

**- : SCHEDULE FOR TESTING OF MATERIALS :-**

For ensuring quality control and workmanship Various tests prescribed below for materials shall be taken at periodical intervals as stipulated below. The materials shall be got tested at Government recognized Laboratory (R&B) or field Laboratory of GERI (R&B) for which 1% of the estimated amount put to tender shall be recovered from the contractor from the RA bills and final bills and the testing charges shall be paid to the GERI by the Government . However if the charges increase over 1% no excess recovery shall be made from the contractor as per resolution of B & C department dated 10th May 1985 vide TNC/ 1085/ (4)/ S

It. No. as per schedule "B"	Brief description of materials to be tested	Qty of material	Prescription of test which shall be carried out	Frequency at which test shall be carried out	Total No of test to be taken.
1]	Coarse Aggregate		- Gradation test - Impact value - Flakiness and elongation	1 to 100 cm      1 test 100 to 500 cm      3 test 500 to 1500 cm      5 test 1500 to 5000 cm      7 test  Minimum 1 test/ work	
2]	Grit		- Stripping value	As above	
3]	Granular materials		- Gradation - Atterbeg limits	As above	
4]	Murum		- P I Value	One test per 50 cum.	
5]	Sand/ quarry spall		- Silt content - Gradation - CBR test	One test per work/ season One test per 200 cmt. One test per work	
6]	Asphalt		1 Penetration test as per IS 1203 2 Ductility test as per IS 1208 3 Specific gravity test as per IS 1202 4 Softening point test as per IS 1204 5 Viscosity test as per IS 1206	1 to 10 tanker      1 test 11 to 20 tanker      2 test 21 to 50 "      3 test 51 to 100 "      4 test Remaining every 50"      1 test	
7]	Cement		- Consistency - Setting time - Compressive strength	Up to 50 MT      1 test 100 MT      2 test 200 MT      3 test 300 MT	

			<ul style="list-style-type: none"> <li>- Fineness</li> <li>- Chemical analysis</li> <li>- Soundness</li> </ul>	500 MT 800 MT 1300 MT	3 test 4 test 5 test 6 test 7 test and 8 test for larger consignment	
8]	CC Cubes		<ul style="list-style-type: none"> <li>- Compressive Strength (I.S. 519 – 1959)</li> </ul>	1 to 5 cms 6 to 15 cms 16 to 20 cms 21 to 50 cms 51 and above (For each additional 50 m <sup>3</sup> or part thereof)	1 No 2 No 3 No 4 No 4 + 1	
9]	Water		<ul style="list-style-type: none"> <li>- Chemical test</li> </ul>	Once for approval of source of supply		
10]	Steel		<ul style="list-style-type: none"> <li>- Tensile Strength</li> <li>- Yield Stress</li> <li>- Elongation</li> <li>- Size</li> </ul>	1 test/ 40 tonnes/ per category		
11]	Bricks		<ul style="list-style-type: none"> <li>- Water absorption</li> <li>- Efflorence</li> <li>- Size</li> <li>- Compressive Strength</li> </ul>	1 test per 50,000 bricks		
12]	Prime coat/ Tack coat		<ul style="list-style-type: none"> <li>- Quality of binder</li> <li>- Binder temperature for application</li> <li>- Rate of spread of binder</li> </ul>	Number of samples per lot and test as per IS:73 At regular close intervals  Two test per 500 m <sup>2</sup> and not less than two test per day		
13]	Carpet and Seal coat mix/ B.M/ M.S.S.		<ul style="list-style-type: none"> <li>- Quality of binder</li> <li>- Grading</li> <li>- Temperature of binder</li> <li>- Binder content vide 45 IMD 2172</li> </ul>	Number of samples per lot and test as per IS:73 1 test on individual contents and mix aggregate from the dryer for each 100 tonnes of mix subject to minimum of two test per plant per day At regular close intervals  One test for each 100 tonnes of mix subject to mini. of Two per day		

