

Name of Work	Construction of Box Culvert at Vadpada To Haldhari road Ch 0/8 To 1/0 Ta:Umarpada Dist:Surat
--------------	--

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 a got tested at Government 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 R.A. bills and final bills at the testing charges shall be paid to the GERI by the Government. However if the crarges increase over 1% no excess recovery shall be made form the contractor as per resolution of B & C Department dated 10th, May 1985 vide TNC/1085 (4) s.

Item No. as per Schedule	Brief Description of materials to be tested.	Qty. of Materials	Prescription of test which shall be carried out	Frequency @ which test shall be carried out		Total Nos of test to be taken
1	2	3	4	5		6
1	25 to 90 H.B.Metal	0.00	Gradation test Impact Value Flakiness Index of	1 to 100 - cum. 100 to 500 - cum. 500 to 1500 - cum. 1500 to 5000 - cum.	1 Test 3 Test 5 Test 7 Test	3
	40 to 63 H.B.Metal		Gradation test Impact Value Flakiness Index of	1 to 100 - cum. 100 to 500 - cum. 500 to 1500 - cum. 1500 to 5000 - cum.	1 Test 3 Test 5 Test 7 Test	
	40 to 50 M.C.Metal		Gradation test Impact Value Flakiness Index of	1 to 100 - cum. 100 to 500 - cum. 500 to 1500 - cum. 1500 to 5000 - cum.	1 Test 3 Test 5 Test 7 Test	
	25 to 50 M.C..Metal	66.15	Gradation test Impact Value Flakiness Index of	1 to 100 - cum. 100 to 500 - cum. 500 to 1500 - cum. 1500 to 5000 - cum.	1 Test 3 Test 5 Test 7 Test	5
	Kapchi	85.05	Gradation test Impact Value Flakiness Index of	1 to 100 - cum. 100 to 500 - cum. 500 to 1500 - cum. 1500 to 5000 - cum.	1 Test 3 Test 5 Test 7 Test	7

Item No. as per Schedule	Brief Description of materials to be tested.	Qty. of Materials	Prescription of test which shall be carried out	Frequency @ which test shall be carried out		Total Nos of test to be taken
1	2	3	4	5		6
2	Grit	90.80	Stripping Value	1 to 100 - cum. 100 to 500 - cum. 500 to 1500 - cum. 1500 to 5000 - cum.	1 Test 3 Test 5 Test 7 Test	5
3	Marrum	115.37	P.I.Value	1 Test / 50 per cum		-
4	Sand Quarry Spaul CBR-1 test per work	760.05	Silt content Gradation	1 Test per Work 1 Test / 200 per cum		4
5	Asphalt	7.70	Penetration Test as per I.S. 1203	No. of Tanker	Test	1
				1 to 10	1	
				11 to 20	2	
				21 to 50	3	
				51 to 100	4	
				Remaining every 50 tankar	1	
			Ductility Test	As per I.S. 1208		
			Specification Gravity test	As per I.S. 1202		
	Softening point test	As per I.S. 1204				
	Viscosity test	As per I.S. 1206				
6	Tack Coat	1.50	Binder Temperature for application	Irregular close in intervals		2
			Rate of spread of Binder.	2 Test / Day.		
7	Carpet & Seal Coat. Mix		Grading	One Test on Individual		
			Temperature of binder in Boilor aggregates in the dryer and mix at the time of laying and rolling. (Binder content vide 45/MD. 2172)	Constituents and mixed aggregates from the dryer for each 100 tonnes of mix subject to minimum of Two tests per plant per day.		
				One Test for each 100 tones of mix subjects to minimum of two per Day.		
			Rate of Spreaded mix materials	Regular control through checks on layer thickness.		

Item No. as per Schedule	Brief Description of materials to be tested.	Qty. of Materials	Prescription of test which shall be carried out	Frequency @ which test shall be carried out		Total Nos of test to be taken
1	2	3	4	5		6
8	Bricks	0.00	Water absorption Efflorence Size Compressive Strength	1 test @ 50,000 Bricks		0
9	Cement	480.000	Consistency Setting time Compressive Strength.	Up to 50 T 100 T 200 T 300 T 500 T 800 T 1300 T	1 Test 2 Test 3 Test 4 Test 5 Test 6 Test 7 Test	8
				and 8 testd for large consingment.		
10	Steel	94.000	Tensile Strength Yiels Stress Elongation Size	1 Test / 40 Tonnes / per category		2

