

Office of the Chief Engineer(H),  
Quality Assurance and Research,  
Sardar Patel Road,  
Guindy, Chennai – 600 025.

Memo No. S- 2-780 / 2013 Dated: 04/10/2013

Sub: Quality Assurance and Research –Soils lab -Revision of Test Charges for various tests conducted by Quality Assurance and Research - Reg.

Ref:1) G.O.Ms No 140 Highways and Minor ports (HR1) dep dt : 12.09.13.

2) This office Memo No. 1/2013/Dated : 19.09.2013.

3) This office Memo No. S-1-780/2013/Dated : 30.09.2013.

The following test charges may be adopted for Highways Department. The Memo communicated vide Ref (3) may be adopted for departments other than Highways.

**1. Tests on sub grade soil, Fill material/ carted earth (per sample)**

Sieve analysis	=	690
Liquid Limit	=	750
Plastic Limit	=	670
Proctor Density	=	1490
Free Swell	=	1000
California Bearing Ratio	=	3630
		<hr/>
		8230
Service Tax @ 12.36 %	=	1017
		<hr/>
<b>Total</b>		<b>9247</b>

**2. GSB MIX DESIGN (per sample)**

GSB Mix Design	=	10440
Service Tax @ 12.36 %	=	1290
		<hr/>
<b>Total</b>		<b>11730</b>

### 3. WMM MIX DESIGN (per sample)

WMM Mix Design	=	7620
Service Tax @ 12.36 %	=	942
<b>Total</b>		<u>8562</u>

### 4. BBD PER KM

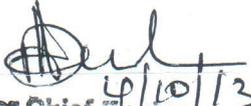
BBD test per Km	=	1640
Sieve analysis = (690×2)	=	1380
Liquid Limit = (750×2)	=	1500
Plastic Limit = (670×2)	=	1340
		<u>5860</u>
Service Tax @ 12.36 %	=	724
<b>Total</b>		<u>6584</u>

### 5. Pile Load Tests

Pile Load Test	=	10950
Service Tax @ 12.36 %	=	1353
		<u>12303</u>

is sent herewith. The receipt of the memo may be acknowledged.

Copy to: All AE's and ACE's, Regional Labs,

  
4/10/13.  
For Chief Engineer  
Quality Assurance & Research  
Chennai-600 025.

Office of the Chief Engineer,  
Quality Assurance and Research,  
Sardar Patel Road,  
Guindy, Chennai – 600 025.

Memo No. S- 1-780 / 2013 Dated: 30 /9/2013

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Plastic Limit	=	670
Proctor Density	=	1490
Free Swell	=	1000
California Bearing Ratio	=	3630
		<hr/>
*Report Charges	=	2700
		<hr/>
Service Tax @ 12.36 %	=	1351
		<hr/>
<b>Total</b>		<b>12281</b>

1. WMM - 8  
2. WMM - 8

2. GSB MIX DESIGN (per sample)

GSB Mix Design	=	10440
*Report Charges	=	2700
		<hr/>
		13140
Service Tax @ 12.36 %	=	1624
		<hr/>
<b>Total</b>		<b>14764</b>

Office of the Chief Engineer,  
Quality Assurance and Research,  
Sardar Patel Road,  
Guindy, Chennai – 600 025.

Memo No. S- 1-780 / 2013 Dated: 30 /9/2013

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Test charge file

Office of the Chief Engineer (H),  
Quality Assurance and Research,  
Guindy, Chennai-600 025.

Memo No.1 / 2013 / Dated 19.09.2013

Sub: Quality Assurance & Research – Revision of Test Charges for Various tests conducted by the Quality Assurance and Research-Reg.

Ref: G.O.Ms No 140 Highways and Minor ports (HR1)dep dt 12-09-2013

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Government order in the reference cited above for the revision of Test Charges is communicated herewith for taking immediate action.

Encl:G.O in the reference cited above

*G. A. H.*  
For Chief Engineer (H)  
Quality Assurance and Research,  
Guindy, Chennai-600 025.

