

2. General paper conversions

1. How to determine M weight for a given sheet size and basis weight

Formula	$\frac{\text{Sheet size}}{144} \times \text{Nominal basis weight} = \text{M weight}^*$	OR	Formula	$\frac{\text{Sheet size} \times \text{BW}/500 \text{ sh}}{\text{Basis size weight width} \times \text{length}} \times 2 = \text{M weight}$
Example	Determine the M weight of a sheet of 25" X 38", Basis weight 41.0 lb./msf $\frac{25" \times 38"}{144} \times 41 = 270\text{M}^*$		Example	$\frac{25" \times 38" \times 123"}{24" \times 36"} \times 2 = 270$

*The weight will be rounded for the preceding whole number (below 0.5) or the following whole number (0.5 and above).

2. How to determine Ream weight for a given sheet size and basis weight

Formula	$\frac{\text{Sheet size}}{144} \times \frac{\text{Nominal basis weight}}{2} = \text{Ream weight}$	OR	Formula	$\frac{\text{Sheet size} \times \text{BW}/500 \text{ sh}}{\text{Basis size weight width} \times \text{length}} \times 2 = \text{M weight}$
Example	Determine the ream weight of a sheet of 25" x 38", basis weight 41.0 lb./msf $\frac{25" \times 38"}{144} \times \frac{41}{2} = 135 \text{ lb. per ream}$		Example	$\frac{25" \times 38" \times 123}{24" \times 36"} = 135 \text{ lb. per ream}$

3. How to determine the Weight of a specific number sheets for a given M weight

Formula	$\frac{\text{M weight} \times \text{Number of sheets}}{1,000} = \text{Weight (lb.)}$
Example	Determine the weight of 16,800 sheets M weight 445M $\frac{445 \times 16,800}{1,000} = 7,476 \text{ lb}$

4a. How to determine the Linear footage for a given roll weight, basis weight and roll width

Formula	$\frac{\text{Roll weight} \times 12,000}{\text{Basis weight} \times \text{Roll width}} = \text{approx. Linear feet}$	OR	Formula	$\frac{\text{Roll weight} \times \text{Basis size weight width} \times \text{Length}}{\text{Basis weight} \times \text{Rollwidth} \times 12}$
Example	Determine the linear footage of a roll of 53.3 lb./msf, 31.5" wide, weighing 2,349 lb. $\frac{2,349 \text{ lb.} \times 12,000}{53.3 \text{ lb./msf} \times 31.5"} = \text{approx. } 16,789 \text{ linear feet}$		Example	$\frac{2,349 \text{ lb.} \times 24 \times 36 \times 500}{159.9 \times 31.5 \times 12} = 16,789 \text{ linear feet}$

4b. How to determine the Linear footage for a given roll diameter, core diameter and paper thickness

Formula	$\frac{65.45 (\text{Roll diameter}^2 - \text{Core diameter})}{\text{Paper thickness}} = \text{Length}$
Example	Determine the weight of 16,800 sheets M weight 445M $\frac{65.45 (40^2 - 3^2)}{10 \text{ pt.}} = 10,413 \text{ lb}$

5. How to determine the Roll area for a given linear footage and width

Formula	$\frac{\text{Total linear footage} \times \text{Width}}{12} = \text{Roll Area}$
Example	Determine the roll area, 31.5" wide, 16,391 ft. long. $\frac{16,391 \text{ ft} \times 31.5"}{12} = 43,026 \text{ sq. ft.}$