Item No. as per Schedule	Brief Description of materials to be tested.	Qty. of Materials	Prescription of test which shall be carried out	Frequency @ which test shall be carried out		Total Nos of test to be taken	
1	2	3	4	5		6	
11	C.C.Cube 1:2:4	M 15 M 20 M 25 M 30 M 35 M 40 M45/50	149.00 0.00 0.00 992.17 36.83	Compressive Strength. (I.S 516 - 1959)	Quantity in CMT.	No. of Test	5 for Each Grade
					1 to 5	1.00	
					6 to 15	2.00	
					16 to 30	3.00	
					31 to 50	4.00	
					51 & Above	4+1	
					For each additional 50 m³ or part thereof		

The Number of test will be as per Manual of Quality Control or Latest Govt. G.R / Circulars will be Final.

The contractor shall have to pay 1% of the estimate cost put to tender towards all testing of materials & the same shall be deducted from their bills for the work. The testing of various materials shall be carried out in GERI and result received shall be binding to all i.e. the contractor and Government.

Testing charges of GERI shall be born by Govt. No refund be made not extra charges over 1% shall be recoverable from the contractor.

Signature of Contractor.

**Deputy Executive Engineer,
Pan. (R & B) Division
Mangrol**

**Executive Engineer
Pan. (R & B) Division
Surat**

TESTING SCHEDULE FOR THERMOPLAST

Sr.No.	Materials	Code of Practice	Onsite/Laboratory	Name of Laboratory Test	Reference Table			Frequency of Test
1	2	3	4	5	6			7
1	Hot Applied Thermoplast Road Marking	IRC 35:2015; Section 800 of MORTH	On site testing with Reflectometer	(RL) Retro Reflectivity (mcd/m ² /lux)	Retro Reflectivity (mcd/m ² /lux)			<i>max. 6 test to be conducted per km</i>
					Design Speed	Initial (7 days)	Min Threshold Level (TL) upto 2 years	
					upto 65 kmph	200.00	80.00	
					65-100 kmph	250.00	120.00	
		IRC 35:2015; Section 800 of MORTH	Laboratory Testing	Proportions of Constituents of Marking Material	Component	White	Yellow	<i>1 sample for each colour</i>
					Binder	18 min	18 min	
					Glass Beads	30-30	30-30	
					Titanium Dioxide	10 min	-	
					Calcium Carbonate and inert filler	42 max	-	
		IRC 35:2015; Section 800 of MORTH	On site Testing	Skid Resistance	Not less than 45 BPN (British Pendulum No.) as per BS 6044.			<i>Every 1 km for each colour</i>

TESTING SCHEDULE FOR CAT EYES

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) 13635kgf without breakage					<i>1 sample for each colour</i>
		IRC 35:2015; ASTM D4280	Laboratory Testing	Flexural strength	909KG without breakage or significant deformation (3.3 mm)					<i>1 sample for each colour</i>
		IRC 35:2015; ASTM D4280	Laboratory Testing	Resistance to Lens Cracking, lens	No more than 2 radial cracks longer than 6.4 mm					<i>1 sample for each colour</i>
		IRC 35:2015; ASTM D4280	Laboratory Testing	Coefficient of luminous intensity ASTM D4280	Coefficient of Luminous Intensity					<i>1 sample for each colour</i>
					Observation Angle	Entrance Angle	White	Yellow	Red	
					0.20	0.00	279.00	167.00	70.00	
					0.20	+20	112.00	67.00	28.00	
					0.20	-20	112.00	67.00	28.00	
		IRC 35:2015; ASTM D4280	On site testing	Skid Resistance	Not less than 45 BPN (British Pendulum No.) as per BS 6044					<i>every 1 km for each colour</i>

