



INDUSTRIAL TESTING & ANALYTICAL LABORATORIES

CENTRE FOR INSPECTION, TESTING & CERTIFICATION OF MATERIALS-CITCOM

Client _____

Project : _____

Date : _____

Contact Person: _____

Location: _____

CONCRETE MIX PROPORTIONING - MIX DESIGN

MANDATORY INFORMATION FORMAT							
Sl.	Design Stipulations	Specified Criteria for Mix Proportion					
(A)	CONCRETE DETAILS:						
1.	Grade of Concrete (M 20 to M 60-28 days Comp.Strength of 150 mm Cubes)						
2.	Concrete Quality-Strength/Performance	Ord. <input type="checkbox"/>	Std. <input type="checkbox"/>	HSC <input type="checkbox"/>	HPC <input type="checkbox"/>	HVF <input type="checkbox"/>	SCC <input type="checkbox"/>
3.	Type of Concrete-Structural Classification	PCC <input type="checkbox"/>	RCC <input type="checkbox"/>	PSC <input type="checkbox"/>	PQC <input type="checkbox"/>	DLC <input type="checkbox"/>	Others <input type="checkbox"/>
4.	Placing Conditions of Concrete (Structural Elements)	Building <input type="checkbox"/>	Bridge <input type="checkbox"/>	Road <input type="checkbox"/>	ICBP <input type="checkbox"/>	OHT <input type="checkbox"/>	Other <input type="checkbox"/>
(B)	MIX DESIGN LIMITS:						
5.	Water-Cement Ratio (W/C)-Optional	0.30 <input type="checkbox"/>	0.35 <input type="checkbox"/>	0.40 <input type="checkbox"/>	0.45 <input type="checkbox"/>	0.50 <input type="checkbox"/>	Other <input type="checkbox"/>
6.	Min. Cement Content-Optional-kg/m ³	300 <input type="checkbox"/>	320 <input type="checkbox"/>	340 <input type="checkbox"/>	360 <input type="checkbox"/>	380 <input type="checkbox"/>	Other <input type="checkbox"/>
(C)	EXPOSURE CONDITIONS:						
7.	Type of Environmental Exposure	Mild <input type="checkbox"/>	Mod. <input type="checkbox"/>	Severe <input type="checkbox"/>	V.Severe <input type="checkbox"/>	Extreme <input type="checkbox"/>	Others <input type="checkbox"/>
8.	Whether Exposed to Sulphate Attack from Soil, Water & Containment	Yes <input type="checkbox"/>		No <input type="checkbox"/>		Not Known <input type="checkbox"/>	
9.	Whether Exposed to Chloride Attack from Soil, Water & Containment	Yes <input type="checkbox"/>		No <input type="checkbox"/>		Not Known <input type="checkbox"/>	
(D)	CONCRETE INGREDIENTS:						
10.	Source of Water for Construction	Ground <input type="checkbox"/>	River <input type="checkbox"/>	Mun. <input type="checkbox"/>	Pond <input type="checkbox"/>	Waste <input type="checkbox"/>	Other <input type="checkbox"/>
11.	Type of Cement & Strength Grade	OPC Gr. 43 <input type="checkbox"/>	OPC Gr. 53 <input type="checkbox"/>	PPC FAB <input type="checkbox"/>	PPC BFS <input type="checkbox"/>	SRC Cement <input type="checkbox"/>	Other Cement <input type="checkbox"/>
12.	Brand, Batch No./Week/Year of Cement	<input type="text"/>		<input type="text"/>	<input type="text"/>	200..... <input type="text"/>	
13.	Cementitious Materials Proposed for Improvement of Density & Permeability	Microsilica/ Silica Fume <input type="checkbox"/>	GGBF Slag <input type="checkbox"/>	Fuel Ash/ Fly Ash <input type="checkbox"/>	Other Pozzolona <input type="checkbox"/>		
(E)	FRESH CONCRETE PROPERIES:						
14.	Degree of Workability/Consistency	V. Low <input type="checkbox"/>	Low <input type="checkbox"/>	Medi. <input type="checkbox"/>	High <input type="checkbox"/>	V. High <input type="checkbox"/>	Sec <input type="checkbox"/>
15.	Desired Slump of Cocrete mm	00 <input type="checkbox"/>	25-50 <input type="checkbox"/>	50-100 <input type="checkbox"/>	75-100 <input type="checkbox"/>	100-150 <input type="checkbox"/>	Other <input type="checkbox"/>



