



# SOLUTIONS

## DETERMINING PAINT REQUIREMENTS

Theoretically, one gallon of paint having 100% solids by volume would spread 1600 square feet at 1 dry mil (.001 inch) thick.

Knowing this, and the percentage of solids by volume of any specified coating, an estimator can determine the spreading rate at any desired film thickness or predict the film thickness obtainable at any given spreading rate.

To determine the spreading rate at a specified film thickness, divide 1600 by the number of mils specified. Multiply the answer by the percent of solids by volume. The answer in spreading (in square feet per gallon) are without allowance for wastage.

EXAMPLE: Thickness Specified..... 3 mils  
Solids by Volume..... 60 (60%)  
Thus:  $1600 \div 3 = 533$ , and  $533 \times .60 = 319.8$  square feet per gallon

To predict the film thickness obtainable at any given spreading rate, divide 1600 by the spreading rate. Multiply the answer by the percent of solids by volume. The answer is mil thickness to be expected before considering wastage.

EXAMPLE: Spreading Rate  
Recommended or Specified..... 400 sq. ft. per gallon  
Solids by Volume..... 40 (40%)  
Thus:  $1600 \div 400 = 4$ , and  $4 \times .40 = 1.6$  mils of film thickness

The amount of waste can vary widely with the method of application and skill of applicator. The generally accepted waste factors are:

Conventional Spray.....	25% to 30%	Roller.....	5% to 10%
Airless Spray.....	15% to 20%	Brush.....	3% to 5%

EXAMPLE: If a 20% loss of material is expected, the answers above would be 20% less than those shown. Or, stated another way, they would be only 80% of their theoretical value. Thus, multiply each answer by .80 and you get:

$.80 \times 319.8 = 255.8$  square feet per gallon  
 $.80 \times 1.6 = 1.28$  mils of film thickness

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