

Useful Formulas When Spreading Cement

Calculating How Far a Tanker Load Should Go:

$$\text{Distance (feet)} = \frac{9 \times L}{W \times R}$$

9 = Conversion factor

L = Load (pounds – get scale receipt from the tanker driver)

W = Spread Width (feet)

R = Spread Rate (pounds per square yard)

For example, if spreading a 52,000 lb tanker load 8 feet wide at 68 pounds per square yard:

$$\text{Distance} = \frac{9 \times 52,000 \text{ lb}}{8 \text{ ft} \times 68 \text{ lb/yd}^2} = 860 \text{ ft}$$

Calculating Applied Spread Rate:

$$\text{Spread Rate (pounds per square yard)} = \frac{9 \times L}{W \times D}$$

9 = Conversion factor

L = Load (pounds – get scale receipt from the tanker driver)

W = Spread Width (feet)

D = Spread Distance (feet)

For example, if spreading a 52,000 lb tanker load 8 feet wide goes 850 feet:

$$\text{Spread Rate} = \frac{9 \times 52,000 \text{ lb}}{8 \text{ ft} \times 850 \text{ ft}} = 68.8 \text{ pounds per square yard}$$

Calculating a Surface Spread Rate From Percentage:

$$\text{Spread Rate (pounds per square yard)} = 0.75 \times T \times D \times P$$

0.75 = Conversion factor

T = Thickness (depth) of stabilization (inches)

D = Average dry density of soil (usually 110 pounds per cubic foot)

P = Percentage of stabilizing chemical, expressed as a decimal (e.g. 5% = 0.05)

For example, if using 5% Portland and a 12 inch depth of treatment:

$$\text{Spread Rate} = 0.75 \times 12 \text{ in} \times 110 \text{ lb/ft}^3 \times 0.05 = 49.5 \text{ lb/yd}^2$$