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MASH TL-3 CRASH TESTED NOISE BARRIER PRODUCT GUIDE

FIRST-OF-ITS-KIND GROUND-MOUNTED ABSORPTIVE NOISE BARRIER
SYSTEM CRASH-TESTED TO MASH TL-3 CONDITIONS

MASH TL-3 IMPACT LOADS

INTEGRATED PRECAST BARRIER

NOISE ABSORPTION

MODULAR DESIGN

CUSTOM FINISHES

Durisol® completes MASH (Manual for Assessing Safety Hardware) crash tests for our systems so that we have the peace-of-mind knowing they are going to hold up when they are needed most and aren't going to fail in real world scenarios.

As dictacted by AASHTO (the American Association of State Highway and Transportation Officials), impact speed and angle represent the worst practical condition which is traditionally set at 85th percentile level. Passenger vehicles selected to represent 2nd and 90th percentile.

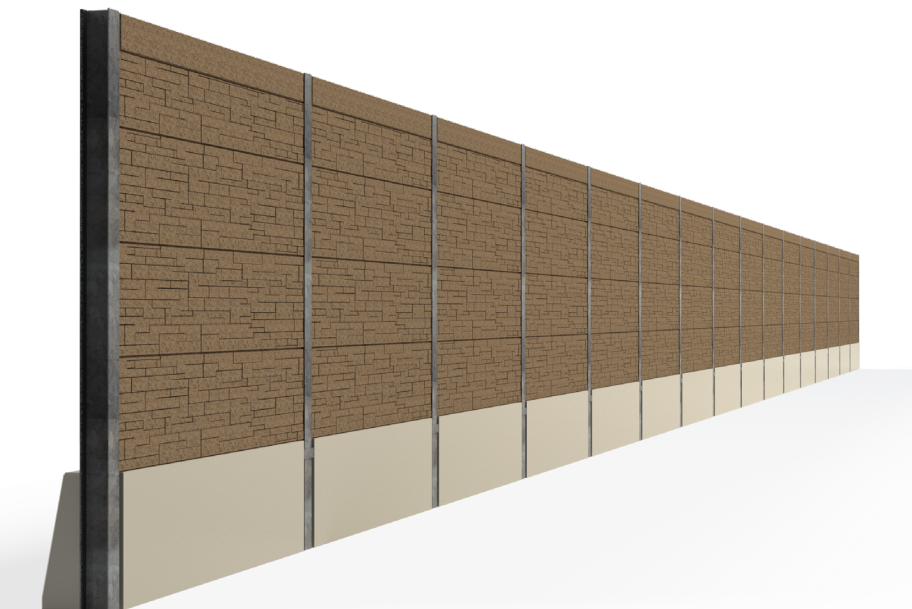
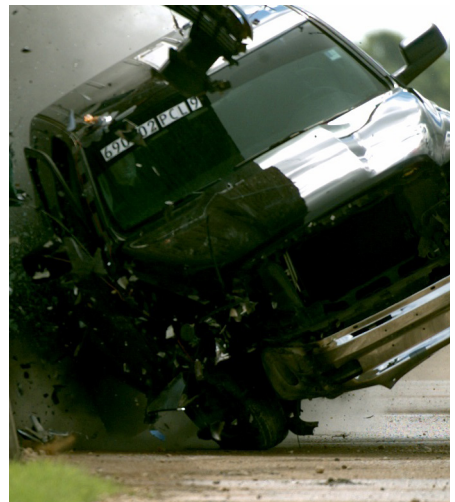
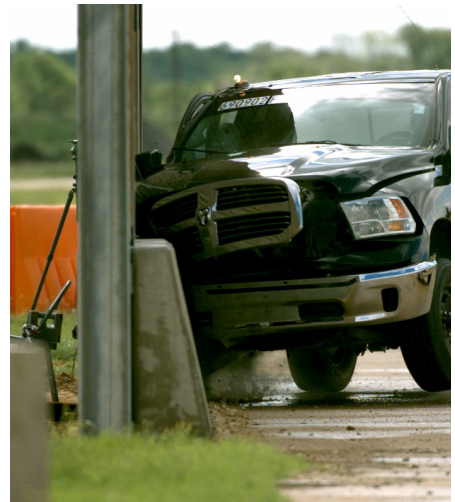
AASHTO MASH TL-3 CRITERIA

Criteria	AASHTO MASH
Vehicle	1100 kg (2425 lb) Small Car 2270 kg (5000 lb) Pickup
Speed	100 km/h (62 mph)
Impact Angle	Small Car 25° Pickup 25°
Test No.	Small Car 3-10 Pickup 3-11

INTRODUCING: DURISOL® MASH TL-3 CRASH TESTED SYSTEM

Durisol® MASH TL-3 System is a modular absorptive ground mounted noise barrier system with an integrated precast concrete crash railing.

