South Dakota Ready Mixed Concrete Association

1. $(44.25 lbs - 7.98 lbs) / 0.249 ft^3$

$D = 145.8 \ lbs/ft^3$

Since less than 150 lb/ft^3, probably air entrained.

2. $D = (44.08 lbs - 7.98 lbs)/0.249 = 145.0 \ lb/ft^3$

$A = (T - D)/T \times 100 = \frac{(155.3 - 145.0 lb/ft^3)}{155.3 \ lb/ft^3} \times 100$

$A = 6.6\%$

a) $Y = (M \div D) = \left(\frac{31550^{\#}}{8.0 yd^3} \div 145 \ lbs/ft^3\right)$

$Y = 27.2 \ ft^3/yd^3$

b.) $Y = (M \div D) = \left(31550 lbs \div 145 \frac{lbs}{ft^3} \times 27 \frac{ft^3}{yd^3}\right)$

$Y = 8.06 yd^3$

a.) $Y_R = Y \div Y_o = 27.2 \div 27.0 \quad Y_R = 1.007$

b.) $Y_R = Y \div Y_o = 8.06 \div 8 \quad Y_R = 1.007$

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3. $D = (36.56\ lbs - 7.98\ lbs) / 0.249\ ft^3$

$D = 114.8\ lbs/ft^3$

$A = (T - D)/T \times 100$

$= \frac{122.5 - 114.8\ lbs/ft^3}{122.5\ lbs/ft^3} \times 100 = A = 6.3\%$

$Y = (M \div D) = \left(\frac{23950\ lbs}{8\ yd^3} \div 114.8\ lbs/ft^3\right)$

$Y = 26.08\ ft^3/yd^3$

$Y = 7.73\ yd^3$

$Y_r = Y - Y_o = 26.08 \div 27 = Y_r = 0.97$

4. $D = (44.72\ lbs - 7.98\ lbs) / 0.249\ ft^3$

$D = 147.6\ lbs/ft^3$

$A = (T - D)/T \times 100 = \left(\frac{154.5 - 147.6\ lbs/ft^3}{154.6\ lbs/ft^3}\right) \times 100$

$A = 4.5\%$

$Y = (M \div D) = \left(\frac{26626\ lbs}{7.04\ yd^3} \div 147.6\ lbs/ft^3\right) =$

$Y = 25.8\ ft^3/yd^3$

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