*J. S.*  
19/9/13

To  
Deputy Chief Engineer I,II,III and IV, of QA&R  
Assistant Chief Engineer(H),Regional Lab,Villupuram,Thanjavur,  
Trichy,Madurai,Tirunelveli,salem,Coimbatore and Thiruppur  
Copy to Assistant Chief Engineer(H)admin,QA&R  
Copy to D.A,D.O and JDO  
Copy to file



## ABSTRACT

Highways – Quality Assurance and Research –Revision of Test charges for various tests conducted by the Quality Assurance and Research –Orders issued.

Highways and Minor Ports (HR1) Department

G.O.(Ms) No. 140

Dated: 12.09.2013

திருவள்ளூர் ஆண்டு 2044,  
விஜய வருடம், ஆவணி மாதம் 27 ஆம் நாள்.

Read:

1. G.O.(Ms)No. 1381, Public Works Department, dated: 20.08.1991.
2. G.O.(Ms)No. 284, Highways and Minor Ports (HR2) Department, dated: 14.12.1999.
3. From the Chief Engineer (H), Quality Assurance and Research, Letter No. 1/2012-13/dated: 24.09.2012.

### ORDER:

In the circumstances reported by the Chief Engineer (Quality Assurance and Research) in his letter 3<sup>rd</sup> read above, the Government approve the revision of test charges for various tests conducted by the Quality Assurance and Research as detailed in the annexure to this order.

2. This order comes into force with immediate effect.
3. This order issues with the concurrence of Finance Department vide its U.O.No. 49114/PWI, dated: 10.09.2013.

(By order of the Governor)

Rajeev Ranjan  
Principal Secretary to Government

To

- ✓ The Chief Engineer (Quality Assurance and Research), Chennai-5.
- The Director General, Highways Department, Chennai-5.
- All Chief Engineers in Highways Department.

The Project Director, Tamil Nadu Road Sector Project, Chennai.  
The Finance (PW-I) Department, Chennai-9.

Copy to:-

The Resident Audit Officer (Office of Principal Accountant General (General and Social\*  
Sector Audit), Tamil Nadu Secretariat, Chennai-9.

Senior Personal Assistant to Hon'ble Minister (Highways and Minor Ports) Department,  
Chennai-9.

Private Secretary to Principal Secretary to Government, Highways and Minor Ports  
Department, Chennai-9.

/Forwarded by order/

*K. Srilakshmi*  
Section Officer. 12/10/20

Annexure to G.O.(Ms)No. 140, Highways and Minor  
Ports (HR1) Department dated: 12.09.2013 for Revision  
of Test Charges

S.N	Name of Test	Existing Test charges in (Rs.) (1)	Revised New Test charges in (Rs.) (2)
<b>SOIL LAB</b>			
1	Sieve analysis (Per Sample)	270	690
2	Liquid limit - casagrande apparatus (Per Sample)	300	750
3	Plastic limit (Per Sample)	270	670
4	Liquid limit - cone penetration apparatus (Per Sample)	300	1090
5	Specific gravity (Per Sample)	200	510
6	Free swell Index (Per Sample)	450	1000
7	Shrinkage limits (Per Sample)	400	1000
8	Proctor Density (Per Sample)	600	1490
9 (i)	California Bearing Ratio Test (Per Sample)	1450	3630
(ii)	California Bearing Ratio Test (Digital) (Per Sample)	1450	4460
10	Rebound hammer test (Per Sample)	300	760
11 (i)	Consolidation (Manual)(Per Sample)	1900	4750
(ii)	Consolidation -Digital (Per Sample)	14280	17660
12	Direct shear (Per Sample)	650	1310
13	Lab vane shear (Per Sample)	660	1020
14	Unconfined compressive strength (Per Sample)	660	1150
15	Loose density (Per Sample)	240	600
16	Dynamic cone penetration Test for pavement (Per Locaton)	1600	2680
17	Field Density (Per Location)	400	1160
18	BBD and conditional survey excluding soil test and vehicle (Per km)	1000	1640
19	Pile load test (Per Test)	5000	10950
20	Standard penetration test (Per Test)	350	880
21	Static cone penetration test ( Per Meter)	1600	3990
22	Hand boring equipment		
	a) Hand boring equipment (Per Meter)	900	2260
	b) Idling charges for hand boring equipment (Per Day)	24	380
23	Mobile drill rig (Per Meter)		
	a) Mobile drill rig (Per Meter)	1475	3410
	b) Idling charges (Per Day)	-	1000