			- Rate of spread of mix materials	Regular control through checks on layer thickness	
14]	Granular Sub-base	*****	<ul style="list-style-type: none"> <li>- Gradation</li> <li>- Atterberg limits</li> <li>- Moisture content prior to compaction</li> <li>- Density of compacted layer</li> <li>- Deleterious constituents</li> <li>- C.B.R.</li> </ul>	As mentioned under serial number 3 As mentioned under serial number 3 As mentioned under serial number 3 One test per 500 m <sup>2</sup> As required As required	
15]	Wet Mix Macadam		<ul style="list-style-type: none"> <li>- Aggregate Impact Value</li> <li>- Grading</li> <li>- Flakiness and Elongation Index</li> <li>- Atterberg limits of portion of aggregate passing 425 micron sieve</li> <li>- Density of compacted layer</li> </ul>	As mentioned under serial number 1 As mentioned under serial No.1 As mentioned under serial number 1 As mentioned under serial number 3 One test per 500 m <sup>2</sup>	
16]	Water Bound Macadam		<ul style="list-style-type: none"> <li>- Aggregate Impact Value</li> <li>- Grading</li> <li>- Flakiness Index and Elongation index</li> <li>- Atterberg limits of binding material</li> <li>- Atterberg limits of portion of aggregate passing 425 micron sieve</li> </ul>	As mentioned under serial number 1 As mentioned under serial No.1 As mentioned under serial number 1 As mentioned under serial number 1 As mentioned under serial number 1	
17]	Earthwork		<ul style="list-style-type: none"> <li>- Sand Content [IS: 2720 (Part-4)]</li> <li>- Plasticity Test[IS:2720 (Part-5)]</li> <li>- Density Test [IS:2720 (Part-8)]</li> </ul>	2 tests per 3000 cubic metres of soil 2 tests per 3000 cub. metres of soil. 2 tests per 3000 cubic metres of soil. One test for every 250 cubic metres of soil.	

			- Moisture Content Test [IS :2720 (Part-2) ] - CBR Test	One CBR test for every 3000 cum. at least or closer as and when required by the Engineer.	
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The Number of tests will be as per Manual of quality control or latest Govt. G.R./Circular and it will be considered final

The contractor shall have to pay 1% of the estimated cost put to tender towards all testing of materials and the same shall be deducted from their bills for the works.

Testing charges of GERI shall be borne by Govt. No refund be made nor extra charges over 1% shall be recoverable from the contractor.

If directed by the Engineer in charge, the materials intended to be used for the work but not included in the above schedule shall also be got tested at Government recognized Laboratory or field Laboratory.

Signature of Contractor

**Executive Engineer,**  
**Panchayat (R&B) Division**  
**Surat**

**TEST SCHEDULE**

Sr. No.	Materials	Code of Practice	Onsite / Laboratory	Name of Laboratory Test	Reference Table	Frequency of Test		
1	2	3	4	5	6	7		
2	Road Studs / Cat eyes / RPM (Raised Pavement Marker)	IRC 35:2015; ASTM D4280	Laboratory Testing	Compressive Strength	Compressive Strength (Breaking load) – <b>13635kgf without breakage</b>	1 Sample for each color		
		IRC 35:2015; ASTM D4280	Laboratory Testing	Flexural Strength	909kgf without breakage or significant deformation (3.3mm)	1 Sample for each color		
		IRC 35:2015; ASTM D4280	Laboratory Testing	Resistance to Lens Cracking, Lens Impact Strength	No More than 2 radial cracks longer than 6.4mm	1 Sample for each Color		
		IRC 35:2015; ASTM D4280	Laboratory Testing	Co-efficient of Luminous Intensity – ASTM D4280	Co-efficient of Luminous Intensity (C.I.L)			1 Sample for each Color
					Observation Angle	Entrance Angle	White	
				0.2	0	279	167	70
				0.2	+20	112	67	28
				0.2	-20	112	67	28
3	Hot Applied Thermoplast Road Marking	IRC 35:2015; Section 800 of MORTH	On Site Testing with Reflectometer	(QD & RL) Retro Reflectivity (mcd/m2/lux)	Retro Reflectivity (mcd/m2/lux			Max. 6 (Six) Tests to be conducted per Km
					Design Speed	Initial (7 days)	Min Threshold Level (TL) Upto 2 years	
					Upto 65 kmph	200	80	
			65-100	250	120			
			IRC 35:2015; Section 800 of MORTH	Laboratory Testing	Proportions of Constituents of Marking Material			
				Component	White	Yellow		
				Binder	18.0 Min	18.0 Min		
				Glass Beads	30-30	30-30		
				Titanium Dioxide	10.0 Min	--		
				Calcium	42.0	--		

					Carbonate and Inert Filler	Max			
		IRC 35:201 5; Section 800 of MORTH	On Site Testing	Skid Resistance	Not less than 45 BPN (British Pendulum Number) as per BS:6044				Every 1 km for each color

Signature of Contractor

**Executive Engineer,  
Panchayat (R&B) Division  
Surat**