

PERFORMA FOR SUBMITTING THE MIX DESIGN REPORT TO RDSO

A) GENERAL DETAILS

1	RAILWAY	
2	NAME OF PLANT	
3	LOCATION	
4	YEAR OF COMMISSIONING	
5	EXISTING APPROVAL OF MIX DESIGN (GIVE REFERENCE & DETAIL OF EARLIER APPROVED MIX DESIGN)	
6	MODIFICATION /NEW MIX DESIGN	
7	GRADE OF CONCRETE	
8	PURPOSE (MBC/TURNOUT/SPECIAL)	
9	SPECIFICATION (IRS T-39/IRS T-45)	

B) MATERIAL

1. CEMENT

1	GRADE OF CEMENT	
2	MAKE OF CEMENT	
3	SPECIFICATION	
4	TEST REPORT ATTACHED AT	ANNEXURE.....

1 a. ABSTRACT OF TEST RESULTS OF CEMENT

S.N.	DESCRIPTION	VALUE AS PER TEST REPORT
1	Ratio of percentage of lime to percentage of silica, alumina and iron oxide as per IRS T-40-1985	
2	Ratio of percentage of alumina to that of iron oxide.	
3	Insoluble residue	
4	Magnesia(MgO) percentage by mass	
5	Total sulphur content calculated as sulphuric anhydride(SO ₃) percentage by mass	
6	Total Loss on ignition	
7	C3A content	
8	C3S content	
9	Fineness	
10	Soundness	
11	Initial Setting Time	
12	Final Setting Time	
13	Compressive Strength	

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2. COARSE AGGREGATE

1	SOURCE OF AGGREGATE	
2	TEST REPORT OF 20 MM AGGREGATE ATTACHED AS	ANNEXURE.....
3	TEST REPORT OF 10 MM AGGREGATE ATTACHED AT	ANNEXURE.....

A. SIEVE ANALYSIS OF 20 MM

Sieve Size	20 mm. aggregate (Sample taken asgm)				Limit as per IS: 383(%)
	Wt. Ret	% Wet. Ret.	Cum. % of Wet. Ret.	% of passing	
20 mm					85-100
10 mm					0-20
4.75 mm					0-5
pan					

B. SIEVE ANALYSIS OF 10 MM

Sieve Size	10 mm. aggregate (Sample taken as gm)				Limit as per IS: 383(%)
	Wt. Ret	% Wet. Ret.	Cum. % of Wet. Ret.	% of passing	
10 mm.					85-100
4.75 mm.					0-20
2.36 mm.					0-5
Pan					

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3. FINE AGGREGATE

1	SOURCE OF AGGREGATE	
2	WHETHER NATURAL OR PROCESSED	
3	GRADING ZONE	
3	TEST REPORT OF FINE AGGREGATE ATTACHED AT	ANNEXURE.....

SIEVE ANALYSIS OF FINE SAND

Sieve Size	Sand (Sample taken as gm)				Limit as per IS: 383(%) Zone-....
	Wt. Ret	% Wet. Ret.	Cum. % of Wet. Ret.	% of passing	
4.75 mm					
2.36 mm					
1.18 mm					
600 μ					
300 μ					
150 μ					
Pan					

4. ABSTRACT OF TEST RESULTS

S.N.	DESCRIPTION	20 MM	10 MM	SAND
1	Specific Gravity			
2	Flakiness Index %			
3	Elongation Index			
4	Abrasion Value %			
5	Bulk density			
6	Crushing Value %			
7	Impact Value			
8	Organic Impurities			
9	Water absorption			

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10	Silica Dissolved by 1N NaOH			
11	Soundness Test			
12	Reduction in Alkalinity			

5. WATER

1	SOURCE OF WATER	
2	TEST REPORT ATTACHED AT	ANNEXURE.....

6. ADMIXTURE

1	ADMIXTURE MAKE	
2	TEST REPORT ATTACHED AT	ANNEXURE.....

C. MIX DESIGN CALCULATION

Attach mix design calculation as per IS 10262-2009 including calculation of all mix proportions

D. MIX PROPORTIONS PER CUM OF CONCRETE

S.N.	PROPORTIONS	QTY PER CUM OF CONCRETE
1	CEMENT	
2	COARSE AGGREGATE 20 mm	
3	COARSE AGGREGATE 10mm	
4	SAND	
5	WATER	
6	ADMIXTURE	
7	W/C RATIO	
8	AGGREGATE/CEMENT RATIO	

E) COMBINED AGGREGATE GRADING

S.N.	Sieve Size	Lower Limits	Upper Limits	% Passing
1	20mm			
2	10mm			
3	4.75mm			
4	2.36mm			
5	1.18mm			

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6	0.60mm			
7	0.30mm			
8	0.15mm			
COMBINED GRANULOMETRIC CURVE IS ATTACHED AT				ANNEXURE....

F) RESULT OF STEAM CURING CUBE

Steam curing cycle

S.N.	ACTIVITY	TIME DURATION
1	Presteaming	
2	Rise in temperature	
3	Constant Temperature	
4	Cooling Time	
	TOTAL TIME	
	STEAM CYCLE CHART IS ATTACHED AT	ANNEXURE.....

It is certified that all provisions of IS-10262 2009 , IRS T-39/IRS T-45 and IRS T-40 has been read carefully and has been incorporated in the mix design.

Signature.....

Name.....

Designation in Firm.....

Seal.....

Steam Cube Test Results

S.N.	Batch No.	Cube No.	Date of Casting	Date of Testing	Age in Hour	Weight of Cube	Load	Comp. Strength (MPa)
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
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STATISTICAL ANALYSIS IS ATTACHED AS ANNEXURE							

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G) RESULT OF WATER CURED CUBE

S.N.	Batch No.	Cube No.	Date of Casting	Date of Testing	Age in Days	Weight of Cube	Load	Comp. Strength (MPa)
1								
2								
3								
4								
5								
6								
7								
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10								
11								
12								
13								
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STATISTICAL ANALYSIS IS ATTACHED AS ANNEXURE							

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