S.N	Name of Test	Existing Test charges in (Rs.) (1)	Revised New Test charges in (Rs.) (2)
24	GSB mix Design (Per Mix Design)	8290	10440
25	WMM mix Design (Per Mix Design)	6190	7620
26	Flexible pavement design (Per Km) (Subject to a minimum of Rs 10,000)	2000	2500
27	Overlay design (Per Km) (Subject to a minimum of Rs 10,000)	2000	3920
28	Rigid pavement design (Per Km) (Subject to a minimum of Rs 10,000)	2000	4020
29	White topping design (Per Km) (Subject to a minimum of Rs 10,000)	2000	3980
30	Ground improvement design for embankment (Per Approach)	60000	62320
31	Rate for Geogauge (Per Test)	2370	3010
32	Rate for Soil density gauge (Per Test)	2100	2920
33	Report charges (Per Report)	-	2700
34	Consultancy charges (Per Work)	-	5400
<b>BITUMEN LAB</b>			
	<b>Bitumen Test</b>		
1	Specific Gravity of Bitumen (Per Sample)	240	480
2	Softening point (Per Sample)	390	780
3	Penetration Test (Per Sample)	255	560
4	Penetration of Residue obtained after loss on heating (Per Sample)	255	560
5	Ductility (Per Sample)	270	630
6	Flash and Fire point (Pensky martens apparatus closed cup) (Per Sample)	265	590
7	Flash and Fire point (CLEAVE LAND Open cup) (Per Sample)	255	590
8	Loss on heating (Per Sample)	370	1,060
9	Water content (Per Sample)	325	1,020
10	Solubility in CS2 (Per Sample)	210	550
11	Solubility in Trichloroethylene (Per Sample)	200	550
12	Saybolt viscosity (Per Sample)	450	960
13	Rotational viscosity (Per Sample)	-	1,830
14	Canon Mannings viscosity (Per Sample)	-	2,270
15	Viscosity of Road Tar and cut back bitumen with standard tar viscometer (Per Sample)	345	960

S.N	Name of Test	Existing Test charges in (Rs.) (1)	Revised New Test charges in (Rs.) (2)
16	Matter insoluble in Benzene (Per Sample)	370	770
17	Matter insoluble in Toluene (Per Sample)	360	770
18	Float Test (Per Sample)	340	700
19	Ash content (Per Sample)	240	580
20	Hardness number test for mastic asphalt (Per Sample)	630	1,440
21	Storage stability of Emulsion (Per Sample)	640	1,280
22	Miscibility in water (Per Sample)	510	1,040
23	Residue by Evaporation (Per Sample)	560	1,140
24	Mixing asphalt and oil at different proportion (Per Sample)	175	510
	<b>Aggregate Test</b>		
25	Specific Gravity of Aggregate (Per Sample)	240	550
26	Sieve Analysis of Coarse Agg. (Gilson Testing Screen) (Per Sample)	355	740
27	Sieve Analysis of Fine Agg. (Gilson Testing Screen) (Per Sample)	355	740
28	Sieve Analysis of Fillers (Gilson Testing Screen) (Per Sample)	355	740
29	Unit weight (compacted and uncompactd) (Per Sample)	220	530
30	Moisture absorption (Per Sample)	200	1,220
31	Aggregate Impact Value (Per Sample)	240	550
32	Aggregate Crushing Value (Per Sample)	250	540
33	Aggregate Crushing Value (10% fines) (Per Sample)	250	540
34	Aggregate Crushing Strength (Per Sample)	305	870
35	Aggregate Abrasion Value ( by Deval's Attrition ) (Per Sample)	960	1,970
36	Aggregate Abrasion by Los Angeles (Per Sample)	320	790
37	Flakiness Index (Per Sample)	230	650
38	Elongation Index (Per Sample)	280	650
39	Soundness Testing using Na <sub>2</sub> So <sub>4</sub> 5 cycles (Per Sample)	1,700	3,610
40	Soundness Testing using Na <sub>2</sub> So <sub>4</sub> 10 cycles (Per Sample)	3,400	7,080
41	Soundness Testing using Mg So <sub>4</sub> 5 cycles (Per Sample)	1,720	3,610
42	Soundness Testing using Mg So <sub>4</sub> 10 cycles (Per Sample)	3,440	7,080

