

QUADGUARD[®] HIGH-SPEED (HS) SYSTEM

NCHRP 350 PERFORMANCE AT 113 KM/H (70 MPH)



OVERVIEW

The QuadGuard HS System has raised the bar in high-speed crash cushion performance by passing the NCHRP 350, TL-3 test matrix for redirective, non-gating crash cushions at the demanding design speed of 113 km/h (70 mph). The system features revolutionary space-frame diaphragms that allow it to provide high-speed impact protection for a wide range of vehicles, from small cars to high-center-of-gravity pickup trucks.

The QuadGuard HS System is the only crash cushion in the world tested to satisfy the stringent FHWA requirements based on NCHRP 350 criteria. During head-on impacts at speeds up to 113 km/h (70 mph), the QuadGuard HS System telescopes, effectively dissipating the energy of both light cars and high-center-of-gravity pickup trucks. During impacts at angles up to 20 degrees, the system redirects the impacting vehicle back into its original travel path.

FEATURES AND BENEFITS

- ▶ Tested using NCHRP 350 criteria at 113 km/h (70 mph).
- ▶ Shields hazards up to 914 mm (3'0") wide.
- ▶ Majority of components are interchangeable with standard QuadGuard[®] System.
- ▶ Provides 60-70% reusability after design impact.

MEETS NCHRP 350 CRITERIA AT 113 KM/H

- ▶ **Test 30** 820C Small Car, 0°, offset w/4, Nose - Waived
- ▶ **Test 31** 2000P Pickup, 0°, Nose - Passed
- ▶ **Test 32** 820C Small Car, 15°, Nose - Passed
- ▶ **Test 33** 2000P Pickup, 15°, Nose - Passed
- ▶ **Test 36** 820C Small Car, 15°, CLIP - Passed
- ▶ **Test 37** 2000P Pickup, 20°, CLIP - Passed
- ▶ **Test 38** 2000P Pickup, 20°, CLIP - Passed
- ▶ **Test 39** 2000P Pickup, 20°, Reverse Impact - Passed

SAVING LIVES BY DESIGN



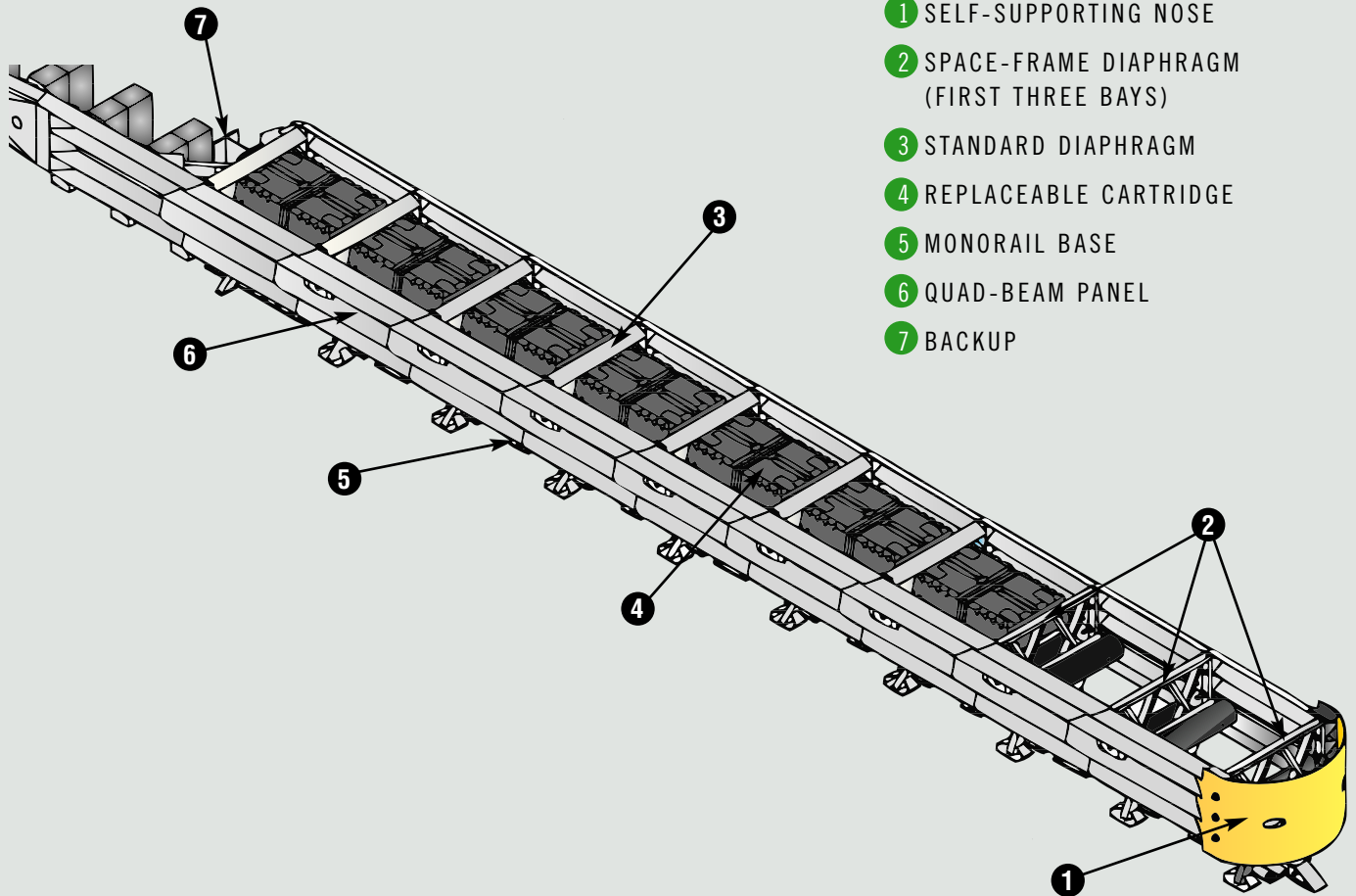
ADDRESSES A WIDE RANGE OF VEHICLES



The Space-Frame Diaphragms allow the QuadGuard HS System to address both 820 kg (1800 lb) cars and high-center-of-gravity 2000 kg (4400 lb) pickup trucks during high-speed impacts. These Space-Frame Diaphragms are used in the first three bays of the system, which do not contain a cartridge.

SPECIFICATIONS

Minimum Width at Backup	610.0 mm	(2')
Maximum Width at Backup	914 mm	(3')
Length (typical 6-bay unit)	9.5 m	(31')



- 1 SELF-SUPPORTING NOSE
- 2 SPACE-FRAME DIAPHRAGM (FIRST THREE BAYS)
- 3 STANDARD DIAPHRAGM
- 4 REPLACEABLE CARTRIDGE
- 5 MONORAIL BASE
- 6 QUAD-BEAM PANEL
- 7 BACKUP



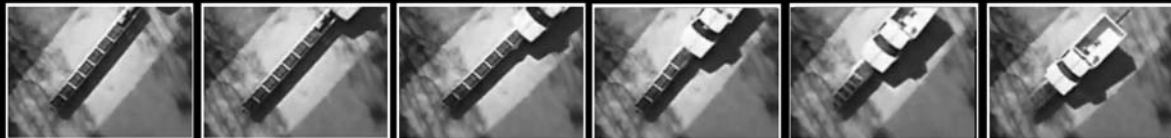
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General specifications for the QuadGuard HS System are subject to change without notice to reflect improvements and upgrades. Additional information is available in the Product Manual for this system. Contact Energy Absorption Systems for details.