Calculating the cost of Materials in the Shop

When building projects you need to be able to purchase materials for the job. Different materials are sold in different ways such as; linear feet/meter, square feet/square meters, board feet, cubic feet/cubic meters, etc.

Linear Feet/Linear Meter

Linear feet is the easiest. This means the material (mouldings, wire, piping, etc is sold by the foot or meter.

Example: You need 10 feet of wire. It costs $1.00 foot

10 feet x $1.00 = $10.00

Square Foot

1 square foot = 144 sq inches

12" x 12" = 144"   or   6" x 24"

Square foot is another easy calculation. It is simply the width times the length of the area that needs to be covered by a material (plywood, plastic, vinyl for t-shirts/signs, etc.)

Example. You are making a T-shirt for a friend. You need 6" wide and 12" long. The material costs $3.50 square foot.

6" x 12" = 72"   72" ÷ 144" = .5sqft   .5sqft x $3.50 = $1.75

Board Foot

You need to calculate the THICKNESS x WIDTH x LENGTH of the material (just like volume) as wood is sold in various thicknesses. You also need to calculate this based on a ROUGH state, as you will have to machine it to final size.

One board foot is 144 cubed inches
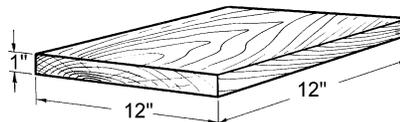
Example: 1 piece of Maple ¾" x 5 ¾" x 11" cost $4.00 bdft

- When calculating <u>thickness</u>, you round up to the <u>next inch</u> (wood is usually sold in 1" or 2")

- Width you add ½" (to allow for jointing/ripping straight)
- Length you add 1" (to allow for cutting both ends square and to final length)

  Therefore ;   1 piece 1" x 6" x 12"

- Next you multiply the 4 numbers together and divide it by 144 to get the number of board feet

$$\frac{1 \text{ piece x 1" x 6" x 12"}}{144} = \frac{72}{144} = .5\text{BDFT}$$

- Finally you multiply the number of board feet by the cost per board foot.

  .5bdft x $3.00 = $3.00