

# EZY-GUARD<sup>4</sup>

INGAL CIVIL PRODUCTS

**MASH TL3 COMPLIANT**

**NCHRP-350 TL4 COMPLIANT**

*MASH Compliant Roadside Safety Barrier*



[www.ingalcivil.co.nz](http://www.ingalcivil.co.nz)



**INGAL**  
CIVIL PRODUCTS  
A valmont COMPANY

## INTRODUCTION

Introducing Ezy-Guard 4 the next generation steel guardrail barrier providing MASH TL3 and NCHRP-350 TL4 containment. The superior design offers rapid installation, improved motorist safety and more metres of barrier for your dollar.

Ezy-Guard 4 rails and Z-posts are manufactured from hot-rolled steel in accordance with AS/NZS 1594. The product is hot dip galvanised in accordance with AS/NZS 4680, leaving no surface untreated.

The Z-post profile shields post edges from vulnerable road users and provides sectional strength when driving through difficult ground conditions.

An Ezy-Carriage is used to secure the w-beam rails to the Z-posts eliminating the requirement for blocking pieces and rail stiffening plates. This unique connection provides a soft ride-down for the occupants and smooth vehicle containment and redirection.

## CRASH TEST DETAILS

Ezy-Guard 4 has been fully crash tested and evaluated according to the specifications for Test Level 3 (TL3) of the AASHTO Manual for Assessing Safety Hardware (MASH). The system has also been crash tested in accordance with NCHRP-350 Test Level 4, this is the containment of an 8000kg truck impacting the rail at 80km/h and 15°.

The MASH specification is an update to and supersedes NCHRP Report 350 for the purpose of evaluating new safety hardware devices. The MASH TL3 crash test matrix requires the following impacts;

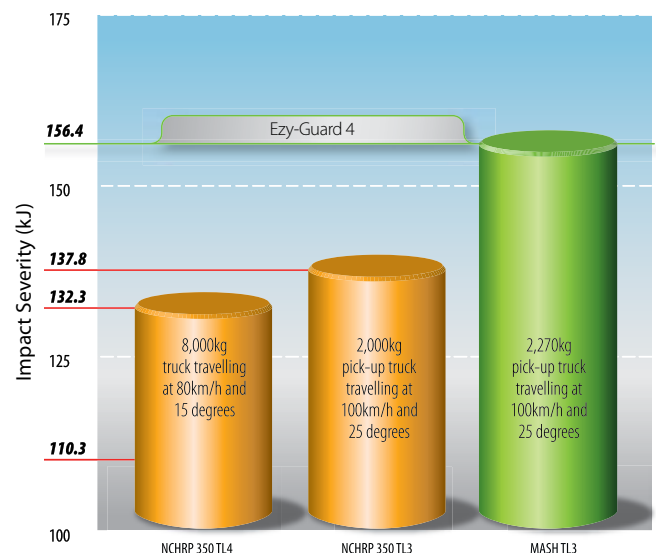
- 1100kg car travelling at 100km/h and 25 degrees.
- 2270kg pick-up truck travelling at 100km/h and 25 degrees.

The MASH TL3 test condition represents a 13% to 18% increase in impact energy when compared to the superseded NCHRP 350 Test Level 3.

## ADVANTAGES

- |  |   |
|--|---|
| <b>Safer</b>                                   | - Fully compliant to MASH TL3 & NCHRP-350 TL4.  |
| <b>High Performance</b>                        | - Demonstrated containment and re-direction of 2270kg pick-up truck travelling at 100km/h.  |
| <b>Fewer Parts</b>                             | - No blocking pieces or rail stiffener plates.  |
| <b>Rapid Installation</b>                      | - Fewer components facilitate rapid installation.<br>Z-post embedment depth is just 870mm.  |
| <b>Cost Savings</b>                            | - Fewer components to purchase, savings on freight costs and faster to install.   |
| <b>Narrow Width</b>                            | - A system width of just 200mm conserves valuable formation width.  |
| <b>Consideration for Vulnerable Road Users</b> | - The supporting Z-posts contain smooth, rounded post edges and corners. In addition, the revolutionary design of Ezy-Guard 4 shields the top of the support Z-posts by positioning the top of the rail above the posts.<br><br>This eliminates a dangerous snag point and is a significant safety benefit compared to existing safety barrier designs.<br><br>Fully crash tested and approved with Ingal MPR motorcyclist protection |

Ezy-Guard 4 Z-Post Length:	1,650mm
Ezy-Guard 4 Z-Post Mass:	12.5kg
Ezy-Guard 4 System Mass:	18.6kg per metre
Rail Height Above Ground:	787mm
Z-Post Height Above Ground:	777mm
Post Spacing:	1,905mm
Ezy-Guard 4 System Width:	200mm
MASH TL3 Crash Test Deflection:	1.65m

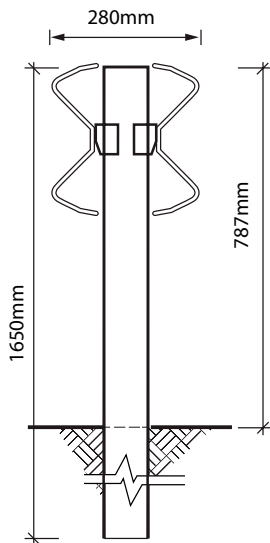


Crash Test Performance Level

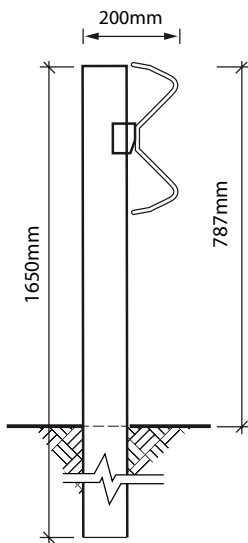


**MASH TL3 COMPLIANT**

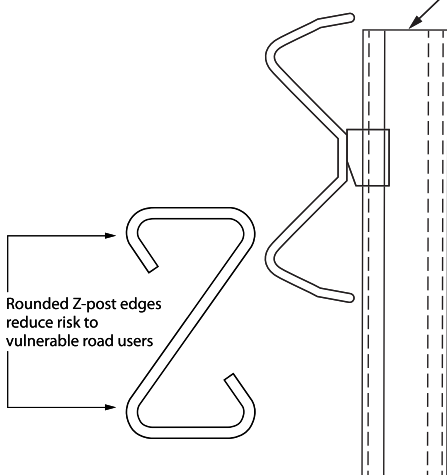
**NCHRP-350 TL4 COMPLIANT**



Double sided W-Beam



Top of Z-post  
shielded by rail







[www.ingalcivil.co.nz](http://www.ingalcivil.co.nz)

*Ezy-Guard has been developed by Ingal Civil Products, A Valmont Company.*

**Auckland**

Orders: 09 920 6838

Bruce: 021 580 997

Richard: 021 877 653

Email: [sales@ingalcivil.co.nz](mailto:sales@ingalcivil.co.nz)

**Christchurch**

Ian: 021 198 3311

Steve: 021 480 753

**Wellington**

Brendon: 021 504 870



Visit our website for further details on:

FlexFence WRSB • QuadGuard Crash-Cushion • Motorcyclist Protection • Guardrail End Terminals