Concrete Mix

1)	Design Grade	=	**25**		
2)	Target Mean Strength			=	31.56
3)	W/C Ratio	=	0.57		
4)	Maximun Size of Aggregate			=	20
5)	Water Content per Cubic metre of Concrete			=	186
6)	Volume of Coarse Aggregate per Unit Volume of Total Aggregate			=	0.61
	Sand Confirming Zone			=	2
	Volume of Sand Content			=	0.39
	Required Slump Value (Standard with W/C ratio is 50 mm)			=	125

7)	Correction in water Content	=	202.74
9)	Cement Content	=	355.68
10)	Specific Gravity of Cement	=	3.15
11)	Specific Gravity		
	1) Fine Aggregate	=	2.65
	2) Coarse Aggregate	=	2.79
14)	Volume of Concrete (m^3)	=	1
15)	Estimated Air Content(%)V	=	0.01
16))	Volume of Cement	=	0.11
17)	Volume of Water	=	0.20
18)	Volume of All Aggregate(Fine + Coarse)	=	0.67
19)	Total Qty. of Coarse Aggregate	=	1150.15
20)	Total Qty. of Fine Aggregate	=	694.58

Sr. No:	Material Name	Quantity(Kg)
1	Cement Content	356
2	Water	202.74
3	Fine Aggregate	695
4	Coarse Aggregate	1150
	1) Coarse Aggregate(20mm)	690

	2) Coarse Aggregate(10mm Grit)	460
5	Slum of Concrete	125

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N/mm²

mm

Liters

m³

m³

mm

Table - 1	
Grade	**Std. Deviation**
M20	4
M25	
M30	5
M35	
M40	
M45	

Correction in Aggregate Volume
Volume of Coarse Aggregate for Maximum Size of Aggregate and Fine aggreegate confirming zone from Below Table
Correction in Coarse Aggregate Content

Correction in Water Content	
Slump Value	**Increase in Water in %**
50 mm	-
75 mm	**0.03**
100 mm	**0.06**
125 mm	**0.09**

150 mm	**0.12**

208.32

Liters

Kg

Table 5 Volume of Coarse Aggregate per Unit Volu
Aggregate for Water-Cement/Water-
(Clau

Sl No.	Nominal Maximum Size of Aggregate mm	Volume of Coarse Aggregate
		Zone IV
(1)	(2)	(3)
i)	10	0.54
ii)	20	0.66
iii)	40	0.73

NOTES
1 Volumes are based on aggregates in saturated surface dry condition
2 These volumes are for crushed (angular) aggregate and suitable adj
3 Suitable adjustments may also be made for fine aggregate from ot
need lesser fine aggregate content. In that case, the coarse aggregate
4 It is recommended that fine aggregate conforming to Grading Zone
have been made to ascertain the suitability of proposed mix proportio

m^3

m^3

m^3

m^3

Kg

kg

	Mix Proportions By
Water	**Cement**
202.74	356
0.57	1

	Quantities For 1 Bag o
Water	**Cement**

29	50

	Quantity for 9 Cu
Water	**Cement**
10	17

Prepared By:	**Mahaja Bhushan**

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Graph Table	
Target Mean Strength	**Water-Cement Ratio**
26.66	0.62
31.56	0.57
38.20	0.48
43.20	0.44
48.20	0.4

