



Aggregate Spread Rate

The Board Test is used to find the quantity of aggregate on a board of known aggregate such that full coverage, **one stone in depth with adequate voids**, is obtained. A one square yard area board is required.

The weight of the aggregate applied in this area is obtained and converted to units of pounds per square yard (lbs/SY). Good lighting is recommended and care should be taken to place the aggregate only one stone deep with approximately 15-20% voids between the particles. The quantity of aggregate needed to cover one square yard of roadway will now be determined in terms of volume using the formula below.

$$S = 27W/Q$$

Where:

S = quantity of aggregate required in cubic yard per square yard (CY/SY)

W = dry loose unit weight in pounds per cubic foot (lbs/CF), and

Q = aggregate quantity determined from the board test (lbs/SY)

Example:

$$S = 27 \times 95 \text{ W} / 23 \text{ Q}$$

$$S = 2565 / 23$$

$$S = 112$$

Thus 1 CY / 112 SY is adequate coverage

The larger the average particle size, the smaller the number will be, for example a 5/8" top sized material result in an approximate 1 CY / 95 SY of coverage, whereas a 3/8" top sized particle will yield a result similar to 1 CY / 110 SY of coverage.

The smaller average particle size will cover more area per **cubic yard** when spread one rock thick. The benefit of this method is that it is volumetric and will apply to all aggregates regardless of their unit weight.