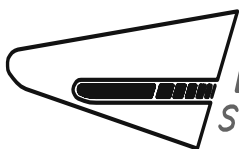


# QUADGUARD<sup>®</sup> HIGH SPEED (70 mph [113 km/h])



**ENERGY ABSORPTION  
SYSTEMS, INC.**

## SCT02d

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## INTENDED USE

The QuadGuard<sup>®</sup> HS System consists of energy absorbing cartridges surrounded by a framework of steel Quad-beam<sup>™</sup> guardrail which can telescope rearward during head-on impacts. The QuadGuard<sup>®</sup> HS System has a center monorail which will resist lateral movement during side angle impacts and a backup which will resist movement during head-on impacts. The nose consists of a flexible plastic nose belt. Transitions are available and may be required depending on site conditions.

For temporary installations - the System may be installed on 6" [152mm] minimum thick asphalt when anchored with 18" [457mm] threaded rods and MP-3. Most of the QuadGuard<sup>®</sup> HS is reusable. After a typical design speed, head-on hit, the majority of the System is reusable. The System usually needs only to be pulled back into place and have the cartridges and light weight diaphragms replaced. Design speed impacts typically result in minimal damage to most of the structural hardware.

The QuadGuard<sup>®</sup> HS System has successfully passed the National Cooperative Highway Research Program (NCHRP) Report 350, 1993, Test Level 3 for redirective, non-gating terminals and crash cushions with both the light car and pickup truck at speeds up to 70 mph [113 km/h] at angles up to 20°. It is the only crash cushion to be completely tested using NCHRP 350 criteria at 70 mph [113 km/h].

• Non-gating	Length =	(Nominal) 29'-6" [9 m]
• Redirecting		
• Non-pocketing	Width =	(standard) 24" [610 mm] Min
• Bidirectional or		(standard) 36" [916 mm] Max
Unidirectional	Design Speed =	variable up to 75 mph [120 km/h]
• Partially Reusable		

### Contact Information

**Corporate Offices:**  
35 East Wacker Dr., 11th Floor  
Chicago, IL 60601-2076  
Telephone: (312) 467-6750  
FAX: (312) 467-1356  
<http://www.energyabsorption.com/>

## QUADGUARD<sup>®</sup> HIGH SPEED SYSTEM (70mph [113 km/h])

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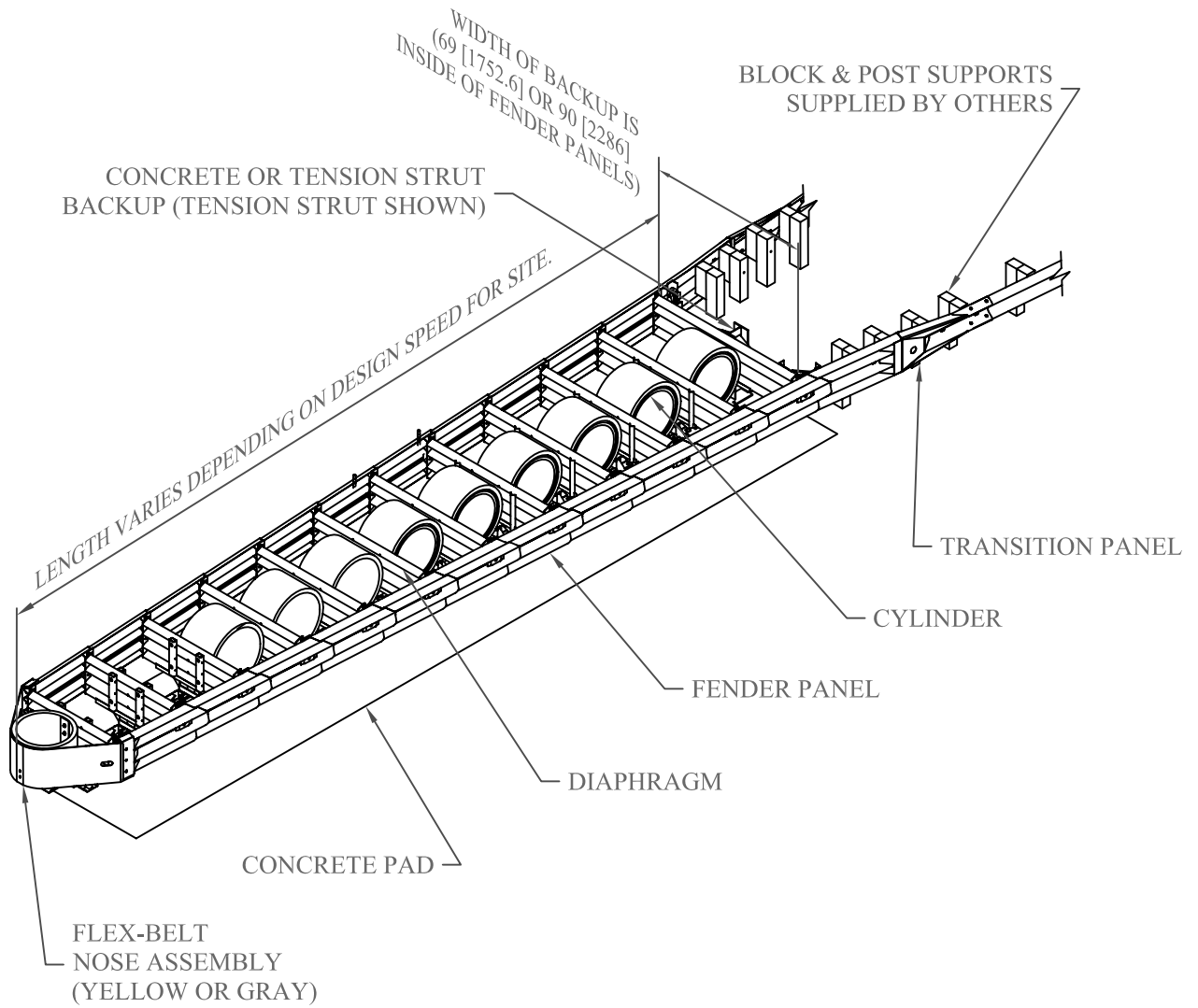
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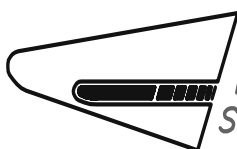
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# QUADGUARD<sup>®</sup> ELITE SYSTEM



