

**Name of Work :- SR to M.S. Building & Various Building of Vaso Section under R & B Sub Division , Nadiad**

**FREQUENCY FOR TESTING OF MATERIALS**

ITEM	TEST	FREQUENCY	PERMISSIBLE LIMIT
<b>CEMENT</b>	<b>SETTING TIME:</b> 1). INITIAL TIME, 2). FINAL TIME	50 TON- 1 SAMPLE (15 KG) 50 TO 100 TON- 2 SAMPLE 100 TO 200 TON- 3 SAMPLE 200 TO 300 TON- 4 SAMPLE 300 TO 500 TON- 5 SAMPLE 500 TO 800 TON- 6 SAMPLE 800 TO 1300 TON- 7 SAMPLE	1). INITIAL TIME NOT LESS THAN <b>30 MINUTES</b> AND 2). FINAL TIME NOT LESS THAN <b>600 MINUTES</b>
	FINENESS	1 TEST PER 5 SAMPLES (I.S SIEVE 90 MICRON)	<b>90% OR MORE</b> SHOULD PASS FROM <b>90 MICRON</b> SIEVE
	CONSISTENCY	1 SAMPLE (DEPENDS ON EVERY SAMPLE)	<b>ABOUT 30%</b>
	COMPRESSIVE STRENGTH	3 DAYS, 7 DAYS, 28 DAYS.	<b>FOR OPC:</b> 110 KG/cm <sup>2</sup> @ 3 DAYS 220 KG/cm <sup>2</sup> @ 7 DAYS 310 KG/cm <sup>2</sup> @ 28 DAYS
	FINENESS BY SPECIFIC SURFACE	1 TEST FOR 5 SAMPLES	<b>FOR OPC:</b> 2035 CM/GRAM <b>FOR PPC:</b> 3030 CM/GRAM
	CHEMICAL TEST (IS : 4032- 986)	1 TEST PER 5 SAMPLES	<b>MAGNESIUM OXIDE</b> LESS THAN 6% <b>SULPHUR TRI-OXIDE</b> LESS THAN 2.75% <b>IGNITION LOSS</b> UPTO 5%
<b>SAND</b>	SILT CONTENT	1 TEST PER 150 CMT (1 SAMPLE 10 KG)	<b>NOT MORE THAN 3 % OF ZONE-IV SAND</b> SHOULD BE USE
	FINENESS MODULUS	1 TEST PER 250 CMT	<b>AS PER SPECIFICATION</b>
	Gradation test		
	Specific Gravity Water Absorption		
<b>GRIT/ KAPCHI</b>	Specific Gravity	FOR BMC, 2 TEST FROM ONE PLANT	<b>AS PER SPECIFICATION</b>
	GRADATION TEST	UP TO 100 CMT- 1 SAMPLE 101 TO 500 CMT- 3 SAMPLE 501 TO 1500 CMT- 5 SAMPLE 1501 TO 5000 CMT- 7 SAMPLE	<b>NOT MORE THAN 35% FOR BITUMEN</b>
	FLAKINESS TEST		NOT MORE THAN 35%
	ELONGATION TEST		<b>AS PER SPECIFICATION</b>
	SOUNDNESS		
	CRUSHING		<b>NOT MORE THAN 30%</b>
	ABRASION TEST		<b>NOT MORE THAN 25%</b>
	STRIPING TEST	2 TESTS FROM ONE PLANT & 1 TEST PER 100 TON	<b>NOT MORE THAN 25%</b>
	BITUMIN EXTRACTION TEST	MINIUMU 1 TEST OR AS REQUIRED	<b>0.3% (OF DESIRED STANDARDS)</b>
	PENETRATION TEST		<b>UPTO .80 -4% 80 TO 225 -5% ABOVE 225 -0%</b>
<b>Metal 40-63mm</b>	Gradation Flakiness Abrasion Crushing Elongation	0 to 100 Cum = 1 Test 101 to 500 Cum , 3 Test 501 to 1500 Cum = 5 Test 1500 to 5000 Cum = 7 Test Carried out 1 test for Each work	<b>AS PER SPECIFICATION</b>
<b>Asphalt VG- 30</b>	Penetration test Softening point test Ductility Viscosity test Specific wavyly	1 to 1 Tanker 1 test 2 to 15 Tanker 2 test 16 to 50 Tanker 3 test 51 to 100 Tanker 4 test Remaining Every.50 Tanker 1 Test	<b>AS PER SPECIFICATION</b>
<b>Stone Dust</b>	Stripping Value	1 to 100 Cum = 1 Test 101 to 500 Cum = 3 Test 501 to 1500 Cum = 5 Test 1500 to 5000 Cum = 7 Test	<b>AS PER SPECIFICATION</b>