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Sl.	Design Stupulations	Specified Criteria for Mix Proportion					
16.	Desired Compaction Factor (C.F.)	0.60 <input type="checkbox"/>	0.70 <input type="checkbox"/>	0.80 <input type="checkbox"/>	0.90 <input type="checkbox"/>	1.00 <input type="checkbox"/>	Other <input type="checkbox"/>
17.	Desired Air Content of Fresh Concrete-% v/v	1.0 <input type="checkbox"/>	2.0 <input type="checkbox"/>	3.0 <input type="checkbox"/>	4.0 <input type="checkbox"/>	5.0 <input type="checkbox"/>	Other <input type="checkbox"/>
① 18.	QUALITY CONTROL AT SITE: Degree of Quality Control at Project Site (For Standard Deviation)	V. Good <input type="checkbox"/>	Good <input type="checkbox"/>	Fair <input type="checkbox"/>	Std. Lab. <input type="checkbox"/>		
19.	Tolerance Level in Quality Control at Site (Accepted Proportion of Low Results)	1 in 20 <input type="checkbox"/>	1 in 40 <input type="checkbox"/>	1 in 100 <input type="checkbox"/>	Other <input type="checkbox"/>		
20.	Available Test Facilities at Project Site for Materials & Fresh/Hardened Concrete	Sieve Test <input type="checkbox"/>	Slump Test <input type="checkbox"/>	Comp. Factor <input type="checkbox"/>	Comp. Strength <input type="checkbox"/>	Net Yield <input type="checkbox"/>	Bulk Density <input type="checkbox"/>
21.	Max. Size of Coarse Aggregate (MSA)-mm	63 <input type="checkbox"/>	40 <input type="checkbox"/>	20 <input type="checkbox"/>	12.5 <input type="checkbox"/>	4.75 <input type="checkbox"/>	Other <input type="checkbox"/>
22.	Type of Coarse Aggregate (Stone Grit)	Crushed <input type="checkbox"/>	Natural <input type="checkbox"/>	Synthetic <input type="checkbox"/>	RBM <input type="checkbox"/>	Others <input type="checkbox"/>	
23.	Source of Coarse Aggregate (Stone Grit)	Quarry			Location		
24.	Type of Fine Aggregate (Sand/Stone Dust)	River Sand <input type="checkbox"/>	Quarry Dust <input type="checkbox"/>	Crushed Stone <input type="checkbox"/>	Others Specify <input type="checkbox"/>		
25.	Source of Fine Aggregate (Sand)	Quarry:			Location		
26.	Admixture Proposed to be Used (Batch MTC to be Submitted to Lab)	Brand Name:			Batch No.:		
27.	Type of Concrete Placement Facility at Project	Manual Lift <input type="checkbox"/>	Hydraulic <input type="checkbox"/>	Bucket <input type="checkbox"/>	Concrete Pump <input type="checkbox"/>		
28.	Type of Compaction Equipment	Plate Vibrator <input type="checkbox"/>	Needle Vibrator <input type="checkbox"/>	Vibro Hyd. Pressure <input type="checkbox"/>	Piling Concrete <input type="checkbox"/>		
29.	Weather Conditions During Placement	Normal <input type="checkbox"/>	Hot <input type="checkbox"/>	Cold <input type="checkbox"/>	Under Water <input type="checkbox"/>		
30.	Thickness of Concrete Element - Slab/Column/Raft/Footing	<10 cm <input type="checkbox"/>	10-15 cm <input type="checkbox"/>	15-30 cm <input type="checkbox"/>	30-60 <input type="checkbox"/>	0.5-1m <input type="checkbox"/>	1-3m <input type="checkbox"/>



MATERIAL QUANTITY FOR CONCRETE MIX DESIGN

[Estimated Quantity for Material Evaluation, Five Sets (45 Cubes) of Trial Mix Concrete & Test on Fresh & Hardened Concrete]

MANDATORY MATERIALS

Sl	Description of Material/Ingredient	Application		Total Qty. Quantity	Packing Quantity in Units
		Yes	No		
1.	Admixture/Plasticizer with Batch MTC as per IS: 9103-1999	<input type="checkbox"/>	<input type="checkbox"/>	02 Litre	02 x 01 Litre
2.	Water for Construction Purposes from Site as per IS: 456-2000	<input type="checkbox"/>	<input type="checkbox"/>	40 Litre	2x20 Litre
3	Cement OPC/PPC with Copy of MTC as per IS: 8112/IS:12269/IS:1489	<input type="checkbox"/>	<input type="checkbox"/>	100 kg	2x50 kg Bags
4.	Fine Aggregate-Sand/Stone Dust-Crusher Dust with Source/Location as per IS:383.	<input type="checkbox"/>	<input type="checkbox"/>	150 kg	6x25 kg Bags
5.	10 mm Coarse Aggregate/Stone Grit with Source/Location as per IS:383	<input type="checkbox"/>	<input type="checkbox"/>	200 kg	8x25 kg Bags
6.	20 mm Coarse Aggregate/Stone Grit with Source/Location as per IS:383.	<input type="checkbox"/>	<input type="checkbox"/>	250 kg	10x25 kg Bags

OPTIONAL MATERIALS

7.	40 mm Coarse Aggregate/Stone Grit with Source/Location Identification.	<input type="checkbox"/>	<input type="checkbox"/>	300 kg	12x25 kg Bags
8.	Fly Ash/Fuel Ash of Suitable Quality as per IS: 3812 Part 1/2-2003.	<input type="checkbox"/>	<input type="checkbox"/>	100 kg	4x25 kg Bags
9.	Silica Fume/Microsilica as per IS: 15388: 2003.	<input type="checkbox"/>	<input type="checkbox"/>	50 kg	2x25 kg Bags
10.	Concrete Curing Compound-Liquid as per BS: 7542 & ASTM C 309.	<input type="checkbox"/>	<input type="checkbox"/>	05 Litre	1x05 Litre

