EZY-GUARD HIGH CONTAINMENT Steel Rail Safety Barrier - Permanent

Issue Date: 1 January 2020
Supplier: Ingal Civil Products

These conditions take precedence over any instructions in the Product Manual.

These acceptance conditions should be read in conjunction with the Product Manual and Transport for NSW Specification R132 – Safety Barrier Systems and Austroads Guide to Road Design Part 6: Roadside Design, Safety and Barriers.

Transport for NSW may withdraw or modify this acceptance at any time without notice. Users should refer to the Transport for NSW website to ensure they have the latest version of the conditions related to this product.

Acceptance of this product does not place any obligation on Transport for NSW, or its contractors, to purchase or use the product.

Status

Accepted – may be used on the classified road network

Product accepted

EZY-GUARD HIGH CONTAINMENT Steel Rail Safety Barrier - Permanent

Variants
- Standard installation
- Back to back installation
- Base plate installation
- Single post omission

Variants that are NOT listed above are NOT recommended for acceptance.

Accepted speed 110 km/h

Tested Outcomes

<table>
<thead>
<tr>
<th>Containment Level</th>
<th>Point of Redirection</th>
<th>Tested Article Length (m)</th>
<th>Anchor/Post Spacing (m)</th>
<th>Dynamic Deflection (m)</th>
<th>Working Width (m)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>MASH TL3</td>
<td>Interface between the barrier and terminal</td>
<td>55.8</td>
<td>2.0</td>
<td>1.16</td>
<td>1.16</td>
<td></td>
</tr>
<tr>
<td>MASH TL4</td>
<td>43.8</td>
<td>94</td>
<td>2.0</td>
<td>1.77</td>
<td>2.46</td>
<td></td>
</tr>
</tbody>
</table>

Approved Connections

Crash Cushions or Terminals must be fitted to both ends of a barrier

Public Domain Products
- W-Beam Guardrail: Permitted
- Three-Beam Guardrail: Permitted
- Concrete: Not Permitted

Proprietary Products
- ET-SS MASH Terminal: Refer to ET-SS Terminal acceptance document for conditions of use.
- QUADGUARD M10 Crash Cushion: Refer to QUADGUARD M10 Crash Cushion acceptance document for conditions of use.
  - The QUAD-BEAM transition to end terminal must be used to connect to the barrier.
  - May only be installed where reverse impacts are highly improbable and a risk assessment has been completed and steps undertaken to mitigate any risks identified.
# Design Guidance

This product must be installed and maintained in accordance with the Product Manual and Transport for NSW specifications

<table>
<thead>
<tr>
<th>Minimum installation length</th>
<th>82 metres between crash cushions/terminals (tested article)</th>
</tr>
</thead>
<tbody>
<tr>
<td>System width (m)</td>
<td>0.24 metres</td>
</tr>
<tr>
<td>Minimum distance to excavation</td>
<td>Recorded dynamic deflection</td>
</tr>
<tr>
<td>Slope limit</td>
<td>Side slope limit: 10 Horizontal to 1 Vertical (10%)</td>
</tr>
</tbody>
</table>

## Systems conditions
1. Anchor spacing greater than 2 metres is NOT permitted
2. Installation on top of a kerb is not recommended, however if installed on top of a kerb, all system components must be free to operate.
3. Flaring across the clear zone without a terminal listed above is NOT permitted.

## Gore area use
- Permitted

## Pedestrian area use
- Permitted – consider potential for snagging and deflection

## Cycleway use
- Permitted – consider potential for snagging and deflection

## Frequent impact likely
- Permitted

## Remote location
- Permitted

## Median use
- Permitted

## Foundation Pavement Conditions

<table>
<thead>
<tr>
<th>Pavement</th>
<th>Use</th>
<th>Accepted Speed (max)</th>
<th>Post/Pin Spacing (m)</th>
<th>Post/Pin Type</th>
<th>Pavement Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concrete</td>
<td>Permitted</td>
<td>110 km/h</td>
<td>2.0</td>
<td>Ezy-Guard High Containment post</td>
<td>Minimum AASHTO standard soil strength</td>
</tr>
<tr>
<td>Deep lift asphaltic concrete</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asphalitc concrete over granular pavement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flush seal over granular pavement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unsealed compacted formation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note: Installation in pavement conditions not listed above have not been justified to the Transport for NSW’s satisfaction.*