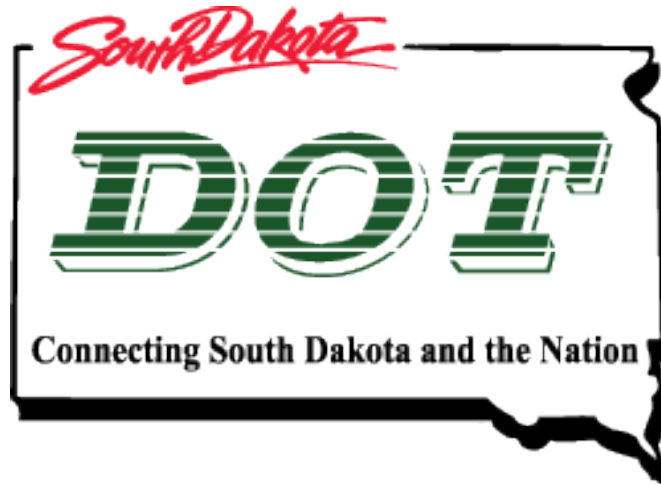


Example Problems Packet

Aggregate Testing Recertification

Quality Control / Quality Assurance



Problem #1

Crushed Particles (SD 211)

Using the data below, calculate the percentage of 2 or more crushed particles for the QC and QA lab.

Does the QC result meet the specification for a Q3 mix?

Do the test results meet the QC and QA tolerance for test result comparison?

	QC Test Result	QA Test Result
2 or more crushed particles weight (grams)	615.3	590.8
+ #4 Sample Wt. (grams)	750.1	787.4
% Crushed Particles		

Problem #2

Total Combined - #200

Calculate the total combined - # 200

- The coarse sieve analysis had 70.7% passing the #4 sieve.
- The washed coarse aggregate sample had 0.64 % passing the #200 sieve.
- 5.01% passed the #200 sieve on the fine sieve analysis.

Coarse	_____	x	% Retained/Design	_____	=	_____
Fine	_____	x	% Passing/Design	_____	=	_____
			Total Combined - #200		=	_____

Problem #3

Sand Equivalent

Class Q3, Calculate Sand Equivalent. What is the spec?

Sand Equiv Test	Sand Rdg.	Clay Rdg.	S. E.
Reading # 1	3.2	4.4	
Reading #2	3.2	4.5	
Sand Equivalent Test Results			

Spec.

Problem #4

Fine Aggregate Angularity

Class Q2R, Fill in the blanks and Calculate FAA. What is the spec?

Fine Aggregate Angularity

SD 217
Method A

V = 1000 M/D

Weight of measure and glass plate
weight of measure, glass plate & water
M = net mass of water
D = density of water at test temp.
V = volume of cylinder, mL

284.8
385.6
997.97

Temperature		Density of Water	
° F	° C	lb/ft ³	kg/m ³
60	15.6	62.366	999.01
65	18.3	62.336	998.54
70	21.1	62.301	997.97
75	23.9	62.261	997.32
80	26.7	62.216	996.59
85	29.4	62.166	995.83

Sample ID	1st trial	2nd trial	
Dry -#4 bulk specific gravity (Gsb)	2.591	2.591	
Volume of cylinder, mL (V)			
Weight of cylinder, g (A)	247.5	247.5	
Wt. of cylinder + aggregate, g (B)	399.3	399.4	
Wt. of aggregate, g (F = B - A)			Average
Uncompacted voids, (nearest 0.1%) U = ((V - (F / Gsb)) / V) * 100			