

LAB SERVICES

Aggregate Tests			
Description	CTM	ASTM	AASHTO
Sieve analysis: coarse and fine with wash	202	C136	T27
Sieve analysis: coarse only	202	C136	T27
Sieve analysis: fine only	202	C136	T27
Sieve analysis: ignition extraction sample	202-A	-	-
Sieve analysis: solvent extraction sample	202-A	D5444	-
Sand equivalent	217	D2419	T176
Durability: coarse aggregate	229	D3744	T210
Durability: fine aggregate	229	D3744	T210
Cleanness value	227	-	-
Specific gravity: fine aggregate	207	C128	T84
Specific gravity: coarse aggregate	206	C127	T85
Specific gravity: apparent	208	-	-
Crushed particles: coarse aggregate (one and two face)	205	D5821	T335
Crushed particles: fine aggregate (one face only)	205	-	-
Flat and elongated particles	235	D4791	-
Aggregate moisture content	226	C566	T255
Clay lumps and friable particles	-	C142	-
Lightweight pieces	-	C123	-
Fine aggregate angularity (may require fine specific gravity)	234	C1252	T304
Organic impurities	-	C40	-
Abrasion resistance LA Rattler	211	C131 / 535	T96
Resistance value (R-value)	301	D2844	-
Sodium sulfate soundness	214	C88	-
Centrifuge kerosene equivalent: coarse	303	-	-
Centrifuge kerosene equivalent: fine	303	-	-
Soils Tests			
Description	CTM	ASTM	AASHTO
Treated soils mix design: proctor / 216	216 / SP	D1557 / SP	-
Plasticity index - includes liquid and plastic limit with classification	204	4318 / 2487	T89 / T90
Liquid limit: Atterberg limits	-	D4318	T89
Plastic limit: Atterberg limits	-	D4318	T90
Moisture density: standard proctor	-	D698	T99
Moisture density: modified proctor	-	D1557	T180
Relative compaction of soils (California density tube)	216	-	-
Resistance value (R-value)	301	D2844	T190
Resistance value (R-value): treated soil or base	301	D2844	T190
Sand equivalent	217	D2419	T176

Hot Mix Asphalt (HMA) Tests			
Haveem Method	CTM	ASTM	AASHTO
HMA mix tests: complete set with air voids	Set	-	Set
HMA mix tests: bulk specific gravity only	304 / 308	1561 / 2726	T247 / 166
HMA mix tests: stability only	204 / 366	1561 / 1560	T247 / 246
Maximum specific gravity	309	-	-
Asphalt content	382	-	-
Asphalt content: oven correction	382	-	-
Tensile strength ratio (TSR): plant produced	371	-	-
Tensile strength ratio (TSR): laboratory produced	371	-	-
Marshall Method	CTM	ASTM	AASHTO
HMA mix tests: complete set with air voids	-	Set	Set
HMA mix tests: flow and stability only	-	D1559	T245
HMA mix tests: bulk specific gravity only	-	D1559	T245 / 269
Maximum specific gravity	-	-	T209
Asphalt content	-	-	T308
Asphalt content: oven correction	-	-	T308
Tensile strength ratio (TSR): plant produced	-	-	T283
Tensile strength ratio (TSR): laboratory produced	-	-	T283
Gyatory Method	CTM	ASTM	AASHTO
HMA mix tests: complete set	-	-	Set
RHMA mix tests: complete set including one hour pressure cooling	-	-	Set
Maximum specific gravity	-	-	T209
Asphalt binder content: ignition method	-	-	T308
Asphalt content: oven correction	-	-	T308
Asphalt binder content: chemical extraction method	Method B	D2172	-
Hamburg wheel tracking (two full sets per Caltrans requirement)	Modified	-	T324
Tensile strength ratio (TSR): plant produced	-	-	T283
Tensile strength ratio (TSR): laboratory produced	-	-	T283
Hot Mix Asphalt Mix Design			
Haveem Method			
HMA mix design: date change (only for PEI original mix designs less than 24 months old)			
HMA mix design: update (only for PEI original mix designs less than 24 months old)			
2006 standard including all aggregate and mix tests			
2006 standard including RAP and all aggregate and mix tests (with LP-9 data)			
2006 standard including RAP and all aggregate and mix tests (without LP-9 data)			
2007 standard HMA including all aggregate and mix tests			
2007 standard HMA including all RAP, aggregate and mix tests (with LP-9 data)			
2007 standard HMA including all RAP, aggregate and mix tests (without LP-9 data)			
2007 standard RHMA including all aggregate and mix tests			
2013 standard HMA with RAP, including all tests and Hamburg (with LP-9 data)			
2013 standard HMA with RAP, including all tests and Hamburg (without LP-9 data)			
Tensile strength ratio: treated and untreated mix included as a portion of mix design (set)			
Marshall Method			

Marshall HMA mix design base: FHWA, ACCE and other standard specifications
Marshall HMA custom mix design: specialty specifications and projects
Tensile strength ratio: treated and untreated mix included as a portion of mix design (set)
Gyratory Method
HMA mix design: date change (only for PEI original mix designs less than 24 months old)
HMA mix design: update (only for PEI original mix designs less than 24 months old)
Superpave JMF minor HMA including all HMA and aggregate tests
Superpave JMF minor RHMA including all HMA and aggregate tests
Superpave JMF minor HMA including all RAP, HMA and aggregate tests (with LP-9 data)
Superpave JMF minor HMA including all RAP, HMA and aggregate tests
Superpave JMF HMA including all HMA, aggregate, Hamburg and TSR tests
Superpave JMF RHMA including all HMA, aggregate, Hamburg and TSR tests
Superpave JMF HMA including all RAP, HMA, aggregate, Hamburg and TSR tests (with LP-9 data)
Superpave JMF HMA including all RAP, HMA, aggregate, Hamburg and TSR tests