- 39" (1,000mm) high precast steel reinforced concrete single slope traffic barrier with proprietary connection to the noise barrier post
- W-10 (W250) post ground mounted post design
- Overall crash tested height of soundwall system installation above pavement was 17.3' (5.273m), however, designs can vary.





MARKING IMPACT ZONE

WHAT IS DURISOL®

Durisol® is the proprietary name of a durable, lightweight and cementitious/wood composition product. It is made of chemically neutralized and mineralized organic softwood shavings which are specially processed to an acoustically engineered size and are bonded together under pressure with Portland cement.

The material is sound-absorbent, non-combustible, vermin and rot proof. Durisol is self-draining and highly resistant to weather exposure including: freeze-thaw, road de-icing chemicals and fungicides.

All Durisol noise barrier systems are engineered in-house, specifying the size for posts and the depth and diameter of footings. Standard steel posts or optional concrete posts can be accommodated.

The MASH TL-3 Noise Barrier System is available in the same range of existing Durisol standard colors and finishes. Custom colors and finishes available.

STANDARD COLORS



1004B NATURAL



1082D TAN



1538B GREY



02589 TAN



09187 GREY



11988 BROWN

FEATURES

- MASH TL-3 Crash Tested
- Double sided absorptive – with 0.80 NRC on both highway and residential
- Modular design
- Easy installation
- Lightweight
- Non-combustible
- Non-absorptive panels are an option as well



*This palette serves as a guide only;. Durisol's real-life texture will offer a variance in color. Color appearance also varies depending on time-of-day, light reflectance, etc.