S.N	Name of Test	Existing Test charges in (Rs.) (1)	Revised New Test charges in (Rs.) (2)
43	Static water immersion test ( Stripping test ) (Per Sample)	340	1,200
44	Polished Stone Value (Per Sample)	535	1,650
45	Marshall Test and Testing (one Set)	225	950
46	Extraction Test (hot) (Per Sample)	385	910
47	Extraction Test (cold) (Per Sample)	355	910
48	Sieve Analysis of Residue after extraction (Per Sample)	355	740
	<b>Design Mix</b>		
49	Bituminous Concrete Mix (Asphaltic Concrete) (Per Mix Design)	11,000	26,030 ✓
50	Semi Dense Bituminous Concrete (Per Mix Design)	9,200	21,710 ✓
51	Bituminous Macadam (Per Mix Design)	2,300	5,780 ✓
52	Dense Bituminous Macadam (Per Mix Design)	8,500	23,530 ✓
53	Recycle Asphaltic Concrete (Per Mix Design)	11,850	30,980
54	Mix Seal Surface Type B (Per Mix Design)	3,200	6,350
55	Design of Mastic Asphalt (Per Mix Design)	16,500	37,190
56	Design of Micro Surfacing (Per Mix Design)	-	15,100
57	Semi Dense Bituminous Concrete using Modified Bitumen (Per Design)	14,500	28,080 ✓
58	Bituminous Concrete using Modified Bitumen (Per Mix Design)	16,300	32,410 ✓
59	Dense Bituminous Macadam using Modified bitumen (Per Mix Design)	-	29,900 ✓
	<b>General Tests</b>		
60	Bulk Specific Gravity of uncoated Marshall Specimen (Per Sample)	175	510
61	Bulk Specific Gravity of Wax Coated Marshall Specimen (Per Sample)	570	1,040
62	Quantitative evaluation of values of Marshall Stability after immersion in water for 30 minutes at 60 degrees (Per Sample)	1,130	2,110
63	Quantitative evaluation of loss in values of Marshall Stability after immersion in water for 24 hours (Per Sample)	1,130	3,510
64	Miscibility of anti stripping agent with light diesel oil (Per Sample)	375	1,040

S.N	Name of Test	Existing Test charges in (Rs.) (1)	Revised New Test charges in (Rs.) (2)
65	Qualitative evaluation of efficiency of anti-stripping agent in coating of road aggregates in water with bituminous binder (Per Sample)	8,700	33,620
66	Stability of anti stripping agent subjected to storage in hot bitumen (Per Sample)	4,850	17,600
67	Stability of Anti stripping agent subjected to exposure in Air (Per Sample)	5,000	19,220
68	Under water coating test for anti stripping agent (Per Sample)	800	2,310
69	Thermal stability at 163°C of anti stripping agent (Per Sample)	3,450	9,790
70	Boiling water test % for anti stripping agent (Per Sample)	1,060	3,190
71	Bitumen content in bitumen impregnated fibre preformed fillers for expansion joints in concrete non extruding and resilient type (Per Sample)	1,450	3,880
72	Core cutting - B.T work only (one core )	350	1,220
73	Core cutting - B.T and Concrete Surface ( one core )	500	1,850
74	Skid Testing (Per Location)	325	1,080
75	Texture depth measurement ( sand patch test ) (Per Location)	205	530
76	Emulsion Residue on 600 micron IS sieve percent by mass (Per Sample)	775	1,640
77	Emulsion Binder content per cent by mass (Per Sample)	760	1,540
78	Test track (Per Day)	1,100	3,650
79	Camber board (Per Day)	275	590
80	Straight Edge (Per Day)	275	800
81	Sieving Extractor (Per Sample)	740	1,940
82	Asphalt Content Gauge (Nuclear) (Per Sample)	475	1,090
83	Surface moisture density gauge (Nuclear) (Per Location)	525	1,270
84	Penetration at 4°C (Per Sample)	400	890
85	Elastic Recovery (Per Sample)	400	840
86	Separation Test (Per Sample)	1,000	2,850
87	Swell Test (Per Sample)	850	2,510
88	Emulsion Particle Charge Test (Per Sample)	-	660

