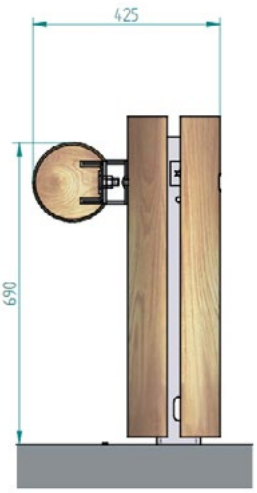
T-MASH 18

The first Tertu's steel backed timber barrier crash-tested according to U.S standard MASH

TECHNICAL INFORMATION

- Rail made of a round log ø 18 cm backed with a steel U channel inserted in the wooden rail
- With wooden spacer & post-cladding
- C100 steel posts in 1.50 m : 2 m spacing



PERFORMANCES

Crash tested in accordance with the requirements of the standards MASH (Manual for Assessing Safety Hardware) at **LEVEL TL 2** :

▸ 2.2 T pick up at 70 km/h ▸ 1100 kg car at the same speed ▸ impact angles 25°

General information		
Test agency	CSI S.p.a (Italy)	
Test article		
Installation length (m)	80.0	
Foundation type and condition	compacted soil	
Test vehicle		
Type	2270P	
Model	Chevrolet Silverado 1500	
Mass (kg)		
Curb : 2239	Test inertial : 2308.8	Gross static : 2308.8
Impact conditions		
Speed (km/h)	70.1	
Angle (deg)	24.5	
Impact severity (kJ)	78.2	
Impact location	0.8 m before post	
Exit Speed (km/h)	N/A	
Exit Angle (deg)	N/A	

Post impact trajectory	
Vehicle stability	Satisfactory
Stopping distance	10 m downstream
Vehicle snogging	None
Vehicle pocketing	None
Occupant risk value	
Impact Velocity (m/s)	
X-direction : 5.2	Y-direction :3.2
Ridedown acceleration	
X-direction : -6.1	Y-direction : -2.5
THIV : 21.2	PHD : 6.3
ASI 2010 : 0.42	Test article damage : moderate
Test article deflections (m)	
Permanent : 0.83	Dynamic : 0.99
Working Width Dynamic	1.49 (vehicle) - 2.35 (wood)
Vehicle damage	
Max.internal deformation	87 mm
Max.external deformation	390 mm

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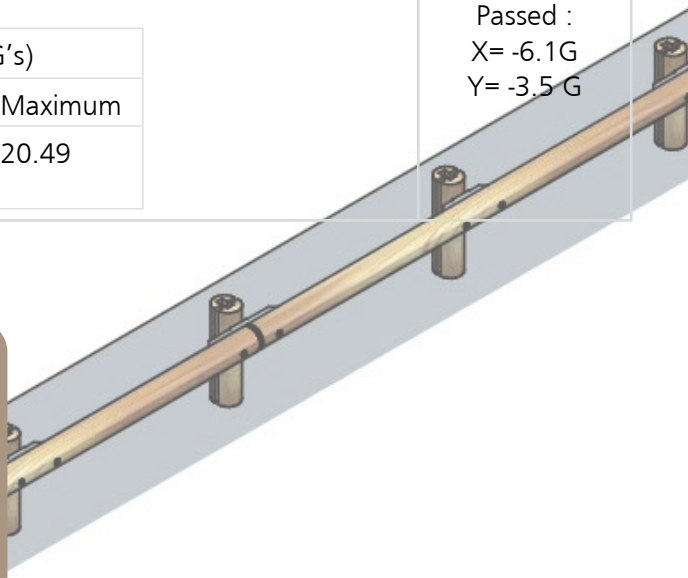
T-MASH 18 steel backed timber guardrail

OCCUPANT RISK VALUES

<table>
<tr><th>Evaluation factors</th><th>Evaluation criteria</th><th>Results</th></tr>
<tr><td>Structural adequacy</td><td>Test article should contain and redirect the vehicle; the vehicle should not penetrate, underride, or override the installation, although controlled lateral deflection of the test article is acceptable.</td><td>Passed</td></tr>
<tr><td rowspan="3">Occupant risk</td><td>Detached elements, fragments, or other debris from the test article should not penetrate or show potential for penetrating the occupant compartment, or present an undue hazard to other traffic, pedestrians, or personnel in a work zone. Deformations of, or intrusions into, the occupant compartment that could cause serious injuries should not be permitted.</td><td>Passed</td></tr>
<tr><td>The vehicle should remain upright during and after collision. The maximum roll and pitch angles are not exceed 75 degrees</td><td>Passed</td></tr>
<tr><td>Occupant impact velocities (see Appendix A, section A5.3 for calculation procedure) should satisfy the following :

<table>
<tr><td colspan="3">Occupant Impact Velocity Limits (m/s)</td></tr>
<tr><td>Component</td><td>Preferred</td><td>Maximum</td></tr>
<tr><td>Longitudinal and lateral</td><td>9.1</td><td>12.2</td></tr>
</table>
</td><td>Passed :
X= 5.2 m/s
Y= 3.2 m/s</td></tr>
<tr><td>Occupant ridedown accelerations (see Appendix A, section A5.3 for calculation procedure) should satisfy the following :

<table>
<tr><td colspan="3">Occupant ridedown acceleration limit (G's)</td></tr>
<tr><td>Component</td><td>Preferred</td><td>Maximum</td></tr>
<tr><td>Longitudinal and lateral</td><td>15.0</td><td>20.49</td></tr>
</table>
</td><td>Passed :
X= -6.1G
Y= -3.5 G</td></tr>
</table>



3 good reasons to select T-MASH 18 for your road safety projects :

- ☑ Meeting with all MASH standards requirements
- ☑ Crashworthy & environment friendly system
- ☑ Easy to install device

For more information, get in touch with Tertu international department :

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