MASH TL-3 CRASH TEST 3-10 (SMALL CAR) SUMMARY

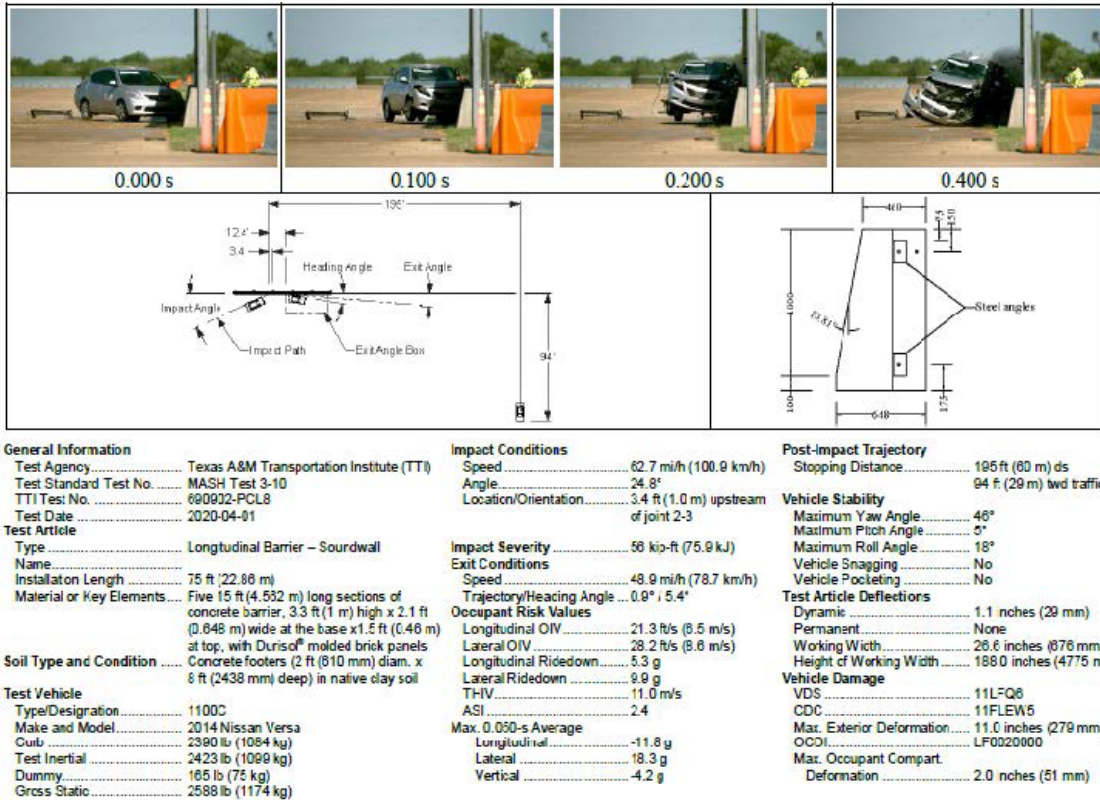


Figure 5.7. Summary of Results for MASH Test 3-10 on Traffic Barrier with Soundwall System.

MASH TL-3 CRASH TEST 3-11 (PICK-UP TRUCK) SUMMARY

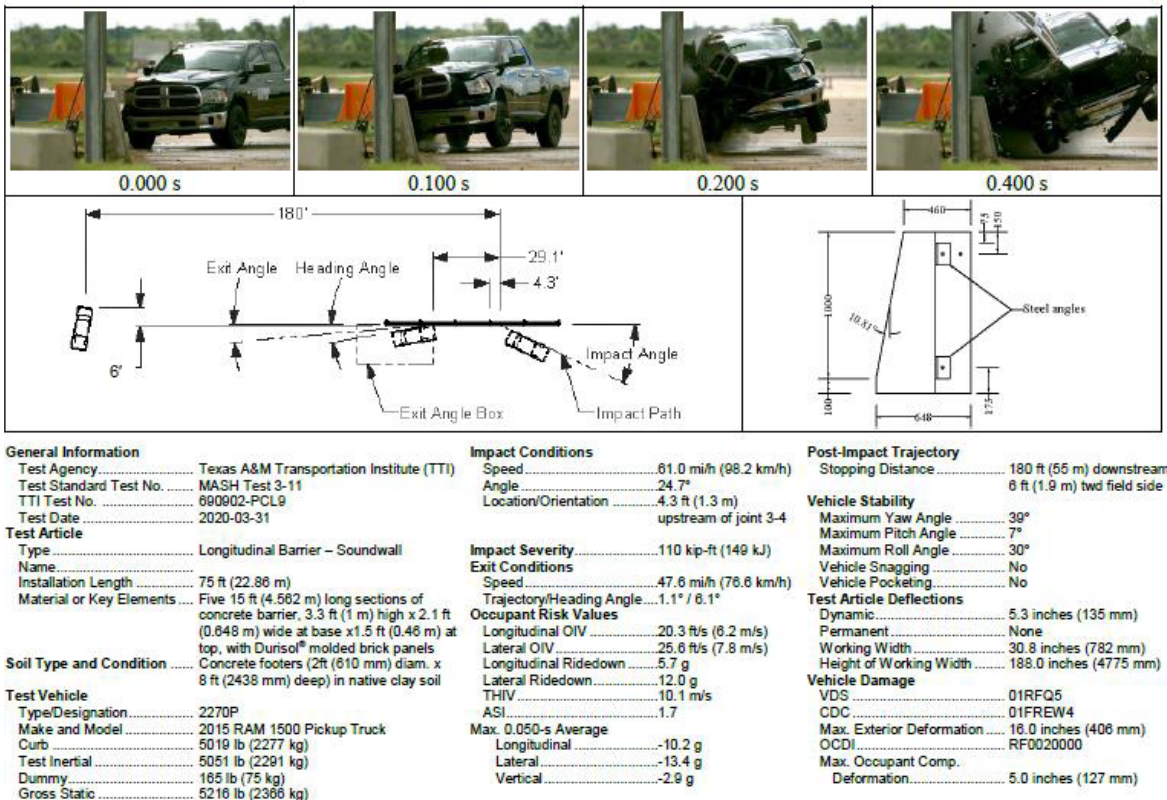


Figure 6.6. Summary of Results for MASH Test 3-11 on Traffic Barrier with Soundwall System.



