applicad

Function Feature – Tile Course Method of Estimating

The case for using tile coursing instead of unit/area for determining tile quantities

In the past, most tile quantity surveyors or estimators have used the tile cover expressed as tile pieces per square metre (or tiles per square) when estimating tile quantities. This has served the industry well for many years and, within reasonable limits may continue to work well. That is if nothing better comes along.

The shortcomings of this method are immediately evident on large cut-up roof geometry or when the opportunity exists for the installer to add a course when they layout down the rafter. Multiply an extra course by the length of the perimeter and we need a whole bunch of tiles in a hurry!

Well, something better has indeed come along and now we can determine the tile quantity almost exactly. The process is very precise and as a result one must fully understand the process to gain maximum benefit.

In the first instance we must not concern ourselves with waste so much. Using old methods, a waste factor was how we took account of the extra pieces at the end of a course and the extra pieces we needed for cuts at hips and valleys, plus additional pieces to take account of chipped and broken tiles delivered by the supplier.

Using the coursing method developed by AppliCad, we account for the extra piece or two at the end of a course using the width tolerance (see picture below) and then we use the gauge tolerance to determine the spacing at which an extra course is added at the ridge line.

These numbers are set in the coursing dialogue box. The tall box on the right is the coursing dialogue for the regular Tiles database structure and the more compact box below is the Coursing dialogue for the Tiles+ database structure.

*Tolerance for **Width***   *Tolerance for **Gauge***

**Tolerance for extra course *or* Tolerance (Gauge)**

The tolerance value alongside the **Required Gauge** field allows you to set what amounts to a 'stretching' value. If the depth of the course at the ridge line is greater than the number specified, a course is added to the number of courses up the rafter.

The number is expressed as a decimal between 0 and 1. So if the tile cover length or gauge is say 400mm, and the tolerance is set to 0.1, then any time the space at the ridge between the last course and the ridge line is greater than 40mm requires another course to be added.

This process is duplicated on all roof planes.

Tolerance for extra tile/course *or* Tolerance (Width)

If the width of the tile at the end of a course line (X) is greater than the number specified, a tile is added to that course. The number is expressed as a decimal between 0 and 1 and is effectively calculated as **X/Y** (Y being the width of a full tile). For example, if the operator specifies a course tolerance of 0.5 on a tile that has an exposure width of 300mm, then for every instance where more than 150mm of course line remains at the end of that course line the software will add a tile to that course. This is duplicated for every course line on the job.
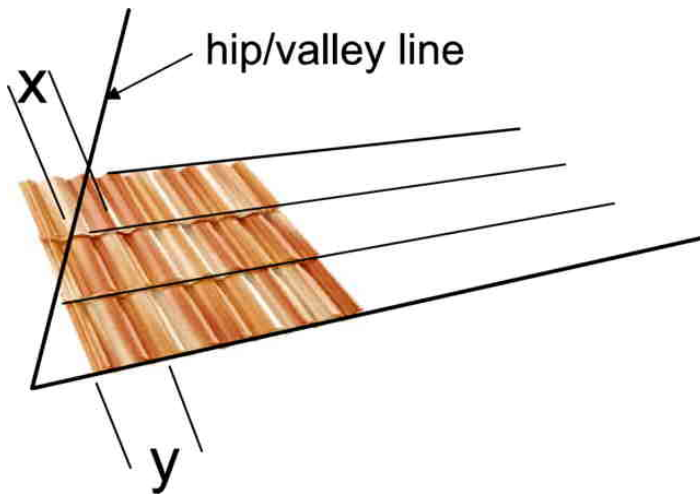
For any of these fields you can enter whatever values you like to obtain the result you desire.

When you click **OK**, coursing lines are inserted onto the roof planes. If you had selected counter battens, the lines depicting them would also be inserted.

In addition to the tolerance values, we can set values for tile waste. This is done in the Costing or Reports area – Tile Waste. Select the option and the following dialogue box appears.

Notice that the usual options exist for calculating waste based upon a percentage of tiles required. While this works, it is not taking account of the need for extras through breakage and/or cuts. All options are accounted for – if you do not need an option to be applied, it must be set to zero value. Do not leave an option blank. First we set Extra field pieces per course (if required). This may not be required if the tolerance setting described above is doing its job properly. The next in our list is Extra field pieces per length of hip and valley. This is usually used to account to cuts at the hips and valleys. It will be most noticeable when applied to a roof with lots of hips and dormers etc.

Then we set the waste to be determined based on a percentage. Once set you do not have to go back and reset a value unless you have a pressing need to change it for a particular tile type or profile.

Set Tile Waste/Roundup Values

Extra Field Pieces (per course) `0.00`

Extra Field Pieces (per length of hip and valley) `0.75`

Piece Type	Waste %	Roundup
Roof Tiles	0.00	5.00
Ridge Tiles	0.00	0.00
Mono-Ridge	0.00	0.00
Hip Tiles	0.00	0.00
Valley Tiles	5.00	0.00
Eave Tiles	0.00	0.00
Top Tiles	0.00	0.00
Left Verge Tiles	10.00	0.00
Right Verge Tiles	10.00	0.00
Special Tiles	10.00	0.00
Tile Battens	4.00	0.00
Tile Counter Battens	0.00	0.00
Left Step Tiles	0.00	0.00
Right Step Tiles	0.00	0.00
Apron Tiles	0.00	0.00
Fasteners	0.00	0.00

Cancel   OK

Once again, be aware that each option is applied in turn and is over and above extra pieces as determined by the tolerance values. If you do not wish a value to be applied, set it to zero.

This tutorial should help understand the specifics of using the preferred and more precise method of determining tile quantities using the tile course layout. Try it on a few jobs and see for yourself. Do not assume that the method you have been using for years based on area is necessarily correct. Unless you do a material audit at the conclusion of every job, then how do we know how much is in the bin or is taken away for other jobs! We can debate the merits of both methods for many hours and all we need is the most accurate quotation.

End.

CoursingTolerance.doc