

## Equation Sheet

### Average:

Average is computed as the sum of numbers, divided by their quantity.

For exp: You have three numbers. 14.8, 15.2, 14.6. The sum (of the three numbers) equals 44.6. Divide that number (44.6) by 3 (because you have 3 numbers) and that will give you an average of 14.87.

### Weight Per Count:

To determine the Weight per Count, use the following equation:

$$\frac{(\text{Heavy Weight} - \text{Light weight})}{\# \text{ of Counts}} = \text{Weight per Count.}$$

### Percentage deviation:

To determine a Percentage Deviation, use the following equation:

$$\% \text{ Deviation} = \frac{(\text{Rate} - \text{Average Rate})}{\text{Average Rate}}$$

### Percentage Emulsion to Aggregate Ratio:

To determine the Percentage Emulsion to Agg. Ratio, use the following equation:

$$\frac{\text{Avg. Emulsion per Count} \times 100}{\text{Avg. Agg. Per Count}}$$

### Moisture Factor:

Moisture Factor equals the decimal equivalent of your moisture percentage plus one.

For exp: The Lab determined that there is 2% moisture in the Agg.

$$\text{Moisture Factor} = .02 + 1.00 = 1.02$$

To determine Dry Agg weight per count, use the following equation:

$$\frac{\text{Avg. Agg. Weight per Count}}{\text{Moisture Factor}} = \text{Dry Aggregate per Count}$$

For exp:  $\frac{70 (\text{Avg. Agg. Wt. per Count})}{1.02 (\text{Moisture Factor})} = 68.63 (\text{Dry Agg. per Count})$

### Percent of Fines to Aggregate Ratio:

To determine a Percentage Fines to Agg. Ratio, use the following equation:

$$\frac{(\% \text{ that the mix design calls for}) \times (\text{Agg per Count})}{100} = \text{Fines / Agg.}$$

### Flow Rate:

To determine Flow Rate, use the following equation:

$$\frac{\text{Weight of Agg per Minute}}{\text{Specific Gravity of Liquid}} = \text{GPM (or LPM)}$$

### Spread Rate / Application Rate:

To determine the Spread Rate or Application Rate, use the following equation:

$$\frac{(\text{Agg. lbs (or Kg) per Count} \times \text{Agg. Counts})}{(\text{Box Width} \times \text{Length of Pass})} = \text{Spread Rate}$$

\*\*Make sure that the Box Width and Length of Pass are measured in the same units\*\*