

## Key Design Parameters for Crash Tested MBCB System

(to be filled by bidders and submitted along with Technical Bid)

S. No.	Design Parameter	Preferred Value	Specified Value (Mandatory)	Value as per Vendor's Crash Tested Design
<b>A</b>	<b>THRIE BEAM</b>			
1	Base metal nom. thickness (mm)	3.0	at least $\geq 2.5$	
2	Material grade	Min. E250	---	
	Yield strength (Mpa)	250	---	
	Tensile strength (Mpa)	410	---	
3	Profile Dim. Of Thrie Beam			
	Width (mm)	502	---	
	Depth of corrugation (mm)	81	---	
	Length (mm)	---	---	
4	Hot-dipped galvanization (GSM)	---	550 (min. single spot)	
5	Splices	As per Fig. 10.15 of IRC:SP:99-2013	---	
6	Holes and Slots in Beam	---	Pre-punched holes/ slots ready to erect	
7	Manufacturing process	---	Cold Roll Formed	
8	Base metal thick. tolerance (mm)	---	+ / - 0.20	
<b>B</b>	<b>POST/ SPACER BLOCK</b>			
1	Foundation details of the Post	---	---	
2	Post installation details	---	By pile driving machine	
3	c/c distance of posts (m)	2.0	---	
4	Type of X-section for Post	---	---	
5	Post X-section dimensional details (Width x Depth X Thickness) (mm)	---	---	
6	Type of X-section of Spacer block	---	---	
7	Spacer block X-section dimensional details (Width x Depth X Thickness) (mm)	---	---	
8	Length of Spacer block (mm)	---	---	
9	Length of Post (mm)	2000	---	
10	Post height protruding above PQC top (mm)	850	---	
11	Post embedment into soil (mm)	1350	---	
12	Material grade	Min. E250	---	
	Yield strength (Mpa)	250	---	
	Tensile strength (Mpa)	410	---	
13	Hot-dipped galvanization (GSM)	---	550 (min. single spot)	

14	Verticality tolerance	---	6 mm in 3.0 m	
15	Holes and Slots in Post/ Spacer	---	Pre-punched holes/ slots ready to erect	
16	Manufacturing process	---	Cold Roll Formed	
17	Base metal thick. tolerance for post/ spacer block (mm)	---	+ / - 0.20	
<b>C</b>	<b>HARDWARE</b>			
1	Conforming to Indian Standards	---	IS:1367 & IS:1364	
2	Grade of bolts	Grade 8.8 with matching nuts	---	
3	Dia. of Bolts (mm)	---	---	
4	Hot-dipped galvanization (GSM)	---	550 (min. single spot)	
<b>D</b>	<b>MISCELLANEOUS DETAILS</b>			
1	End Treatment details	---	---	
2	Transition details	As per Fig. 10.16 of IRC:SP:99-2013	---	
3	Weight per meter run of steel in complete MBCB system (Kg)	---	---	
4	Weight per meter run of Zinc used in complete MBCB system (Kg)	---	---	
<b>E</b>	<b>Crash Test Performance Parameters (min. but not limited to the following)</b>			
1	Compliance of crash test standards	---	EN 1317 (Part 2) or MASH	
2	Containment Level	---	"H2" as per EN 1317 (Part 2) or "TL4" as per MASH	
3	Working Width (m)	---	W4 ( $W_N \leq 1.3m$ Or $W5 (W_N \leq 1.7m)$ )	
4	Impact severity level as per EN 1317			
	ASI (Acceleration Severity Index)	---	Level "A", i.e., ASI $\leq 1.0$	
	THIV (Theoretical Head Impact Velocity) (Kmph)	---	$\leq 33$	
5	Occupant Risk Level as per MASH			
	Occupant Impact Velocity (m/s)	9.1	Max. 12.2	
	Occupant Ridedown Acceleration (G)	15.0	Max. 20.49	

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