

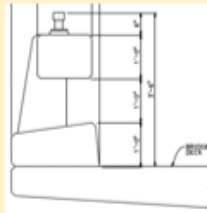




NCHRP Report 350 Rail System Type	MASH Test Level			
	TL-2	TL-3	TL-4	TL-5
Concrete Beam-and-Post	TL-2 TL-3 TL-4			TL-5

NCHRP 20-07 Global Equivalency

DARK GREEN: Documentation complete. The Documentation is NCHRP Report 20-07, Task 395 or report from an accredited crash test facility.		LIGHT GREEN: TTI feels the system is MASH compliant. The documentation would be a professional opinion (not yet completed).		LIGHT YELLOW: Systems are planned for full-scale crash testing.	
MASH Test Level					
TL-2	TL-3 ^{A)}	TL-4 ^{B)}	TL-5 ^{C)}		
42" TxDOT C411 (also T411) Full Suite Crash test 2-10, 2-11 Document: Report Pending 	32" TxDOT Type T223 Document: (Report No. 9-1002-7) 3-10 (Engineering analysis) 3-11 (Full-scale crash test) 	36" Type 85 (Height w/out top metal) Planned full Matrix testing (by 2019) Design completed by Caltrans (42" combination considered as well) 	42" TxDOT Type T224 Document: (Report No. 9-1002-15-5) Full Suite Crash test 5-10, 5-11, 5-12 		
			42" TxDOT C412 5-10 and 5-11 (Eng. analysis) 5-12 (Full-scale test) Report Pending 		
Evaluation for Post-and-Beam concrete system is individual, considering that each system is characterized by specific geometrics (opening sizes), which affect stability of the impacting vehicles.					
A) 29 in. minimum height based on finite element simulations (NCHRP 20-07). B) 36 in. minimum height based on <i>Determination of Minimum Height and Lateral Design Load for MASH Test Level 4 Bridge Rails</i> . (Report No. 9-1002-5). C) 42 in. minimum height as requirement that remains from NCHRP Report 350.					

MASH Compliant Systems or under MASH Evaluation