S.N	Name of Test	Existing Test charges in (Rs.) (1)	Revised New Test charges in (Rs.) (2)
89	Maximum Theoretical Specific Gravity Of Mix, Gmm (Per Sample)	-	3,310
90	Sand Equivalent Test (Per Sample)	-	1,890
91	Indirect Tensile Strength (Per Sample)	-	25,110
92	Gyratory Compaction (Per Mould)	-	1,950
93	Flexural Stiffness (Per Beam sample)	-	1,690
94	Flexural Fatigue (Per Beam Sample)	-	5,700
95	Indirect tensile Stiffness Modulus (Per mould)	-	3,220
96	Indirect Tensile Fatigue (Per Mould)	-	13,410
97	Bituminous Mix Creep (Per Mould)	-	4,850
98	Dynamic Modulus (Per Mould)	-	4,850
99	Grading of Bitumen Using Dynamic Shear Rheometer (Per Sample)	-	2,490
100	Asphalt Content Gauge (NCAT) (Per Sample)	-	2,900
101	Cohesion Tester (micro surfacing) (Per Sample)	-	990
102	Wet Track Abrasion Tester (micro surfacing) (Per Sample)	-	1,990
<b>CONCRETE LAB</b>			
1	Compressive Strength of Bricks (Set of 3 Bricks)	400	800
2	Water Absorption test on Bricks (Set of 5 Bricks)	400	1,100
3	Efflorescence test on Brick. (Set of 5 Bricks)	200	550
4	Compressive Strength test on Concrete Cube / Cylinder (Per Specimen)	150	300
5	Steel.		
a.	Tension Test upto and including 8mm dia (Per Bar).	440	850

S.N	Name of Test	Existing Test charges in (Rs.) (1)	Revised New Test charges in (Rs.) (2)
b.	Tension Test upto and including 16mm dia (Per Bar).	500	900
c.	Tension test upto and including 20mm dia (Per Bar).	560	1,000
d.	Tension test upto and including 30mm dia (Per Bar).	625	1,100
e.	Tension test upto and including 35mm dia (Per Bar).	700	1,200
f.	Tension test over 35mm dia / HT wires/strands (Per Bar).	770	1,300
6	Testing the quality of Cement.		
a.	Setting Time (Per Sample)	600	1,320
b.	Compressive Strength (Per Sample)	760	1,330
c.	Soundness Test (Per Sample)	550	1,050
d.	Fineness Test (Per Sample)	325	700
7	Suitability of Sand		
a.	Clay lump Test (Per Sample)	180	430
b.	Material Finer than 75 micron (Per Sample)	430	800
c.	Organic Impurities (Per Sample)	240	620
d.	Specific Gravity (Per Sample)	240	560
e.	Sieve Analysis (Per Sample)	355	820
f.	Water Absorption (Per Sample)	325	830
8	Coarse Aggregate		
a.	Sieve Analysis (Per Sample)	355	780
b.	Specific Gravity (Per Sample)	240	530
c.	Water Absorption (Per Sample)	200	830
d.	Aggregate Impact Value (Per Sample)	240	500
e.	Aggregate Crushing Value (Per Sample)	250	530
f.	Aggregate Abrasion value by Los Angel (Per Sample)	320	740
9	Concrete Mix Design (Per Mix Design)	12,300	19,700
10	Flexural Transverse Strength Test on Concrete Beam (Per Specimen)	190	400
11	Testing of Core Sample (Per Specimen)	490	1,060
12	Charges for taking core sample (Per Specimen)		
a.	100mm dia core (Per Specimen)		1,120
b.	150mm dia core (Per Specimen)	500	1,220
13	Paving Blocks		
a.	Compressive Strength (Set of 3 Blocks)	280	700
b.	Transverse Strength Test (set of 3 Blocks)	300	750
c.	Water Absorption (Set of 3 Blocks)	390	950

