

HELPFUL HINTS FOR QUOTING BLANKS FOR BUDGETARY PURPOSES

The following information and examples may be useful for designers and purchasing personnel when doing budgetary cost estimates for a job. These calculations should only be used for optical blanks ranging from 0.5 to 3.5" diameter with quantities from 250 pcs to 10,000 pcs. For blanks over 3.5", standard raw glass formats may not meet the weight requirements. In those situations, please consider having a blank supplier do even the preliminary costing of the blank. The other caution that applies in doing this calculation is glass availability, form, annealing character and market pricing at the time of order will impact the final cost of the blank.

CALCULATION FOR ESTIMATING MOLDED BLANK WEIGHT:

Assumptions are that dimensions are given in inches and density is given in grams/cm³ so each example includes this conversion.

1. Rectangle: length x width x thickness x density

ex: BK-7 material (3.000" x 2.54cm) x (2.000" x 2.54cm) x (.500" x 2.54cm) x 2.53 g/cm³

$$= 124.37 \text{ g or convert to pounds} = \frac{124.37 \text{ g} \times (1 \text{ lb})}{453 \text{ g}} = .275 \text{ lbs.}$$

2. Square: length x width x thickness x density

ex: SF-2 material (2.000" x 2.54cm) x (2.000" x 2.54cm) x (1.000" x 2.54cm) x 3.86 g/cm³

$$= 253.02 \text{ g or convert to pounds} = \frac{253.02 \text{ g} \times 1 \text{ lb}}{453 \text{ g}} = 0.559 \text{ lbs.}$$

3. Circle: πr^2 x thickness x density

ex: F-2 material (3.142" x 1.5^2 x 2.54²cm) x (.625" x 2.54cm) x 3.61 g/cm³

$$= 261.38 \text{ g or convert to pounds} = \frac{261.38 \text{ g} \times 1 \text{ lb}}{453 \text{ g}} = 0.577 \text{ lbs.}$$

4. Prism: use rectangle formula and divide by 2

Once you have the pounds, then the calculation must include factoring material cost per lbs. (remember availability and form, i.e., strip, block), labor cost to process, and mark-up for the blank.

It is always recommended that you contact a raw material supplier when an exact quote is required.