**ENERGY ABSORPTION  
SYSTEMS, INC.**

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## INTENDED USE

The QUADGUARD® Elite™ System is a member of the QUADGUARD® Family designed to shield narrow and wide hazards. The QUADGUARD® Elite™ offers impact protection for both light and heavy vehicles. The system is perfect for gore areas, bifurcations and hazards such as bridge piers and tollbooths. It is effective against head-on and angle hits at typical highway speeds.

When hit head-on, a series of HDPE cylinders, placed between QuadBeam™ diaphragms and surrounded by telescoping fender panels, are crushed. This action absorbs the kinetic energy from the impacting vehicle, bringing the vehicle to a stop. Hit along the side at an angle, the system redirects the vehicle away from the hazard.

The QUADGUARD® Elite™ System has successfully passed the complete NCHRP 350, Test Level 3 matrix with both the light car and the high center-of-gravity pickup truck at speeds up to 62 mph [100 km/h] at angles up to 20 degrees.

This system is 90–100% reusable after a design speed impact. The QUADGUARD® Elite™ is available for head-on design speeds up to 70 mph [113 km/h], for hazards up to 88.58" [2250mm] in width.

• Non-gating	Length =	33.62' [10.25m] (Typical
• Redirecting		11 bay system)
• Non-pocketing	Width =	(std)24" [610mm] Min
• Bidirectional or		(std)88.58" [2250mm] Max
Unidirectional	Design Speed =	variable up to 70 mph [113 km/h]
• 90-100% Reusable		

APPROVALS: [http://safety.fhwa.dot.gov/roadway\\_dept/road\\_hardware/barriers/pdf/cc-57.pdf](http://safety.fhwa.dot.gov/roadway_dept/road_hardware/barriers/pdf/cc-57.pdf)

