De-Mystifying AppliCad Software

Users of our software sometimes get confused by what is essentially a remarkably simple piece of technology. Since AppliCad invented this process let us now explain in simple terms how it works.

The key to the power of the AppliCad software is the 3D CAD engine and the modeling environment that AppliCad has created for modeling roofs and walls. By this, we refer to the line and plane types within the AppliCad Roofing products. These tools cover the vast majority of requirements for our users and allow any roof to be modeled, if the user understands the basic concepts of the software they can reach the desired result quicker than they may have thought possible.

Modeling in 3D and Scale
The roof is modeled in 3D. This is the single major advantage over the work that most estimators perform manually. In addition to this, the model is drawn at a 1:1 scale. What does this mean? Well obviously, the roof doesn't fit inside your computer screen extents, but zooming out it does. So, the software handles all of the visualization of the roof model automatically, including the opportunity to "look at" the roof from any position above or below it.

The benefit of the above functionality (3D modeling at a 1:1 scale) is that at any time the user can query the roof model and extract any dimension that they require. Do you have the opportunity to do this with manual estimating? In the example below we are demonstrating that the model we produced allows us to measure the distance between the eave line and the hip apex as 6,348.19mm (in the US/Canada we can just as easily change our units to measure 20' 10").
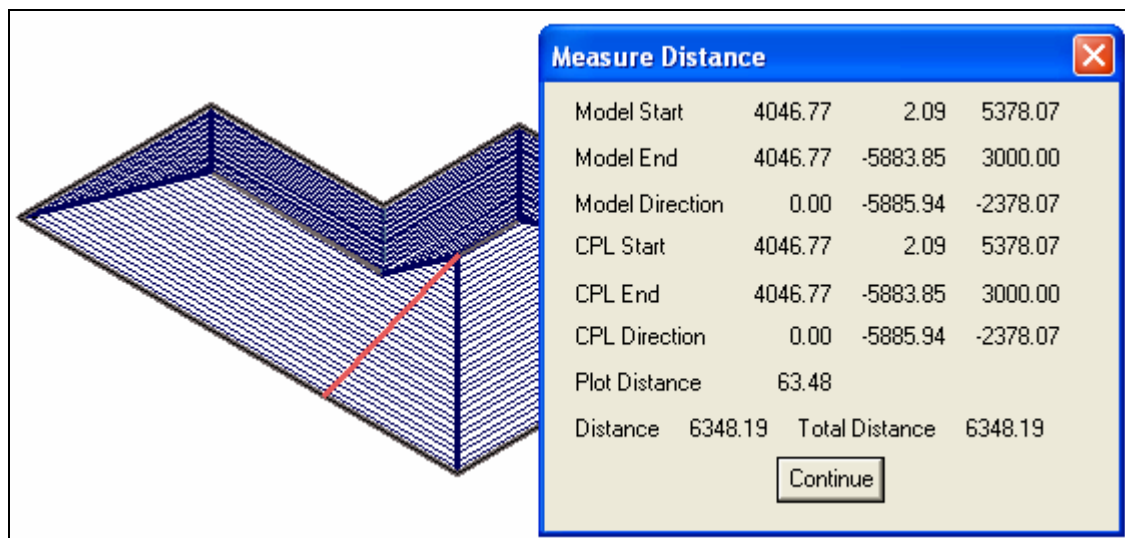

Figure 1 - *Eave to Hip Apex being Measured*

Line Types
In the AppliCad Roofing software, the software "guesses" line-types based on standard configurations we have programmed into it. The thing to remember here though is that line-types are simply pieces of information attached to a CAD line, plane or arc element. If we were to change a line-type label on a line in the software from an "EAVE" to a "BOX-GUTTER", then from the software's point of view, that line is a box gutter from that point onwards. The same is true for a "Metal" roof plane. If the user changes it to a "Tile" plane, then the software will consider the plane to be covered with tiles from that point onwards.

A lot of users can't get past this, but the software does what it is told. It makes suggestions as to what it believes is right based on the rules it is given, but these can be overridden at any time by the user. This is another feature of our software that not many other products provide. In the example on the following page, you can see the model above before and after an eave line has been changed from "EAVE" to "BOX-GUTTER".
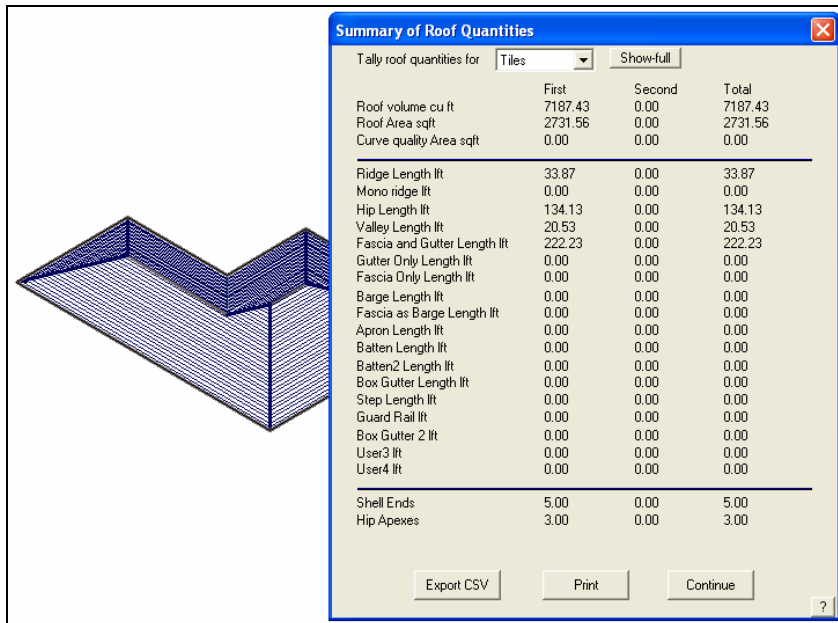

