

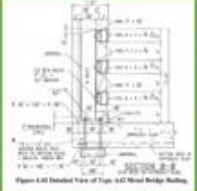





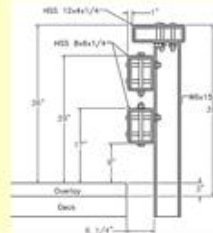


NCHRP Report 350 Rail System Type	MASH Test Level			
	TL-2	TL-3	TL-4	TL-5
Meatal Beam-and-Post Deck Mounted	TL-2 TL-3 TL-4			TL-5

NCHRP 20-07 Global Equivalency (for only Deck Mounted!)

<p>DARK GREEN: Documentation complete. The Documentation is NCHRP Report 20-07, Task 395 or report from an accredited crash test facility.</p>		<p>LIGHT GREEN: TTI feels the system is MASH compliant. The documentation would be a professional opinion (not yet completed).</p>		<p>LIGHT YELLOW: Systems are planned for full-scale crash testing.</p>	
		Test Level			
		TL-2	TL-3 ^{A)}	TL-4 ^{B)}	TL-5 ^{C)}
Deck-Mounted	<p>31" TxDOT Type T631LS Full Suite Full-scale tests: 2-10, 2-11 Doc.: FHWA/TX-14/9-1002-12-10</p> 	<p>31" TxDOT Type T631 Full Suite Full-scale tests 3-10, 3-11 Doc.: FHWA/TX-14/9-1002-12-12</p> 	<p>42" Type A42 Metal Railing (NM) Doc.: NCHRP 20-07, Task 395 Eng. Analysis: 4-12, -11, -10</p> 	<p>42" TBTA Bridge Rail Full Suite Full-scale tests: 5-10, 5-11, 5-12 FHWA E.L. B274</p> 	
			<p>31" MGS Bridge Rail Full Suite Full-scale tests: 3-10, 3-11 FHWA E.L. B228</p> 		
Side-Mounted	<p>TL-2 Bridge Rail for Rural Roads (NE) 2-11 (Full-scale test) 2-10 (Eng. analysis) Doc.: Report Pending</p> 	<p>31" Side-Mounted Weak Post Guardrail Attached to Culvert Eng. Analysis: 3-10, 3-11 FHWA E.L. B264</p> 	<p>42" Caltrans Side Rail ST-705M Full Suite Full-scale tests: 4-10, 4-11, 4-12 Doc: 110MASH3P15-01, 110MASH4C15-02, 110MASH4S16-03</p> 		
				<p>TL-4 Steel Tube Bridge Rail (OH/IL) Planned Full-scale tests: 4-10, 4-11, 4-12</p> 	

A) 29 in. minimum height based on finite element simulations (NCHRP 20-07).

B) 36 in. minimum height based on *Determination of Minimum Height and Lateral Design Load for MASH Test Level 4 Bridge Rails*. (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: Metal Only