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ACRYLITE® SOUNDSTOP MASH TL-4 NOISE BARRIER SYSTEM PRODUCT GUIDE

LIGHTWEIGHT, CRASH TESTED NOISE BARRIER SYSTEM FOR
BRIDGES AND ELEVATED ROADWAY APPLICATIONS

—
SAFEST NOISE BARRIER
AVAILABLE

—
LIGHTWEIGHT

—
ATTRACTIVE

—
CRASH TESTED TO
MASH TL-4 CRITERIA

The Durisol®-Acrylite® Soundstop MASH TL-4 Noise Barrier System is a lightweight noise barrier system for bridges and elevated roadway applications. The system has been successfully tested under MASH Test Level 4 conditions, and proven to stabilize a vehicle and reduce the severity of auto crashes.

The system is a complete turnkey solution for transparent noise barriers, vandal shields or wind screens on bridges and overpasses. These “no maintenance panels” will retain clarity and physical strength despite decades of exposure to sunlight and other elements (ASTM D 1003 & E 1996 test methods). Components meet or exceed FHWA and DOT standards.

Safest Noise Barrier Available

Meets MASH TL-4 test conditions

Lightweight

As little as 100lbs per linear foot

Attractive

Panels are available as clear or colored panels

Performance

Excellent sound insulating properties

TYPICAL APPLICATIONS

- Bridges and structures



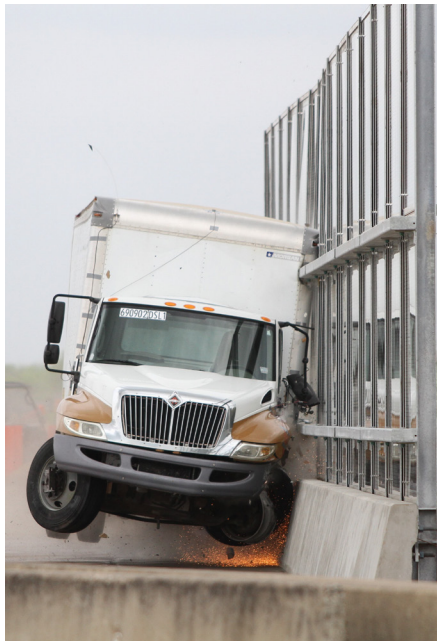
The Durisol®-Acrylite® Soundstop MASH TL-4 Noise Barrier System is crash-tested and contains polyamide filaments for fragment retention.



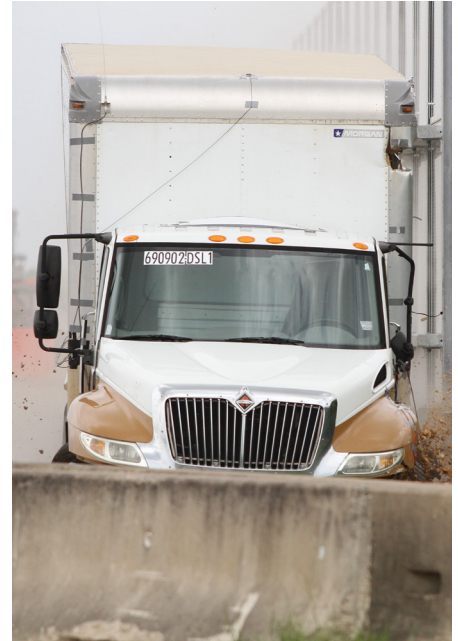
**MANUAL FOR ACCESSING SAFETY HARDWARE (MASH) TEST LEVEL 4,
TEXAS A&M TRANSPORTATION INSTITUTE PROVING GROUND, COLLEGE STATION, TX**



A 22,180LBS (10,060KG) TRUCK IMPACTS THE MASH TL-4 SYSTEM AT 58MPH ON A 15° ANGLE



THE DURISOL®-ACRYLITE® SOUNDSTOP MASH TL-4 SYSTEM STABILIZES THE VEHICLE AFTER IMPACT



DAMAGED AREAS SHOW HOW THE DURISOL®-ACRYLITE® SOUNDSTOP MASH TL-4 SYSTEM REDUCES THE SEVERITY OF THE CRASH



MASH 4-12 SEQUENTIALS



MASH 4-11 SEQUENTIALS



MASH 4-10 SEQUENTIALS

“That is the most stable TL-4 crash test I’ve ever seen.”

