GCC ENGINEERING SERVICES

(An ISO/IEC 17025 : 2017 Accredited Construction Material Testing Laboratory By NABL)

S. No. 24/1, Plot No. 50, Lane No 1. River View Park , Bhapkar Mala, Near Shree Samarth Temple , Manjari BK. Pune - 412307

TESTING SERVICES

PHYSICAL TEST

Sr. No.	Material of Test	Min Qty	IS Code	Time Frame
1)	**CONCRETET MIX DESIGN**			
1	Non-Pumpable Concrete Mix Design	1 Bag Cement , 3 Bag Sand Each , 4 Bag Each Size Aggregates (Material Per Design)	IS 10262: 2019 , IRC 44 :2017, IS 456:2020	Based on 7 Days Report , Required Time-10 days, Final Report -32 days
2	Pumpable Concrete Mix Design			
3	Conventional Concrete Mix Design (Based on Accelrated Curing Method)			
4	Pumpable Concrete mix (Based on Accelrated Curing Method)			
5	Self Compacting Concrete			
6	Material Testing (Raw Material)			
2)	**CONCRETE CUBE / BEAM / CORE TEST**			
1	Compressive Strength of Cube	3 Nos	IS 516 (Part 1/ Sec 1) : 2021	2 Days
2	Compressive Strength by Accelerating Curing	3 Nos	IS 9013 : 1978	2 Days
3	Compressive strength of Core (Including Cutting,Capping ,Testing and Filling charges)	Min 3 Nos Required	IS 516 (Part 4) : 2018	3 Days
4	Compressive Strength of Core (including Capping & Testing)	Min 3 Nos Required	IS 516 (Part 4) : 2018	3 Days
5	Flexural Test on Concrete beam	Min 3 Nos Required	IS 516 (Part 1/ Sec 1) : 2021	2 Days
6	Split Tensile Strength of Concrete Cube/Cylinder	Min 3 Nos Required	IS 516 (Part 1/ Sec 1) : 2021	2 Days
7	Density of Concrete Cube/Core	Min 3 Nos Required	IS 516 (Part 2/ Sec 1) : 2018	2 Days

3)	**PAVER BLOCK**			
1	Water Absorption	Min 3 Nos Required	IS 15658 : 2021	3 Days
2	Compressive Strength	Min 8 Nos Required		2 Days
3	Dimension	Min 5 Nos Required		2 Days
4	Flextural Strength / Breaking load	Min 8 Nos Required		2 Days
4)	**AUTOCLAVED AEARATED CONCRETE BLOCKS (AAC)**			
1	Bulk Density	Min 3 Nos Required	IS 6441 (Part 1) : 1972	3 Days
2	Compressive Strength	Min 12 Nos Required	IS 6441 (Part 5) : 1972	3 Days
3	Moisture Content	Min 3 Nos Required	IS 6441 (Part 1) : 1972	3 Days
4	Dimension	Min 24 Nos Required	IS 2185 (Part 3) : 1984	2 Days
5)	**HOLLOW & SOLID LIGHT WEIGHT CONCRETE (HSLC)**			
1	Compressive Strength	Min 8 Nos Required	IS 2185 (Part 2) : 1985	3 Days
2	Density of Block	Min 3 Nos Required		
3	Water Absorption	Min 3 Nos Required		
6)	**BRICK TEST (BURNT CLAY & FLY ASH)**			
1	Water Absorption	Min 5 Nos Required	IS 3495 (Part 1 to 3): 2019, IS 13757 : 1993, IS 1077 :1992	3 Days
2	Compressive Strength	Min 5 Nos Required		6 Days
3	Efflorescence Test	Min 5 Nos Required		5 Days
4	Dimension Analysis	Min 20 Nos Required		2 Days
7)	**NATURAL BUILDING STONE**			
1	Wet Compressive Strength Dressing and Testing	4 to 6 boulders aprox 200 mm Diameter	IS 1121 (Part 1) : 2013 , IS 1124 : 1974	4 Days
2	Specific Gravity and Water Absorption			
3	Porosity			
4	Density of Rock			

8)	**ROCK TEST**			
1)	Density	Min 5 Nos Required	IS 13030 : 1991	2 Days
2)	Specific Gravity and Water Absorption			3 Days
3)	Porosity			3 Days
4)	Unconfined Compressive Strength		IS 9143 : 1979	2 Days
5)	Point Load		IS 8764 : 1998	2 Days
9)	**HYDRAULIC CEMENT (PHYSICAL TEST)**			
1	Standard Consistency	Sealed Bag 50 kg	IS 4031 (Part 4) : 1988	1 Days
2	Fineness by Blain's Air Permeability		IS 4031 (Part 1) : 1999	2 Days
3	Fineness by Dry Sieving		IS 4031 (Part 2) : 1999	1 Days
4	Soundness by Le Chatelier's Apparatus		IS 4031 (Part 3) : 1988	2 Days
5	Initial and Final Setting Time		IS 4031 (Part 5) : 1988	2 Days
6	Specific Gravity of Cement		IS 4031 (Part 11) : 1988	1 Days
7	Compressive Strength (3 cubes each) 3,7 & 28 day		IS 4031 (Part 6) : 1988	30 Days
8	**For all tests as mentioned above**			
10)	**PULVERISED FUEL ASH (FLY ASH) -PHYSICAL TEST**			
1	Consistency	Sealed Bag 25 KG	IS 1727:1967	Based on 7 Days Report , Required Time-10 days, Final Report -92 days
2	Fineness Blaine Air permeability			
3	Fine ness by Dry Sieving			
4	Finness by Wet Sieving			
5	Soundness by Le Chatelier's			
6	Soundness by Autoclave			
7	Initial and final Setting Time			
8	Specific Gravity			
9	Lime Reactivity			
10	Compressive Strength (3 cubes each) 7,28& 90 day			

