requirements for a project. Several of these areas are also required for building energy code compliance. This preliminary step is often the most time-consuming part of energy code compliance; the AreaCalc tool was developed to simplify this step.



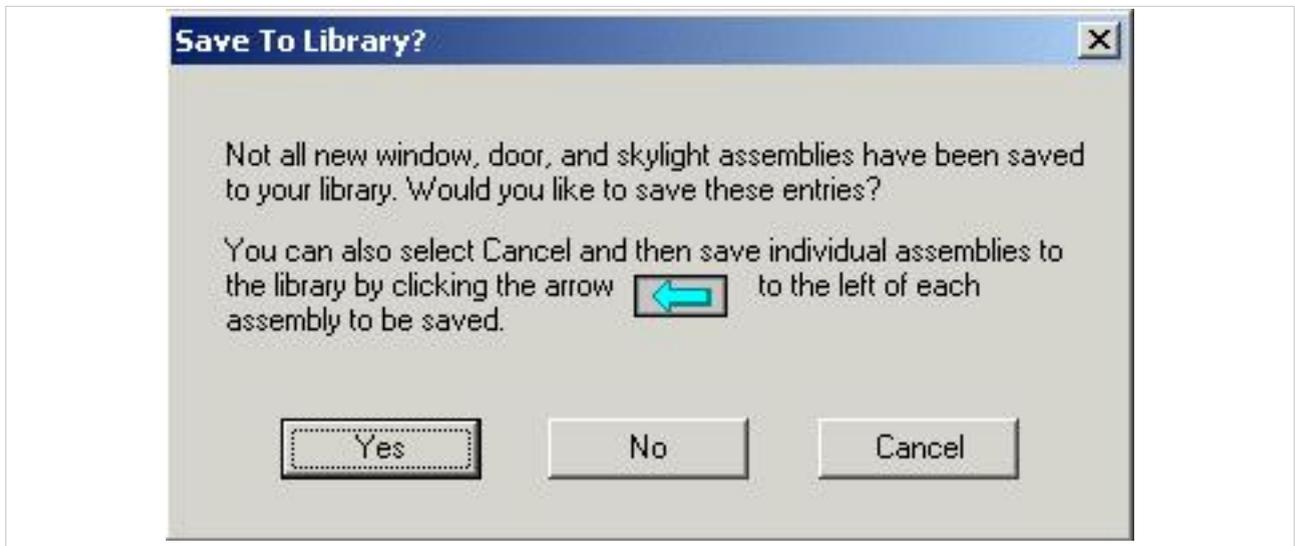
	Add to Library	Window Name	Assembly Type	Quantity	Width	x	Height	=	Unit Area	Total Area
1		2'0" x 4'0" Vinyl	Vinyl Frame,	12	2'-0"		4'-0"		8.00	96.00 ft2
2		3'0" x 5'0" Vinyl	Vinyl Frame,	20	3'-0"		5'-0"		15.0	300.0 ft2
3	←	my window	Metal Frame,	5	3'-0"		3'-0"		9.00	45.00 ft2
4										
5										
6										

Window/Wall Percent: 0 %    Window Average U-Factor: 0.00

Enter a Window directly into the grid or click in the Library Name column to select a Window.

Window information can be entered directly into the appropriate table or by selecting from the library. To enter from the library, click on the Library List, which is on the left hand side of the screen and select the desired window from the window library list. Update the Quantity field to reflect the number of windows of that type. The total area (unit area times the quantity) for that window is calculated and displayed in the Total Area field. Doors and skylights are entered similarly.

To add a window to the library, enter a word or short phrase that can be used to identify the window in the Window Name field and assembly type and dimensions in the table. Optionally, you can also enter the window U-factor, SHGC, and/or a description. Once this information has been entered, the left arrow icon will appear under the Add to Library field. Click the arrow to add the window to the library list. Once a window is added to the library the corresponding row is displayed with a light blue background. Door and skylight assemblies are added to the library similarly.



The dialog box (shown to the left) will appear if there are unsaved library assemblies in the grid when exiting or opening an existing or new file. This option will allow the user to save all unsaved data to the library or cancel and save only individual assemblies using the left arrow icon to save to the library.