- Senior FHWA Official in the Office of Safety Design

Soundstop GS CC has embedded polyamide filaments to contain broken fragments resulting from collision damage (complies with EN 1794-2)



SOUNDSTOP GS CC

AVAILABLE COLORS

Soundstop GS CC sheet for the Durisol®-Acrylite® Soundstop MASH TL-4 System is available in the following standard colors.

The color impression remains the same in different thicknesses. Other colors can be manufactured upon request.

	CLEAR
	MIDNIGHT BLUE
	STEEL BLUE
	SKY BLUE
	FOREST GREEN
	SEA GREEN
	SPRING GREEN
	SMOKY BROWN



AVAILABLE THICKNESSES

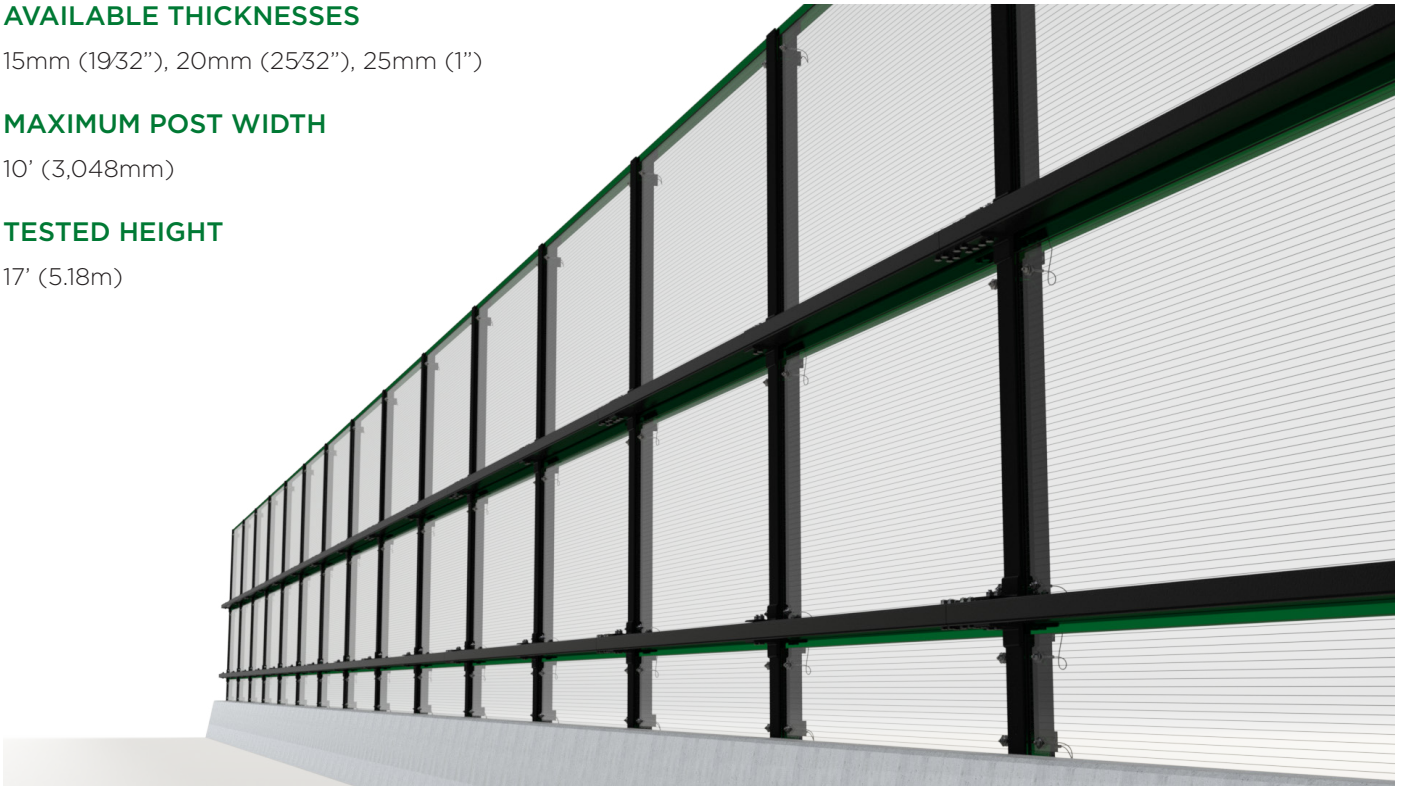
15mm (19/32"), 20mm (25/32"), 25mm (1")