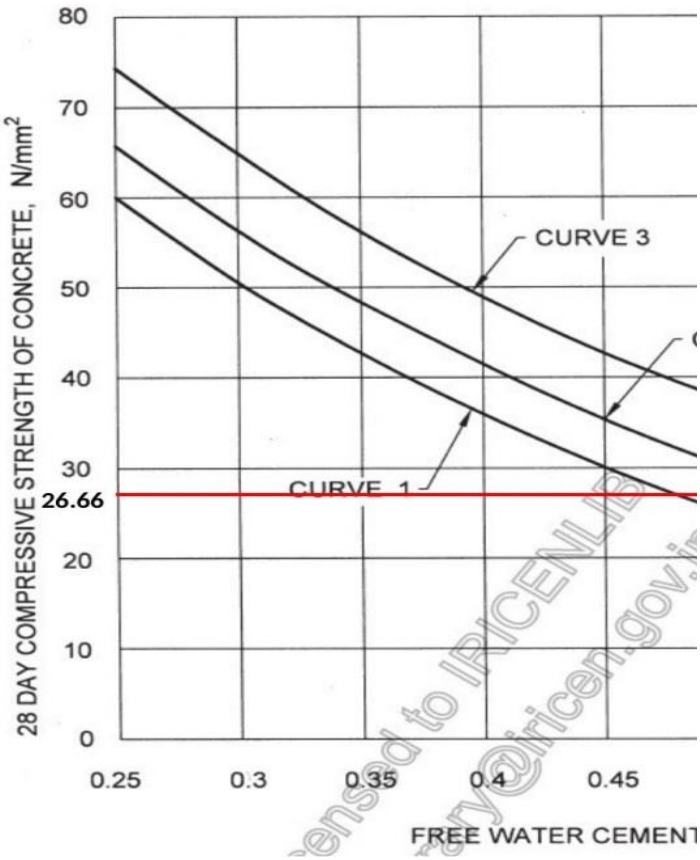


Table - 2	
Nominal max. Size of aggregate	**Water Content**
10	208
20	186
40	165

W/C Ratio	
0.57	**Water Cement Ratio of Table**
0.62	**0.5**
1.4	**0.611**

Approximate values for t water-cement/watercen suitably adjusted for ot aggregates to that of t for every decrease in wate decreased at the rate of 0.0

186 liter water content is for standard 50 mm slump. If we want to increase slump value by 75 mm (50+25) then we have to add 3% extra water. Similary for each increase of 25mm slump add 3 % extra water.

ume of Total Aggregate for Different Zones of Fine
-Cementitious Materials Ratio of 0.50
se 5.5)

per Unit Volume of Total Aggregate for Different Zones of Fine Aggregate

Zone III (4)	Zone II (5)	Zone I (6)
0.52	0.50	0.48
0.64	0.62	0.60
0.72	0.71	0.69

1.
ustments may be made for other shape of aggregate.
ther than natural sources, normally, crushed sand or mixed sand may
volume shall be suitably increased.
IV, as per IS 383 shall not be used in reinforced concrete unless tests
ons.

Mass

F.A	C.A
695	1150
1.95	3.23

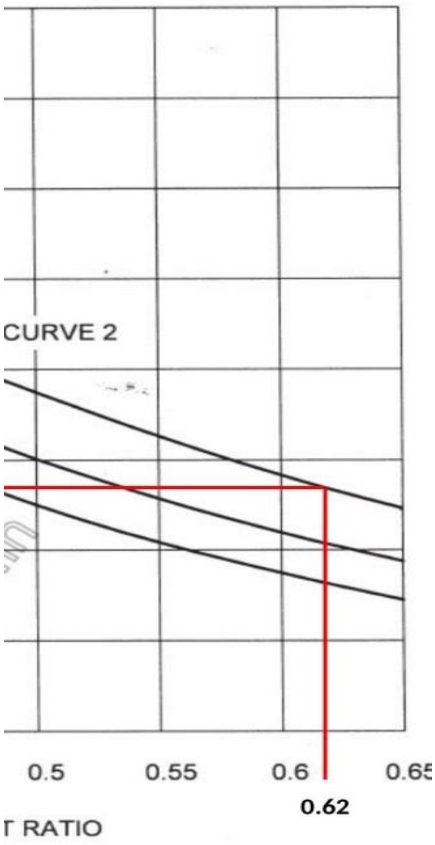
f Cement

F.A	C.A

98	162

ube

F.A	C.A
33	54



this aggregate volume are given in Table 5 for a nentitious materials ratio of 0.5, which may be her ratios, the proportion of volume of coarse otal aggregates is increased at the rate of 0.01 r-cement/cementitious materials ratio by 0.05 and 1 for every increase in watercement ratio by 0.05.