Processes – Planning

Sketches & Working Drawings

When drawing freehand sketches a commonly used method is to make a three-dimensional pictorial sketch, known as a 3D sketch. However, the orthogonal drawing technique, using two-dimensional views, is very useful for including more information.

Production or working drawings can be done using 3D and 2D styles. They are done to a much higher standard than sketches and are always drawn using technical drawing equipment or Computer Aided Drawing software. They can include detail drawings, exploded views, scales and dimensions.

Material lists

A materials list or cutting list describes the parts necessary to make a product. It will include information about the dimensions, quantity of pieces required, what materials are used and other useful information. It is also linked to a drawing. A materials or cutting list is set out below.

No.	Description	Qty	L	W	T	Materials	Notes
This corresponds to the number on the drawing of the product.	The name of the piece.	How many of each piece is needed – quantity.	The Length of each piece, measured with the grain	The Width of each piece, measured across the grain	The Thickness of each piece, the remaining third dimension	Describes what the piece is made from	Information that is used to help make the piece or describe other properties
1	Top	1	1200	700	19	Particleboard	Solid timber applied to edges
2	Legs	4	500	42	42	Hoop Pine	Turned to Ø40 with Ø25 tenons 15 long each end
3	Rails						

Calculations & Project costing

Project costing is generally calculated using $/m for lengths of solid timber or $/m² for boards.

Knowing the $/m value of a timber, we can use the material list to add up the total length of timber required then multiply that by the $ value. The same can be calculated for boards and panels using the area of material used multiplied by the $ value for the panel.

Example 1:

A table has 4 legs. Each leg is shown in the 'L' column of the material list to be 700 in length and 70 square. The price for 70 square Hoop Pine is $22/m.

The total price for the four legs is worked out by multiplying the number of legs (4) by the length of each leg (700).

4 x 700 = 2800mm

2800mm converted to meters is 2.8m

Multiply the dollar value/m (22) by the total number of meters (2.8) for the legs.

22 x 2.8 = 61.6

The total price for the four legs is $61.60.

Example 2:

A table has 1 top. The top is 1300 'L' and 600 'W' by 19 ' T'. The $/m² value for this particleboard is $80.

Convert the 1300 and 600 from millimetres into meters by dividing by 100.

1300 = 1.3; 600 = 0.6

Convert this into m² by multiplying the 'L' by the 'W'

1.3 x 0.6 = 0.78

Multiply the area you just worked out by the $/m² value.

0.78 x 80 = 62.40

The total cost for the particleboard top is $62.40