MAXIMUM POST WIDTH

10' (3,048mm)

TESTED HEIGHT

17' (5.18m)



GENERATION I SYSTEM - NCHRP 350 (2005)

The history of our Durisol®- Acrylite® Soundstop MASH TL-4 system has roots back to our first generation system which was tested under the National Cooperative Highway Research Program 350 (NCHRP 350) back in 2005 at the Midwest Roadside Safety Facility at the University of Nebraska-Lincoln. With over 100 installations for various State DOTs and Provinces, the history of this system has legacy of proven performance, durability, and most important of all safety for the motoring public.



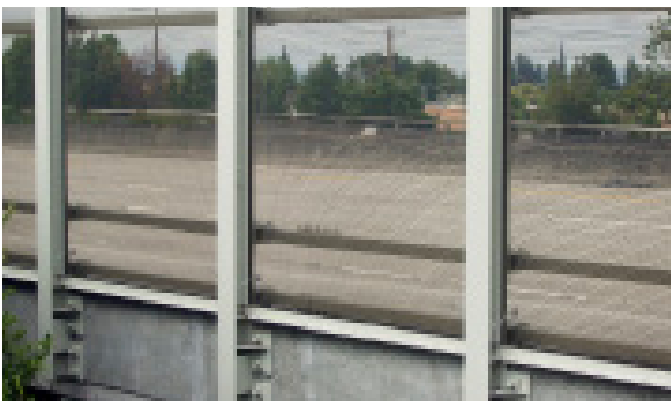
INTERSTATE 40 - KNOXVILLE, TN



INTERSTATE 580 - SAN LEANDRO CA



INTERSTATE 580 - SAN LEANDRO CA



INTERSTATE 580 - SAN LEANDRO CA



INTERSTATE 580 - SAN LEANDRO CA



INTERSTATE 71 - COLUMBUS, OH



ROUTE 52 - OCEAN CITY CAUSEWAY - NEW JERSEY



INTERSTATE 5 OVER EL CAMINO REAL - SAN CLEMENTE, CA



INTERSTATE 110 / 37TH ST BUS STATION - LOS ANGELES, CA



HIGHWAY 407- TORONTO, ON



INTERSTATE 71 - COLUMBUS, OH



SR408 / SR417 INTERCHANGE - ORLANDO, FL



INTERSTATE 75 - TOLEDO, OH



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ALUMINUM MASH TL-4 CRASH-TESTED NOISE BARRIER PRODUCT GUIDE

INTRODUCING THE DURISOL® ALUMINUM MASH TL-4 CRASH-TESTED NOISE BARRIER SYSTEM

TL-4 IMPACT LOADS

PANEL RETENTION SYSTEM

MODULAR & LIGHTWEIGHT

NOISE ABSORPTION

Major roadways and highways are being built alongside urban areas. Space constraints on road and bridge designs have led to the need for a combined bridge safety and noise barrier in one.

Durisol® has completed MASH (Manual for Assessing Safety Hardware) crash testing to ensure our barrier systems hold up in real-world.

As dictated by AASHTO (the American Association of State Highway and Transportation Officials), the impact speed and angle of the crash-test represent the worst practical conditions.

Our Aluminum noise barrier system has been tested and has successfully met the TL-4 criteria of 80 kips.

AASHTO MASH TL-4 CRITERIA

Criteria	AASHTO MASH
Vehicle	10,206 kg (22,500 lb) Box Truck
Speed	93 km/h (58 mph)
Impact Angle	15°
Test No.	4-12



APPLICATIONS

While our Aluminum noise wall system is well-suited for a variety of applications, our MASH TL-4 crash-tested system was designed as a structure-mounted system for safer bridges.



