

FACULTY OF ENGINEERING AND ARCHITECTURE
DEPARTMENT OF CIVIL ENGINEERING
TESTING SERVICES
MATERIAL & SOIL MECHANICS LABORATORIES

TYPE OF TEST **L.L PER SAMPLE**

SOIL **ASTM**

1. DETERMINATION OF WATER CONTENT	15,000	D 4959
2. SPECIFIC GRAVITY OF SOIL MATERIAL = DENSITY = UNIT WEIGHT	20,000	D 854
3. MECHANICAL ANALYSIS – INCLUDING HYDROMETER = SIEVE	60,000	D 422
4. MECHANICAL ANALYSIS – WITHOUT HYDROMETER = SIEVE	30,000	D 422
5. LIQUID LIMIT	20,000	D 4318
6. PLASTIC LIMIT	15,000	D 4318
7. SHRINKAGE LIMIT	30,000	D 4943
8. MODIFIED AASHTO COMPACTION TEST (5 PTS)	90,000	D 1557
9. PROCTOR COMPACTION TEST (5PTS)	80,000	D 698
10. UNCONFINED COMPRESSION TEST	30,000	D 2166
11. UNCONFINED COMPRESSION TEST (WITH STRESS – STRAIN DATA)	80,000	D 2166
12. DIRECT SHEAR TEST (DRY)	60,000	D 3080
13. TRIAXIAL TEST (QUICK UNDRAINED, 3 POINTS)	85,000	D 2850
14. CONSOLIDATION TEST (5 LOADING CASES)	150,000	D 2435
15. CALIFORNIA BEARING RATIO = C.B.R.	80,000	D 1883
16. ORGANIC CONTENT	40,000	D 2974
17. CHLORIDES	25,000	BS 812
18. SULFATES	25,000	BS 812
19. CARBONATE CONTENT	30,000	D 4373
20. PH OF SOIL	10,000	D 4972
21. DENSITY OF SOIL USING SAND CONE METHOD	25,000	D 1556

AGGREGATE **ASTM**

1. SPECIFIC GRAVITY = UNIT WEIGHT = DENSITY	20,000	C 29/C 31
2. MECHANICAL ANALYSIS (SIEVE ANALYSIS)	30,000	C 136
3. ABSORPTION	15,000	C 1271
4. LOS ANGELES ABRASION	50,000	C131/C132

5. CALY LUMPS	35,000	C 142
6. PETROGRAPHIC ANALYSIS	300,000	C 295
7. SOUNDNESS, COARSE AND FINE AGGREGATE (SAND) (PER CYCLYE)	60,000	C 88
8. ORGANIC IMPURITIES IN FINE AGG STANDARD COLOR METHOD	20,000	C 40
9. ORGANIC CONTENT	40,000	D 2974
10. CHLORIDES	25,000	BS 812
11. SULFATES	25,000	BS 812
12. CARBONATE CONTENT	30,000	D 4373
13. PH OF AGGREGATE	10,000	D 4972
14. SAND EQUIVALENT	30,000	D 2419
15. LIGHT WEIGHT PIECES	50,000	C 123
16. FLAKINNESS	60,000	BS 812
17. ELONGATED	60,000	BS 812
18. STRIPPING	50,000	AASHTO
19. AGGREGATE CRUSHING VALUE	50,000	BS 812 PART110
20. TEN PERCENT FINES VALUE	50,000	BS 812 PART111

CEMENT

		<u>ASTM</u>
1. NORMAL CONSISTENCY OF PORTLAND CEMENT	30,000	C 187
2. TIME OF SETTING OF PROTLAND CEMENT	40,000	C 191
3. SOUNDNESS OF CEMENT PASTE	40,000	BS 12
4. TENSILE STRENGTH OF PROTLAND CEMENT BRIQUETTES	60,000	BS 12
5. COMPRESSIVE STRENGTH OF PORTLAND CEMENT (7 DAYS & 28 DAYS)	90,000	ASTM
6. FINENESS OF PORTLAND CEMENT (SIEVE TEST)	25,000	C 184
7. FINENESS OF PORTLAND CEMENT (BLAINE TEST)	60,000	C 184
8. SPECIFIC GRAVITY OF PORTLAND CEMENT	40,000	C 204

CONCRETE / BLOCK

		<u>ASTM</u>
1. COMPRESSIVE STRENGTH OF CAPPED CONCRETE CYLINDERES / CUBES	15,000	C 39
2. COMP. STRENGTH OF CAPPED CONCRETE CYLINDERS TESTING & CASTING	30,000	C 39
3. COMPRESSIVE STRENGTH OF CONCRETE BLOCKS	25, 000	C 140
4. COMPRESSIVE STRENGTH OF CONCRETE BLOCKS ON NET AREA	40, 000	C 140
5. ABSORPTION OF HOLLOW BLOCKS	20, 000	C 140
6. POROSITY	20, 000	C 948
7. ULTRA SONIC PULSE VELOCITY	30, 000	C 597

8. DIMENSION CHANGE DUE TO TEMPRATURE	50,000	C 1185
9. FLEXURAL /MODULES OF RUPTURE / TRANSVERESE STRENGTH OF CONCRET TILE	30,000	C 78

ROCK / TILE

		<u>ASTM</u>
1. DIMENSIONS OF TILE	20,000	C 499
2. COMPRESSIVE STRENGTH OF ROCK	25,000	C 170
3. FLEXURAL /MODULES OF RUPTURE / TRANSVERESE STRENGTH OF ROCK TILE	30,000	C 880
4. ABSORPTION OF ROCK	15,000	C 97
5. POROSITY	20,000	C 948
6. ULTRA SONIC PULSE VELOSICTY	30,000	C 597
7. DIMENSIONS CHANGE DUE TO TEMPERATURE	50,000	C 1185
8. ABRASION OF TILES / ROCK (1000 REVOLUTIONS)	30,000	C 241
9. POINT LOAD INDEX	30,000	ISRM
10. METHLYENE BLUE ABSORPTION (M.B.A.)	150,000	CIRIA
11. HARDNESS	20,000	CIRIA
12. DENSITY OF ROCK	20,000	C97

STEEL

		<u>ASTM</u>
1. TENSILE STRENGTH TEST OF STEEL BARS	30,000	A 615
2. BENDING TEST OF STEEL BARS	30,000	A 615
3. IMPACT TEST OF STEEL	30,000	A 370
4. HARDNESS OF STEEL	30,000	A 370
5. DEFORMATIONS OF STEEL BARS	20,000	A 615

ASPHALT

		<u>AASHTO</u>
1. PENETRATION TEST OF BITUMEN	30,000	T 49
2. FLASH POINT	30,000	T 48
3. SOFTENING POINT OF BITUMENT	30,000	T 53
4. DUCTILITY	30,000	T 51
5. SPECIFIC GRAVITY	30,000	T 228
6. LOSS ON HEATING	40,000	T 48

7. MARSHALL TEST FOR ASPHALTIC CONCRETE PER MOLD	50,000	T 245
8. EXTRACTION OF BITUMENT BY CENTRIFUGE METHOD	50,000	T 164
9. SOLUBILITY	50,000	T 44
10. DISTILLATION	80,000	T 115
11. OTHER SOIL OR MATERILAS TESTS	AS AGREED UPON	