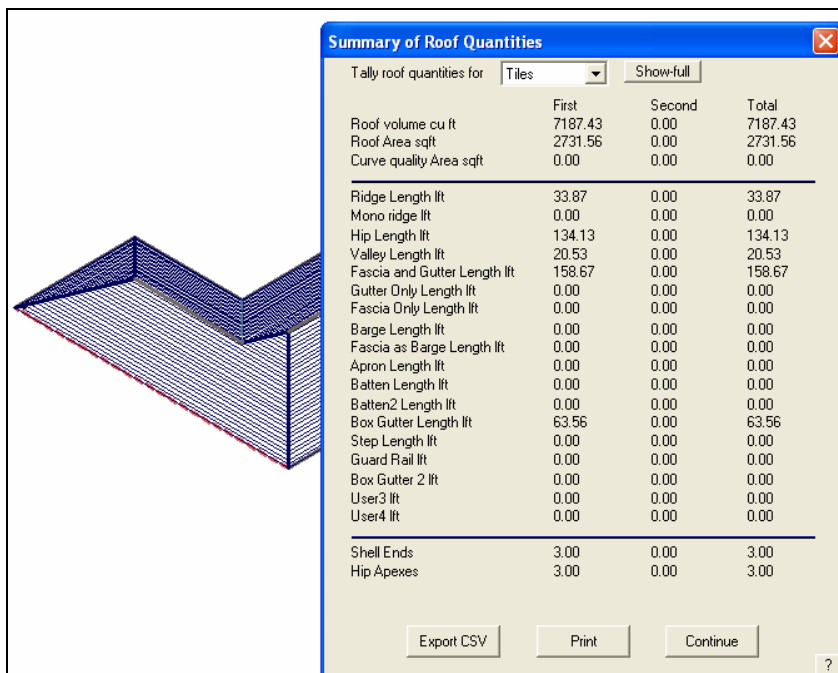**Figure 2** - *Eave Line prior to being modified. Notice roof quantities.*

Figure 3 - *Eave Line changed to Box-Gutter. Notice change to roof quantities.*

In the example above, the user has changed the line from Eave to Box-Gutter in what might be a real-life example. For instance, the roof may be on a wall boundary and thus for the line indicated, we may need to quote on box-gutter instead of standard gutter.

Linking of Data with the Model
Once the model has been created, the rest of the software functions perform the same sort of role as to what we would do manually, only in a much faster and more accurate manner. The creation of

flashing/trim records, sheetmetal records, tile records etc. all serve to inform the software what you already know about roof estimating from your years of manual estimating. For instance, if you are a tile roofer and you want to use a specific tile type that is not already in the system, you just get the specification sheet from the manufacturer and enter it. All up this should not take more than 5 minutes and then it is available to use in the software for all time. This is the philosophy of the software, enter once, use forever.
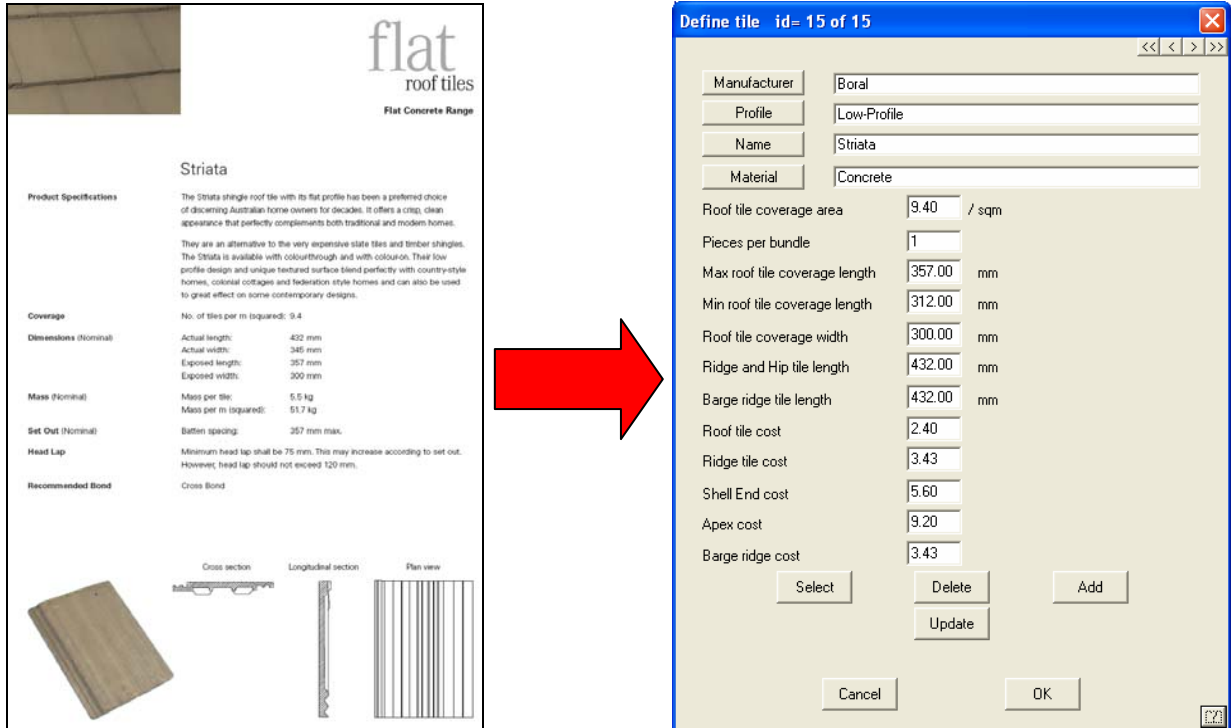