11)	**FINE AGGREGATE (NATURAL / CRUSHED / MIXED / MANUFACTURED SAND)**			
1	Sieve Analysis& Fineness Modulus	1 Bag (Aprox 25kg)	IS 2386 (Part 1) : 1963	1 Day
2	Material Finer than 75 Micron (Silt Content)		IS 2386 (Part 1) : 1963	2 Day
3	Specific Gravity and Water Absorption		IS 2386 (Part 3) : 1963	3 Day
4	Bulk Density		IS 2386 (Part 3) : 1963	1 Day
12)	**COARSE AGGREGATE**			
1	Sieve Analysis	1 Bag (Aprox 50kg)	IS 2386 (Part 1) : 1963	1 Day
2	Specific Gravity and Water Absorption		IS 2386 (Part 3) : 1963	3 Day
3	Bulk Density		IS 2386 (Part 3) : 1963	1 Day
4	Flakiness Index		IS 2386 (Part 1) : 1963	2 Day
5	Elongation Index		IS 2386 (Part 1) : 1963	2 Day
6	Crushing Value		IS 2386 (Part 4) : 1963	2 Day
7	Impact Value		IS 2386 (Part 4) : 1963	2 Day
8	10 % Fines Value		IS 2386 (Part 4) : 1963	2 Day
9	Abrasion Value		IS 2386 (Part 4) : 1963	2 Day
13)	**SOIL TEST & GEOTECHNICAL SURVEY**			
1	Investigation of the site using verious soil exploration	At Actual Requirement	IS 2720 IS 2131 IS 9143 IS 8764	As per Work Volume
	Field density/ In-situ bulk Density			
2	a) By Sand Replacement Method	In Situ Test	IS 2720 (Part 28) : 1974	2 Days
	b) By Core Cutter Method.		IS 2720 (Part 29) : 1975	2 Days
3	Moisture Content	1 Bag (Aprox 50 Kg)	IS 2720 (Part 2) : 1973	2 Days
4	Specific Gravity		IS 2720 (Part 3 / Sec 1) : 1980	2 Days
5	Grain Size Analysis by Sieving		IS 2720 (Part 4) : 1985	2 Days
6	Free Swell Index		IS 2720 (Part 40) : 1977	3 Days
7	Atterberg's Limit's (LL & PL) & Plasticity Index		IS 2720 (Part 5) : 1985	2 Days
8	Light Compaction Test / MDD & OMC (Standard)		IS 2720 (Part 7) : 1980	3 Days
	Heavy Compaction Test / MDD & OMC(Modified)		IS 2720 (Part 8) : 1983	3 Days
9	Laboratory CBR			
	a) Soaked		IS 2720 (Part 16) : 1987	2 Days
	b) Unsoaked			5 Days

14)	**NON - DESTRUCTIVE TEST (NDT)**			
1	Structural Audit			
2	Ultrasonic Pulse Velocity method	Min 10 points Required	IS 516 (Part 5/Sec 1) : 2018	2 Days
3	Rebound Hammer method		IS 516 (Part 5/Sec 4) : 2020	
4	Half cell potentiaometer (Corrosion Test)		IS 516 (Part 5/Sec 2) : 2021	
5	Cover Meter		IS 516 (Part 4)-2018 Clause 5.9	
6	Carbonation		IS 516 (Part 5/Sec 3) : 2021	
15)	**STEEL TEST**			
1	Tensile Strength & Percentage Elongation	3 Pieces of 1 m of each diameter	IS 1786 : 2008, IS 1608 : 2005, ISO 6892 :1998, IS 432 : 1982	2 Days
2	90o/180o Bend Test			
3	135o/157.5o Rebend Test			
4	For all tests as mentioned above			
5	Splice bar		IS 1786 : 2008 IRC 21 : 2000	
16)	**BITUMEN TEST**			
1	Softening Point	5 kg	IS 1205 :1978	2 Days
2	Penetration Test		IS 1203 :1978	2 Days
3	Specific Gravity		IS 1202 :1978	2 Days
4	Ductility Test		IS 1208 :1978	2 Days
5	Viscosity - Kinematic Viscosity & Absolute		IS 1206 (Part 3) : 1978	3 Days
17)	**BITUMEOUS MIXES (BM,DBM,SDBC,BC,SMA, Masticasphalt etc as per MORTH Section 500)**			
1	Bitumen Binder Content	2kg	ASTM (Part 11): 1964 D - 2172	2 Days
2	Gradation for Extracted mix	2kg	IS 2386 (Part 1) : 1963	1 Day
3	Marshall Stability Test	3 Nos Prepared Moulds	ASTM - D 1599 - 62 (Part 11) : 1964	2 Days
4	Marshall Stability Test involving preperation of moulds	Bitumen 5 kg , Aggregate each size = 25 kg each	ASTM D - 6926 - 04	3 Days
5	Testing on material for Bituminous Concrete / Macadam Mix Design	Aggregate each size - 50 kg each Bitumen - 15 kg	IS 2386 (Part 1,3,4,5) : 1963 IS :1971, IS 1201 to IS 1209	5 Days
6	Bituminous Job Mix		MS2	10 Days
7	Bituminous Pavement core cutting	Upto 3 Locations	MORTH and H	1 Day
	Extra Core excluding above three	Above 3 Points, Each Point	MORTH and H	—
8	Dressing of Core	_	MORTH and H	1 Day
9	Density of Core	_	ASTM D 2726 - 05 A	2 Days