TESTING SCHEDULE FOR RETRO REFLECTIVE SHEET

Sr.No.	Materials	Code of Practic	Onsite/Laboratory	Name of Laboratory Test	Reference Table	Frequency of Test																																																																																																																
1	2	3	4	5	6	7																																																																																																																
1	Retro Reflective Sheeting for the Signage	IRC 67;2012 ASTM D-4956	On site Testing with Reflectometer make: Delta, Zehntner, Roadvista -Complying to ASTM D 4956	Co-efficient of Retro reflection	<div>Class -B type -4 High Intensit Grade</div> <table> <tr> <th>Observation angle</th><th>Entrance Angle</th><th>White</th><th>Yellow</th><th>Green</th><th>R ed</th><th>Blue</th></tr> <tr> <td>0.1 °^B</td><td>-4o</td><td>500</td><td>380</td><td>70</td><td>90</td><td>42</td></tr> <tr> <td>0.1 °^B</td><td>+30o</td><td>240</td><td>175</td><td>32</td><td>42</td><td>20</td></tr> <tr> <td>0.2 °^B</td><td>-4o</td><td>360</td><td>270</td><td>50</td><td>65</td><td>30</td></tr> <tr> <td>0.2 °^B</td><td>+30o</td><td>170</td><td>135</td><td>25</td><td>30</td><td>14</td></tr> <tr> <td>0.5 °^B</td><td>-4o</td><td>150</td><td>110</td><td>21</td><td>27</td><td>13</td></tr> <tr> <td>0.5 °^B</td><td>+30o</td><td>72</td><td>54</td><td>10</td><td>13</td><td>6</td></tr> </table> <div>class - c Type-11 Micro Prismatic Grade</div> <table> <tr> <th>Observation angle</th><th>Entrance Angle</th><th>White</th><th>Yellow</th><th>Green</th><th>R ed</th><th>Blue</th></tr> <tr> <td>0.1 °^B</td><td>-4 o</td><td>830</td><td>620</td><td>83</td><td>125</td><td>37</td></tr> <tr> <td>0.1 °^B</td><td>+30 o</td><td>325</td><td>245</td><td>33</td><td>50</td><td>15</td></tr> <tr> <td>0.2 °</td><td>-4 o</td><td>580</td><td>435</td><td>58</td><td>87</td><td>26</td></tr> <tr> <td>0.2 °</td><td>+30 o</td><td>220</td><td>165</td><td>22</td><td>33</td><td>10</td></tr> <tr> <td>0.5 °</td><td>-4 o</td><td>420</td><td>315</td><td>42</td><td>63</td><td>19</td></tr> <tr> <td>0.5 °</td><td>+30 o</td><td>150</td><td>110</td><td>15</td><td>23</td><td>7</td></tr> <tr> <td>1.0 °</td><td>-4 o</td><td>120</td><td>90</td><td>12</td><td>18</td><td>5</td></tr> <tr> <td>1.0 °</td><td>+30 o</td><td>120</td><td>90</td><td>12</td><td>18</td><td>5</td></tr> </table>	Observation angle	Entrance Angle	White	Yellow	Green	R ed	Blue	0.1 ° ^B	-4o	500	380	70	90	42	0.1 ° ^B	+30o	240	175	32	42	20	0.2 ° ^B	-4o	360	270	50	65	30	0.2 ° ^B	+30o	170	135	25	30	14	0.5 ° ^B	-4o	150	110	21	27	13	0.5 ° ^B	+30o	72	54	10	13	6	Observation angle	Entrance Angle	White	Yellow	Green	R ed	Blue	0.1 ° ^B	-4 o	830	620	83	125	37	0.1 ° ^B	+30 o	325	245	33	50	15	0.2 °	-4 o	580	435	58	87	26	0.2 °	+30 o	220	165	22	33	10	0.5 °	-4 o	420	315	42	63	19	0.5 °	+30 o	150	110	15	23	7	1.0 °	-4 o	120	90	12	18	5	1.0 °	+30 o	120	90	12	18	5	5 Tests (1 Sample of Each color) for every 1 km.
Observation angle	Entrance Angle	White	Yellow	Green	R ed	Blue																																																																																																																
0.1 ° ^B	-4o	500	380	70	90	42																																																																																																																
0.1 ° ^B	+30o	240	175	32	42	20																																																																																																																
0.2 ° ^B	-4o	360	270	50	65	30																																																																																																																
0.2 ° ^B	+30o	170	135	25	30	14																																																																																																																
0.5 ° ^B	-4o	150	110	21	27	13																																																																																																																
0.5 ° ^B	+30o	72	54	10	13	6																																																																																																																
Observation angle	Entrance Angle	White	Yellow	Green	R ed	Blue																																																																																																																
0.1 ° ^B	-4 o	830	620	83	125	37																																																																																																																
0.1 ° ^B	+30 o	325	245	33	50	15																																																																																																																
0.2 °	-4 o	580	435	58	87	26																																																																																																																
0.2 °	+30 o	220	165	22	33	10																																																																																																																
0.5 °	-4 o	420	315	42	63	19																																																																																																																
0.5 °	+30 o	150	110	15	23	7																																																																																																																
1.0 °	-4 o	120	90	12	18	5																																																																																																																
1.0 °	+30 o	120	90	12	18	5																																																																																																																