DURISOL® MASH TL-4 CRASH-TESTED ALUMINUM SYSTEM

The Durisol® MASH TL-4 Aluminum System is a light-weight, structure-mounted noise barrier system. Built with perforations and a sound absorbing mineral wool interior, our panels are available in single or doubled-sided absorptive, and noise reflective options.

UNIT WEIGHT

8 - 12 lbs / square foot (3.63 - 5.44 kg / square meter)

POST DESIGN

W-6 (W150) structure-mounted post

MAXIMUM POST WIDTH

10' (3,048mm)

TESTED HEIGHT

17' (5.18m)

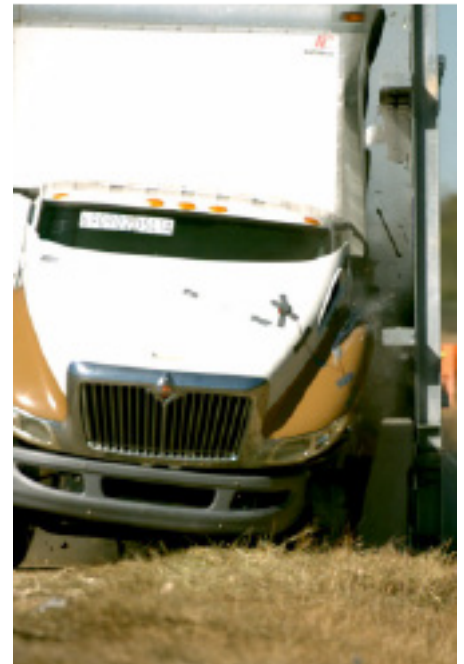
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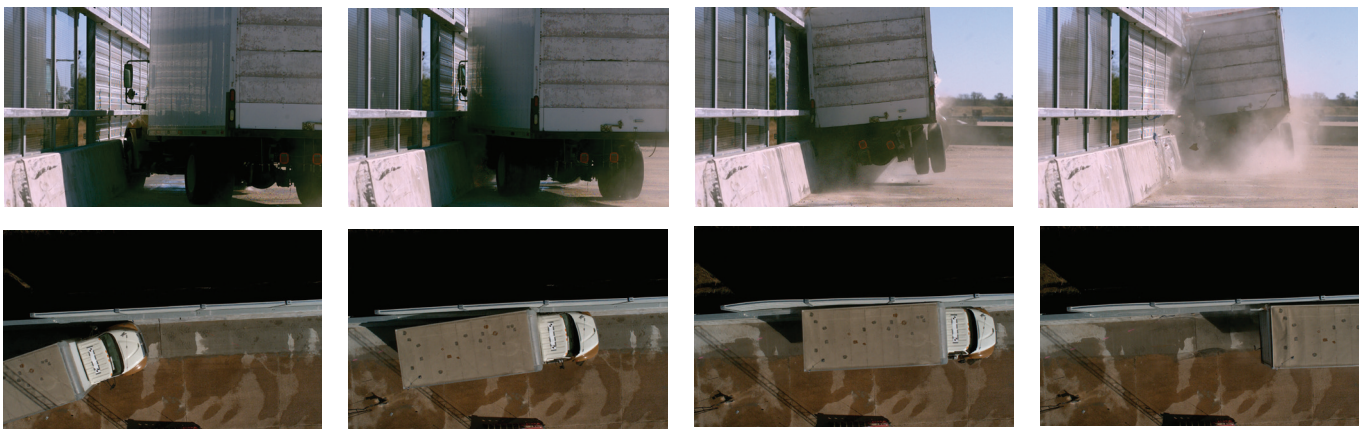


THE DURISOL®-ALUMINUM MASH TL-4 SYSTEM STABILIZES THE VEHICLE AFTER IMPACT



DAMAGED AREAS SHOW HOW THE DURISOL®-ALUMINUM MASH TL-4 SYSTEM REDUCES THE SEVERITY OF THE CRASH

MASH 4-12 SEQUENTIALS



Despite the severity of the impact, the **Durisol® MASH TL-4 Aluminum Noise Barrier System** provided excellent vehicle stability. The wall panels remained intact, and minimal damage was recorded.