Figure 4 - *Example of a user entering a tile type into the software*

The software then simply links the flashings/trim, cladding materials and other roofing and cladding components with the line and plane labels in the software to produce a list of components in exactly the same way that you would if you were estimating manually.

As an example here, we have calculated the number of tiles, ridge tiles, apex corners and hip starters that you would require for the roof displayed. This took the user 28 seconds to specify and calculate whereas to do this manually would obviously require considerably more time – possibly several hours.

Generating the Results / Reports

Once we have the quotation generated, the last and most powerful function of the software kicks in - allowing the user to output the information that has been generated in whatever format the user chooses. Twelve Report Templates and sixteen Drawing Templates are provided as standard in the software, and these templates along with the 4 extra (user defined) report templates can be modified to provide any output format. Once again the solution provided by AppliCad is remarkably simple.

For almost every value within the AppliCad software, a "key text string" has been pre-defined by AppliCad to match that value string. When a report is selected, the software processes that template and searches for these "key text strings". If it finds one, it extracts the value from the dialog value in the software and replaces it on the template in the same format (same font, size and colour) as the original text string. Thus, the printed result from the software looks exactly as the user requires it and provides all the information requested on the report template, direct from the software without any of the normal transcription errors that occur with manual estimating.
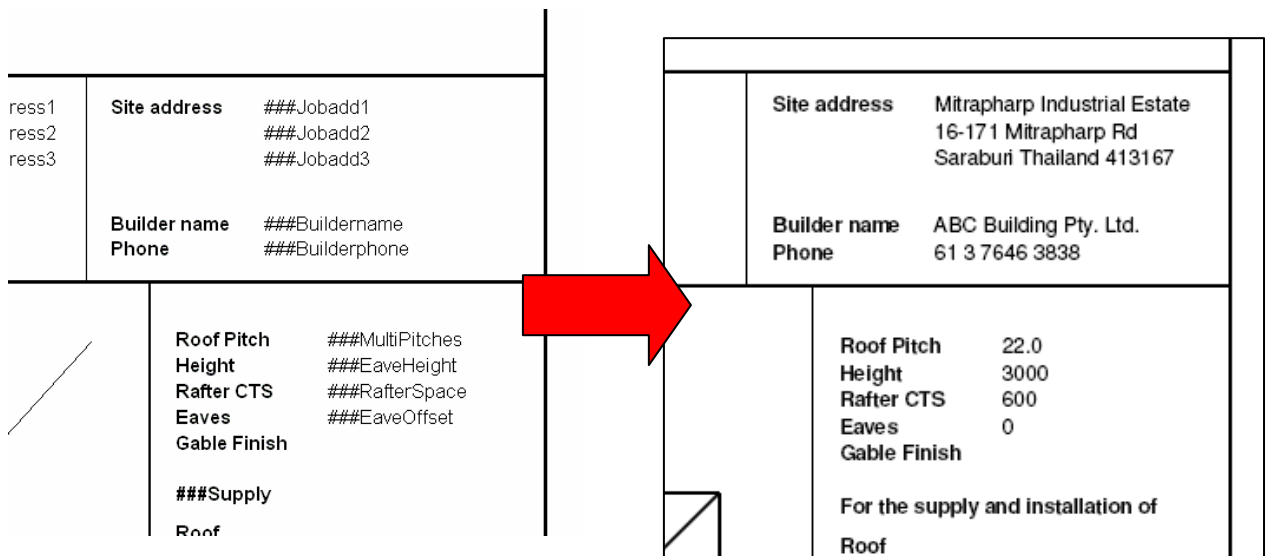

Figure 5 - *Template on left becomes report on right*

In addition to the report generation tools, AppliCad has also developed a suite of applications that permit the easy transfer of the resultant estimation and manufacturing data into accounting / inventory control systems etc.

All quite simple really.

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