18)	**ADMIXTURE TEST**			
1	pH	1 Litre	IS 9103 : 1999	1 Day
2	Density		IS 9103 : 1999	1 Day
3	Ash Content		IS 9103 : 1999	2 Days
4	Chloride		IS 6925 : 1973	1 Day
5	Solid Content		IS 9103 : 1999	1 Day
	CHEMICAL TEST			
1)	**CONCRETE TEST (CHEMICAL)**			
1	pH of concrete	5 KG	IS 3025	3 Days
2	Chloride		IS 3025	3 Days
3	Sulphate		IS 3025	3 Days
2)	**STEEL -CHEMICAL TEST:**			
1	Chemical analysis for elemnts C,S,P, etc.	100 mm Bar per Length	IS 1786 : 2008 IS 228 (Part 1,3,9) IS 1608 : 2005, ISO 6892 : 1998, IS 432 : 1982	2 Days
3)	**WATER TEST FOR CONSTRUCTION PURPOSE**			
1	pH	2 Litre Can	IS 3025	5 Days
2	Alkalinity			
3	Acidity			
4	Total Hardness			
5	Sulphates (as SO3)			
6	Chlorides (as Cl)			
7	Organic Solids			
8	Inorganic Solids			
9	Total Suspended Solids			

4)	**WATER TEST FOR DRINKING PURPOSE**			
1	Colour	2 Litre in Sterile Bottel	IS 10500	7 Days
2	Odour			
3	Taste			
4	Turbidity			
5	Total Hardness			
6	pH		IS 1622	
7	Sulphates (as SO3)			
8	Chlorides (as Cl)			
9	Alkalinity			
10	Acidity		IS 3025	
11	Organic Solids			
12	Inorganic Solids			
13	Total Dissolve Solids			
14	Total Suspended Solids			
15	Total Bacterial Count			
16	E-Coli			
5)	**HYDRAULIC CEMENT (CHEMICAL TEST)**			
1	Calcium Oxide (CaO)	Sealed Bag 50 Kg	IS 4032 : 1989	4 Days
2	Silica (SiO2)			
3	Ferric Oxide (Fe2O3)			
4	Aluminum Oxide (Al2O3)			
5	Magnasium Oxide (MgO3)			
6	Sulphate (SO3)			
7	Loss on Ignation (LOI)			
8	Insoluble Residue (IR)			
9	Chlorides (Cl -)			
10	Total Alkalies			

6)	**FLYASH CHEMICAL TEST**			
1	Silicon dioxide SiO_2	Sealed Bag 30 Kg	IS 1727 : 1967	4 Days
2	Aluminium Oxide AI_2O_3			
3	Iron Oxide Fe_2O_3			
4	Calcium Oxide CaO			
5	Magnesium Oxide MgO			
6	Total sulphar as Sulphar- trioxide SO_3			
7)	**COARSE AND FINE AGGREGATE (CHEMICAL TEST)**			
1	pH	10 Kg	IS 3025 (Part 11) : 1988	7 Days
2	Suplhates		IS 3025 (Part 24) : 1988	
3	Chlorides		IS 3025 (Part 32) : 1986	
4	Organic Impurities		IS 2386 (Part II) : 1983	
6	Deleterious material		IS 2386 (Part II) : 1983	
	Soundness test (For 5 cycles)			
7	by Sodium Sulphate solution	25 Kg	IS 2386 (Part V) : 1963	14 Days
8	by magnasium Sulphate solution		IS 2386 (Part V) : 1963	14 Days
	A leading construction Material Testing Laboratory in Pune			
1	GST 18 % Apllicable on total Billing.			
2	Transportation to site shall be charged separatly after 15 km			
3	Test Report Shall be submitted upon full Payment by Client			
4	Free Material collection and Report Delivery within Hadapsar and nearby area or Courier facility			