

Supplementary measures for  
Design, detailing and durability  
Of important bridge structures  
And parameters for designing  
Bridges other than important  
Bridges in maharashtra

**Government of Maharashtra**  
Public works Department  
Circular No.RMR 1094/184/R-1  
Mantralaya ,Bombay-400032  
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### **CIRICULAR**

Special publication No.33-1989 of the Indian Road Congress prescribes the special measure to be adopted for design , detailing and durability of important bridge structures .The question of adopting these specification to the bridges on the state roads was under consideration of the Government for some times.

2. In accordance with the special publication No.33-1989 of the Indian Roads Congress, the provision therein are to be made applicable broadly to the following categories of bridges irrespective of the class of the road, traffic intensity and severity of the environment.
- (i) Bridges with prestressed concrete super-structure;
  - (ii) Bridges with individual span length more than 30m
  - (iii) Bridges built with innovative design /construction/material

- 3 . Now after taking in to consideration the views of the chief Engineers Committee on this issue , the Government is pleased to issue the following instructions:-

so far as the state roads are concerned , provision of the SP-33 shall be applied only to those bridges of the above mentioned categories which in addition satisfy atleast one of the following two conditions:-

- (a) Bridges exposed to moderate environment on routes where present traffic volume is above 5000 p.c.u. per day or 15000 tonns per day or where the 10 years projected traffic volume is more than 12000 p.c.u. per day or 36000 tonnes per day.
- (b) Bridges exposed to severe environment.

Even when provision of SP-33 become applicable for a bridge, partial prestressing Shall be permitted even severe environment, but all other provisions of SP-33 shall be satisfied.

4. for the bridges other than those covered by para 3 above , specifications of the Indian Road Congress Bridge Code shall apply except for the items included in the Annexure to this circular depending on the degree of exposure to aggressive environment .

Bridges on National Highways are outside the scope of this circular

Chief Engineer & Jt. Secretary  
to Government

**ANNEXURE-I**

( Accompaniment to Govt.Circular No.RMR 1094/184/R-1 Dt.12<sup>th</sup> june 1996)  
specification for bridges for which S.P.33 is not to be applied

SR NO	DESCRIPTION	SPECIFICATION TO BE APPLIED	
		In Severe Exposure condition	In moderate exposure condition
1	Minimum internal dia of wells	3.00 m.	3.00 m.
2	Minimum staining thickness	0.60 m.	0.50 m.
3	Pile foundation	pile foundations shall not be provided in flood zones with deep scour or at location where navigation is allowed.	Pile foundation shall not be provided in flood zones with deep scour or at locations where navigation is allowed.
4	Minimum wall thickness of Cellular piers and abutments	R.R.C.0.4m(P.C.C.not Permitted).	R.C.C.0.3m (P.C.C. not Permitted ).
5	Trestle piers	Trestles not allowed in flood zones.	Trestles not allowed in Flood zones.
6	Minimum deek slab thickness	Minimum 240 m.m .for cantilever type of construction &minimum 200m.m. for other types of Construction.	Minimum 240 m.m .for cantilever type of construction &minimum 200m.m.for other types of Construction.
7	Minimum web thickness	Minimum greater of 200m.m .+ O.D.of duct or 300 m.m.	Minimum greater of 150m.m. + O.D.of duct or 250 m.m.
8	Minimum nominal dia for Tor steel	10 m.m.	8 m.m.
9	P.C.C.		
	Minimum grade	M: 15	M: 10
	Maximum W.C. Ratio	0.45	0.50
	Minimum cement content	250 kg/m <sup>3</sup>	210 KG/M <sup>3</sup>
10	R.C.C.		
	Minimum	M : 25	M : 20
	Maximum W.C. Ratio	0.40	0.40
	Minimum cement content	310 kg/m <sup>3</sup>	250 kg/m <sup>3</sup>

SR NO	DESCRIPTION	SPECIFICATION TO BE APPLIED	
		In Severe Exposure Condition	In Moderate exposure condition
11	P.S.C.		
	Minimum grade	As per S.P.33	M :35
	Maximum W.C. Ratio	As per S.P.33	0.40
	Minimum cement content	As per S.P.33	360 kg/m <sup>3</sup>
12	Minimum clear cover to Reinforcement for all grade Of concrete		
	Slabs	40 mm/as per S.P.33 for P.S.C.	25 m.m.
	Webs/columns	40mm /as per S.P.33 for P.S.C	30 m.m.
	Footing/raft slab	50mm/as per S.P.33 for P.S.C.	40 m.m.
	Cable duct	As per S.P.33	60 m.m
	Location of reinf.splice	50 m.m.	50 m.m.
13	Partial Prestress	Permitted (tension in concrete up to 10kg/sq.cm.).	Permitted (tension in concrete up to 20kg/sq.cm.).