<b>BRICK</b>	ABRASION TEST	20 BRICKS PER 2000 BRICKS, 32 BRICKS PER 35000 BRICKS, 50 BRICKS PER 35000 BRICKS	<b>MODERATE</b>
	WATER ABSORPTION TEST		<b>NOT MORE THAN 20%</b>
	COMPRESSIVE STRENGTH		<b>NOT LESS THAN 35 KG/CM. SQ</b>
<b>C.C FLOORING TILES</b>	WATER ABSORPTION TEST	6 TILES PER 2000 TILES	<b>MAXIMUM 10 %</b>
	TRANSVERSE TEST	12 TILES PER 2000 TILES	WET DRY 80 KG/CM. 120KG/CM
	ABRASION TEST	6 TILES PER 2000 TILES	<b>AVERAGE ABRASION SHOULD NOT BE MORE THEN 3.5 MM</b>
<b>WATER</b>	PH VALUE	1 TEST PER SOURCE (AFTER AS REQUIRED)	<b>TDS (3000 MG/LT)</b> <b>SULPHATE (500 MG/LT)</b> <b>PH VALUE (6 TO 8)</b> <b>FLOURIDE (2000 MG/LT FOR PPC)</b> <b>FLOURIDE (1000 MG/LT FOR RCC)</b> <b>CARBONIC MATTER (200)</b> <b>ACARBONIC MATTER (3000)</b>
	CHEMICAL ANALYSIS		
<b>C.C CUBE</b>	COMPRESSIVE STRENGTH (7 DAYS & 28 days)	1 to 5 cum = 1 Set 6 to 15 cum = 2 Set 16 to 30 cum = 3 Set 31 to 50 cum = 4 Set 51 cum and above = 4+1 one additional sample for each additional 50 cum (1 SET= 6 CUBES)	AVERAGE OF SET SHOULD ACHIEVE: <b>65% STRENGTH OF GRADE @ 7 DAYS</b> <b>99% STRENGTH OF GRADE @ 28 DAYS NOTE:</b> INDIVIDUAL VARIATION SHOULD NOT BE MORE THAN ± 15 % OF THE AVERAGE
	C.C CUBE FOR BRIDGE WORKS	10 CUBES PER 50 CMT (5 CUBES FOR 7 DAYS & 5 CUBES FOR 28 DAYS)	
<b>HARDENED Concrete</b>	CORE FROM STRUCTURE ELEMENT	At least three specimens, preferably from different batches or as per directed by engineer in charge.	<b>AS PER SPECIFICATION &amp; As per IS Code</b>
<b>STEEL</b>	ELONGATION TEST	1 TEST PER 40 TON	<b>AS PER SPECIFICATION</b>
	TENSILE STRENGTH		
	YIELD STRESS		
	WEIGHT & WIDTH		
<b>SLUMP TEST</b>	DIMENSION	BEFORE EVERY CASTING	LOW WORKABILITY: <b>25-75 MM</b> MEDIUM WORKABILITY: <b>75-100 MM</b> HIGH WORKABILITY: <b>100-150 MM</b> NOTE: ONLY FOR AGGREGATE SIZE UPTO <b>38 MM</b>
<b>BITUMEN QAULTY</b>	TEST AS REQUIRED	1 MT-1 SAMPLE 2 TO 15 MT-2 SAMPLE 16 TO 50 MT-3 SAMPLE 51 TO 150 MT-5 SAMPLE 151 TO 500 MT-8 SAMPLE ABOVE 501 MT -13 SAMPLE	<b>AS PER I.S0-1201</b>
<b>CRUSHED METAL</b>	GRADATION TEST	UP TO 100 CMT- 1 SAMPLE 101 TO 500 CMT- 3 SAMPLE 501 TO 1500 CMT- 5 SAMPLE 1501 TO 5000 CMT- 7 SAMPLE	<b>AS PER I.S-2430 (1986)</b>
	FLAKINESS TEST		
	IMPACT VALUE		
	ABRASION TEST		
	CRUSHING STRENGTH	MINIMUM 1 TEST	
<b>SOIL</b>	Grain size analysis	AS REQUIRED	<b>AS PER SPECIFICATION</b>
	Liquid Limit		
	Plasticity Index		
	Proctor Density Test		
	Moisture Content		
	Free swelling Test		
	CBR Test		
<b>MURRUM</b>	PLASTICITY INDEX	1 TEST PER 400 CMT	
<b>Road Sign Board</b>	Retro - Reflection	Each and every installed sign board	<b>AS PER SPECIFICATION</b>
<b>Thermoplastic Road Marking</b>	Roundness,	as per directed by engineer in charge	<b>AS PER SPECIFICATION &amp; AASHTO M249</b>
	Refractive Index		
	free flowing properties		
	Retro - Reflection		

Deputy Executive Engineer  
R and B Sub Division  
Nadiad

Executive Engineer  
Kheda R and B Division  
Nadiad