

$$\text{Area } 1/2'' \text{ Separation} = \frac{180}{2.47 \times .968 \times .90 \times .90 \times 1.00 \times 1.00 \times 1.00 \times 1.00 \times 1.00} = \frac{180}{1.94} = 93 \text{ Sq. Ft.}$$

"A" "B" "C" "D" "E" "F" "G" "H" "J"

$$\text{Area } 1/4'' \text{ Separation} = \frac{90}{1.6 \times .79 \times .70 \times .80 \times 1.00 \times 1.00 \times 1.00 \times 1.00 \times 1.15} = \frac{90}{.81} = 111 \text{ Sq. Ft.}$$

"A" "B" "C" "D" "E" "F" "G" "H" "J"

EXAMPLE

CALCULATING BED DEPTH DISCHARGE END

$$\text{DBD} = \frac{O \times C}{5 \times T \times W} = \text{Inches of Bed Depth}$$

$$\text{Top Deck} = \frac{45 \times 20}{5 \times 75 \times 6} = \frac{900}{2200} = 7/16'' \text{ Depth to } 1'' \text{ Separation}$$

$$\text{Second Deck} = \frac{75 \times 20}{5 \times 75 \times 6} = \frac{1500}{2200} = 11/16'' \text{ Depth to } 1/2'' \text{ Separation}$$

$$\text{Third Deck} = \frac{90 \times 20}{5 \times 75 \times 6} = \frac{1800}{2200} = 13/16'' \text{ Depth to } 1/4'' \text{ Separation}$$

A logical choice from the above calculations is to select a 6' x 20' triple-deck screen.

This completes the exercise of calculating theoretical screening area. The experienced screen application specialist will proceed from here and devote some time in reviewing some of the variables that govern screening performance but cannot be included in a formula. These variables can contribute to a more favorable or unfavorable screening condition. It is the presence of unfavorable conditions that requires attention after calculated screen area is established.

Moisture can affect a separation as it presents problems with blinding of the screen surface. The manufacturer may have an accessory available that will alleviate this condition.

Peculiar particle shapes, such as wedges, slivers and flats, are often difficult to separate. This can have an adverse effect on screen capacity and efficiency.

If the feed to the deck contains a large amount of nearsize, there is also the danger of plugging. The screen surface specifications become very important in making an efficient separation when this condition exists.

Obviously, the screen area calculations deal with a mathematical formula but there are several factors unaccounted for in this formula. It is impossible and impractical to assign a numerical value to all of the uncontrollable variables present in separating materials. Experience and common sense must be applied after completing capacity calculations. That is why it is important that the formula be considered as only a guide.