Performance Examination - Aggregate

Standard Test Method for Resistance to Degradation of Large-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine (ASTM C535-16)

Candidate Name: _____ **NICET ID:** _____

Apparatus	Trial 1	Trial 2
Balance Accurate to within 0.1% of the test load		
Los Angeles Machine Horizontal cylindrical drum, inside diameter 711 ± 5 mm (28 ± 0.2 in.), inside length 508 ± 5 mm (20 ± 0.2 in.) and wall thickness 12.7 mm (½ in.) Opening in drum side about 508 x 152 mm (20 in. x 6 in.) Cover for opening has a dust-tight gasket and is securely fastened to the drum **Interior Shelf requirements**: Shelf projects inward 89 ± 2 mm (3.5 ± 0.1 in.) or 152 x 102 x 12.7 mm (6 x 4 x ½ in.) Interior surface of the cylinder free of protrusions disrupting the path of sample and steel spheres Shelf firm, rigid, and in good physical condition Shelf extends full length of the cylinder Shelf located such that the charge does not impact near the opening and its cover Distance from shelf to the opening is 1270 mm (50 in.) or more in the direction of rotation **Rotation requirement**: Uniform peripheral speed (± 1.5 RPM from the average specified or listed below) Possible alternative (see below after RPM) The cylinder rotates at 30 to 33 revolutions per minute over 5 minutes period **Counter Reading (Start)** Elapsed time: _____ minutes and _____ seconds **Counter reading (End)** Elapsed time: _____ seconds		
Charge A number of spheres tested: Number of spheres having a mass of 390-445 g Mass of charge: 12 balls = 4975 to 5025 g		
Sieves 1.70 mm (No. 12) and other sizes as needed		

Examiner Name: _____ **Examiner Signature**: _____ **Date:** _____

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Procedures	Trial 1	Trial 2
1. Test sample obtained by Practice C702		
2. Sample washed and oven-dried to constant mass at 110 ± 5 °C (230 ± 9 °F)		
3. Mass determined to nearest 1.0 g		
4. Specimen masses conform to the table below		

Sieve Size Passing	Sieve Size Retained on	Grading 1	Grading 2	Grading 3
3 in.	2 ½ in.	2500 ± 50 g		
2 ½ in.	2 in.	2500 ± 50 g		
2 in.	1 ½ in.	5000 ± 50 g	5000 ± 50 g	
1 ½ in.	1 in.		5000 ± 25 g	5000 ± 25 g
1 in.	¾ in.			5000 ± 25 g
	Total Mass	10,000 ± 100 g	10,000 ± 75 g	10,000 ± 50 g

5. Samples and spheres put in the machine and tumbled 1,000 times		
6. Contents of drum separated on a sieve coarser than a 1.70 mm (No. 12)		
7. Finer material separated on a No. 12 sieve		
8. Material coarser than No. 12 washed and dried to constant mass at 110 ± 5 °C (230 ± 9 °F)		
9. Mass of material coarser than No. 12 determined to nearest 1 g		
10. Percentage of wear calculated as: % wear = (original - final mass) / original mass		

First Attempt: Pass: _____ Fail: _____ **Second Attempt:** Pass: _____ Fail: _____

Exam Administration: Remote _____ In-Person _____

Comments:

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Examiner Name: _____ **Examiner Signature**: _____ **Date:** _____