



## SAMPLE PROBLEMS

1. Calculate the density of the concrete using the following known values:

Weight of the bucket with concrete: 44.28 lbs  
Weight of the bucket: 7.98 lbs  
Volume of the bucket: 0.249 ft<sup>3</sup>

Is it air entrained or not?

2. Calculate the density, gravimetric air, yield and relative yield using the following values:

Weight of the bucket with concrete: 44.08 lbs  
Weight of the bucket: 7.98 lbs  
Volume of the bucket: 0.249 ft<sup>3</sup>  
Theoretical Density: 155.3 lbs/ft<sup>3</sup>  
Total Batch Weight: 31,550 lbs  
Yards Batched: 8.0 yd<sup>3</sup>

3. Calculate the density, gravimetric air, yield and relative yield using the following values for the lightweight concrete you are testing:

Weight of the bucket with concrete: 36.56 lbs  
Weight of the bucket: 7.98 lbs  
Volume of the bucket: 0.249 ft<sup>3</sup>  
Theoretical Density: 122.5 lbs/ft<sup>3</sup>  
Total Batch Weight: 23,950 lbs  
Yards Batched: 8.0 yd<sup>3</sup>

4. Based on the following test data and batch ticket information, calculate the density, gravimetric air, and yield

Weight of the bucket with concrete: 44.72 lbs  
Weight of the bucket: 7.98 lbs  
Volume of the bucket: 0.249 ft<sup>3</sup>  
Theoretical Density: 154.5 lbs/ft<sup>3</sup>

Material	Req'd	Bat'd	Design	Tol	AcWat	% Moist	Ticket #	100
Sand	8835	8780	1223	-0.6	32.7	3.20	Date:	2/27/06
¾ Rock	12521	12420	1791	-0.8	-.3	-0.1	Time:	06:00
Cement	3549	3530	507	-0.5			Plant:	1
Fly Ash	623	660	89	5.9*			Driver:	Rod
Air	25	25	0.6	0.0			Truck #:	1
WR	125	126	3.0	0.7			Quantity (yd <sup>3</sup> )	7.00
Cold	1229	1236	200	0.6	148.3			
			Total Water		180.7			