S.N	Name of Test	Existing Test charges in (Rs.) (1)	Revised New Test charges in (Rs.) (2)
14	Flooring Tiles		
a.	Abrasion Test on cement concrete Tiles (Set of 6 Tiles)	700	1,700
b.	Water Absorption test (Set of 6 Tiles)	385	950
c.	Traansverse test on cement concrete tiles (Set of 6 Tiles)	740	1,100
d.	Transverse test on cement concrete tiles (Set of 6 Tiles) Dry test.	720	1,050
e.	Determination of Straightness of tile surface (Set of 6 Tiles)	300	650
f.	Determination of perpendicularity of tile surface (Set of 6 Tiles)	325	650
g.	Determination of Flatness of CC Tiles. (Set of 6 Tiles)	300	650
h.	Determination of water Resistance of CC Tiles (Set of 6 tiles )	710	1,750
15	Non Destructive Test:		
a.	Pulse Velocity Test by wing PUNDIT instrument (Per Reading)	100	190
b.	Rebound Hammer Test (Per Reading)	70	170
c.	Cover Meter (Per Reading)	35	90
16	Calibration Charges		
a. (i)	200 Ton Capacity Compressing Testing Machine (Per No.)		2,000
ii.	200 Ton Cap. Prooving ring (Per No.)	1,550	2,550
b. i.	100 Ton Cap. Compressing Testing Machine (Per No.)		1,800
ii)	100 ton.Cap. Prooving ring (Per No.)	1,400	2,200
c.i.	50 Ton. Cap. Compressing Testing Machine (Per No.)		1,370
ii.	50 Ton. Cap. Prooving Ring (Per No.)	940	1,680
d. i.	25 Ton. Cap. Comp. testing machine (Per No.)	-	1,200
ii.	25 Ton. Cap. Prooving Ring (Per No.)	750	1,550
<b>TRAFFIC LAB</b>			
1	Axle Load Test (24 hrs/ Per location)	6359	9000
2	Roughness Test using Hand held Roughometer ( Per Day)	-	13082
3	Roughness Test using Fifth wheel Bump Integrator (Per Day)	3701	5978

S.N	Name of Test	Existing Test charges in (Rs.) (1)	Revised New Test charges in (Rs.) (2)
4	Journey Speed and Journey Time Studies (Per Day)	-	5042
5	Spot Speed Studies (Per Day)	2501	4287
6	<b>Junction Improvements</b>		
a	NH/SH Mid Block Volume Count & Pedestrian Count (Per Location)	2610	8024
b	MDR/ODR Mid Block Volume Count & Pedestrian Count (Per Location)	2610	7544
c	NH/SH 4legged Junction Volume count & Pedestrian count (Per Location)	-	13548
d	SH/MDR 4legged Junction Volume count & Pedestrian count (Per Location)	-	13548
e	3 Legged Junction Volume count & Pedestrian count (Per Location)	-	10066
7	Origin and Destination Surveys		
	(a) on NH and SH (Per Location)	-	28196
	(b) on MDR and ODR(Per Location)	-	20812

Rajeev Ranjan  
Principal Secretary to Government

/True Copy/

*K. Srilakshmi*  
Section Officer 12/9/2013