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**QUADGUARD® ELITE™**

#SCT02e

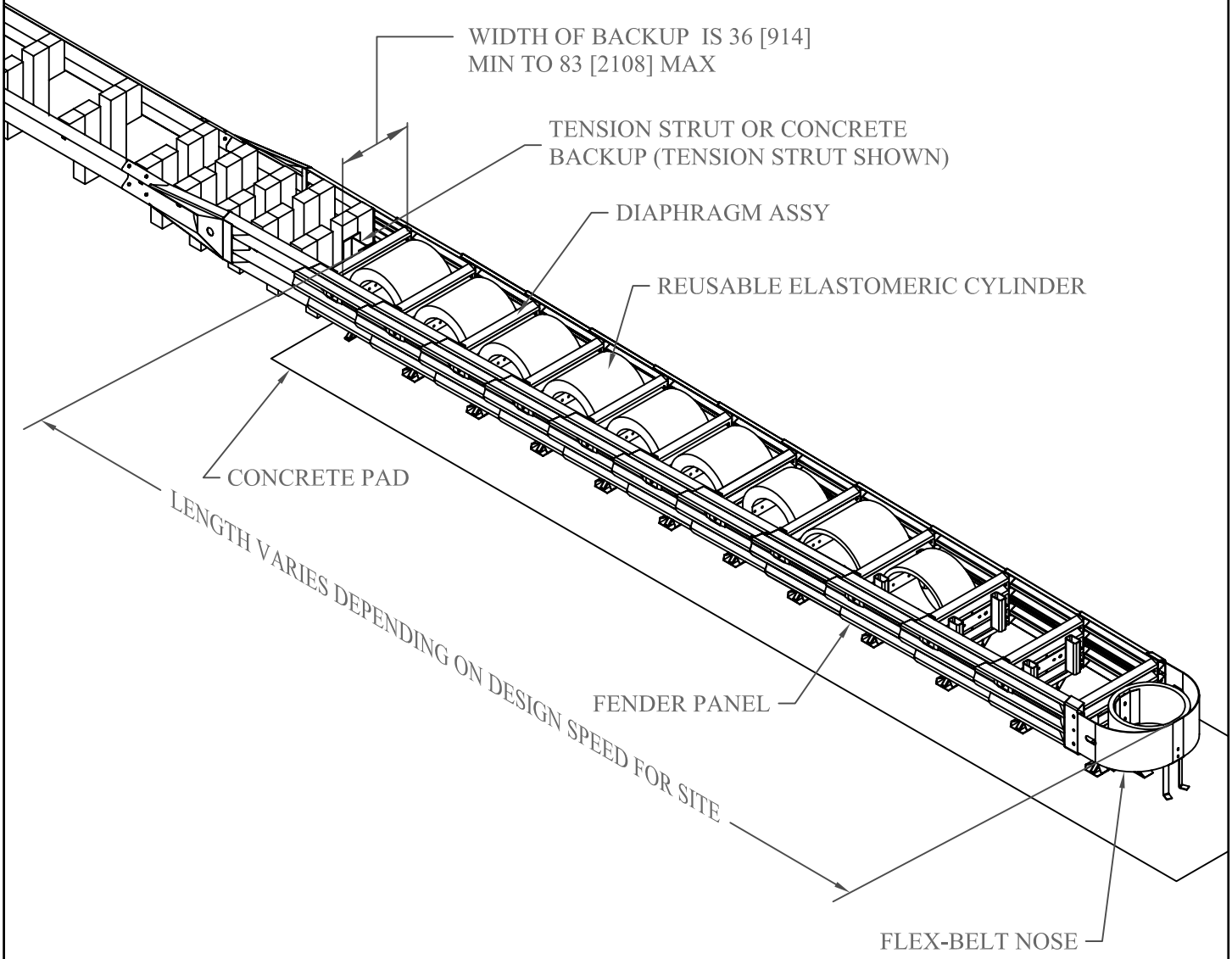
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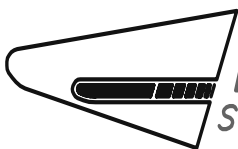
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# QUADGUARD<sup>®</sup> LMC SYSTEM



**ENERGY ABSORPTION  
 SYSTEMS, INC.**

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## INTENDED USE

The QUADGUARD<sup>®</sup> LMC System is a member of the QUADGUARD<sup>®</sup> Family designed to shield narrow and wide hazards. The QUADGUARD<sup>®</sup> LMC offers impact protection for both light and heavy vehicles. The system is perfect for gore areas, bifurcations and hazards such as bridge piers and tollbooths. It is effective against head-on and angle hits at typical highway speeds.

When hit head-on, a series of elastomeric cylinders, placed between QuadBeam<sup>™</sup> diaphragms and surrounded by telescoping fender panels, are crushed. This action absorbs the kinetic energy from the impacting vehicle, bringing the vehicle to a stop. Hit along the side at an angle, the system redirects the vehicle away from the hazard.

The QUADGUARD<sup>®</sup> LMC System has successfully passed the complete NCHRP 350, Test Level 3 matrix with both the light car and the high center-of-gravity pickup truck at speeds up to 62 mph [100 km/h] at angles up to 20 degrees.

This system is 100% reusable after most design speed impacts. The QUADGUARD<sup>®</sup> LMC is available for head-on design speeds up to 62 mph [100 km/h], for hazards up to 88.58 in [2250 mm] in width.

- |                                   |                |   |
|-----------------------------------|----------------|---|
| • Non-gating                      | Length =       | 32.8 ft [10.00 m] (Typical 11 bay system) |
| • Redirecting                     |                |   |
| • Non-pocketing                   | Width =        | 2.98 ft [0.91 m] – 6.88 ft [2.1 m]        |
| • Bidirectional or Unidirectional | Design Speed = | up to 62 mph [100 km/h]                   |
| • 100% Reusable                   |                |   |

**APPROVALS:** [http://safety.fhwa.dot.gov/roadway\\_dept/road\\_hardware/barriers/pdf/cc-43.pdf](http://safety.fhwa.dot.gov/roadway_dept/road_hardware/barriers/pdf/cc-43.pdf) [http://safety.fhwa.dot.gov/roadway\\_dept/road\\_hardware/barriers/pdf/cc-45.pdf](http://safety.fhwa.dot.gov/roadway_dept/road_hardware/barriers/pdf/cc-45.pdf)

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## QUADGUARD<sup>®</sup> LMC SYSTEM

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