Windows and doors that are saved in the Library of AreaCalc are saved in an application folder called `areacalc.acd` in the RES *check* file directory. If the user installs a new version of RES *check* and does not want to lose their currently saved data in the AreaCalc library application folder, the user must first copy the file called `areacalc.acd` in the existing RES *check* file directory and paste it within the new RES *check* version file directory. (Default location is `C:\Program Files\CheckRES\check`).

To enter ceilings, walls, and foundations in AreaCalc, left-click the Assembly Type field and select the appropriate assembly type from the drop-down menu. Provide the width and height or length of the assembly or provide the gross area in the appropriate column. For slab floors, input a perimeter length. These assemblies are not stored in a library.

AreaCalc calculated area totals are given at the bottom of the screen. The software initially displays the assembly Area Total, U-Factor Average, and the Window/Wall Percent (the total window area divided by the gross exterior wall area, expressed as a percentage). Area totals reflect the total gross area of all assemblies in a given worksheet. Additional totals can be viewed by selecting **Tools->View Computed Data**. The area fields displayed at the bottom of the screen can be changed by selecting **Tools->Preferences**.



Computed Data		
Window/Wall Percent	25	%
Window Area Total	441.00	ft2
Window Average U-Factor	0.00	
Window Average SHGC	0.00	
Skylight Area Total	0.00	ft2
Skylight Average U-Factor	0.00	
Skylight Average SHGC	0.00	
Door Area Total	80.00	ft2
Door Average U-Factor	0.00	
Gross Ceiling Area Total	2000.00	ft2
Net Ceiling Area Total	2000.00	ft2
Gross Wall Area Total	1800.00	ft2
Net Wall Area Total	1279.00	ft2
Basement Wall Area Total	0.00	ft2
Floor Area Total	2000.00	ft2
Slab Perimeter Total	0.00	ft
Crawl Wall Area Total	0.00	ft2
Area Subtotal (total of all selected rows)	0.00	ft2

Select **Tools->Transfer Data to RES check** to transfer all assemblies to the RES *check* software. You may need to alter linkages between windows, doors, and skylights to walls and windows or provide additional information for the transferred components. Missing data is shown in red on the Envelope table. If RES *check* is not currently running, AreaCalc will attempt to start it.

Print a list of all windows, doors, and skylights in your library by selecting **File->Print Library** . Print a report listing all assemblies for a given building by selecting **File->Print** . To save the assemblies for a given building, select **File->Save** .



The shape calculator allows the dimensions of non-rectangular shapes to be entered. The gross area of these shapes is computed for you. Choose **Tools->Shape Calculator** or click the shape calculator icon.

Assemblies can be marked as exempt by right-clicking the mouse in any non-editable field and selecting Mark Row As Exempt from the pop-up menu. Exempt rows are not included in any area totals and are not transferred to RES *check*. This may be useful for situations where an assembly is entered for one purpose but not needed for another. For example, windows in an unconditioned garage may be included in the Windows table for purposes of generating a window schedule, but should not be considered as part of the building envelope for energy code compliance purposes. By marking these windows as exempt, they will be included in the printed report, but will not be transferred to RES *check*. To unmark a row, right-click the mouse in any non-editable field of a marked row and select Unmark Row.

	Add to Library	Window Name	Assembly Type	Quantity	Width	x	Height	=	Unit Area	Total Area	
1		3'x5'	Vinyl Frame, Dou	9	3'-0"		5'-0"		15.00	135.00	ft2
2		3'x5'	Vinyl Frame, Dou	3	3'-0"		5'-0"		15.00	45.00	ft2
3		2'x4'	Vinyl Frame, Dou	2	2'-0"		4'-0"		8.00	16.00	ft2
4		3'x5'	Vinyl Frame, Dou	9	3'-0"						ft2
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											

Cut  
Copy  
Paste  
Delete Row(s)  
Duplicate Row(s)  
**Mark Row As Exempt**  
Add to Library  
Update in Library  
Delete From Library

AreaCalc comes packaged with the RES *check* software, beginning with version 3.2.