PRESTAR ENGINEERING SDN BHD
PROFESSIONALISM IN SERVICE

YOUR PARTNER IN HIGHWAY GUARDRAIL
SUPPLY • INSTALLATION • MAINTENANCE
**HIGHWAY GUARDRAIL PRODUCT FEATURES & APPLICATION**

* To Provide Railing Protection To Motor Vehicle At Dangerous Road Area Such As
  - Steep Slope
  - High Embankment
  - Obscure Curve/Bend
  - Sharp Corner
* To Absorb Sudden Impact During Collision Thus Minimise Injury To Vehicle And Passenger.
* To Act As A Directional Railing For Vehicle Moving In The Right Direction.
* To Act As A Median Barrier For Avoiding Head On Collision.
* To Act As A Protective Barrier For Pedestrian Along The High Way.

**SPECIFICATION AND TECHNICAL DATA**

1. Base Metal specification comply to AASHTO M 180-00 (2008)
   - Minimum Yield Strength: 345 N/mm²
   - Minimum Tensile Strength: 483 N/mm²
   - Minimum Elongation: 15%

2. Galvanising specification comply to:
   - AASHTO DESIGNATION: M 111M/ M 111-09
   - BS EN ISO 1461: 2009

3. PRESTAR dimension comply to AASHTO M 180-00 (2008)

<table>
<thead>
<tr>
<th>TYPE</th>
<th>EFFECTION LENGTH (MM)</th>
<th>OVERALL LENGTH (MM)</th>
<th>NOMINAL THICKNESS (MM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PE 1</td>
<td>3810</td>
<td>4128</td>
<td>2.67</td>
</tr>
<tr>
<td>PE 2</td>
<td>4000</td>
<td>4318</td>
<td>2.67</td>
</tr>
<tr>
<td>PE 3</td>
<td>3810</td>
<td>4128</td>
<td>3.00</td>
</tr>
<tr>
<td>PE 4</td>
<td>4000</td>
<td>4318</td>
<td>3.00</td>
</tr>
</tbody>
</table>

(Tolerance allowable under specified thickness)

**SECTION THROUGH BEAM**

**NOTE:** All dimension are subject to manufacturer’s design tolerance.
All dimension are in millimetre
SIRIM LICENSE NO: PP001801
**PRESTAR POST**

(A)&(B)  

(C)  

<table>
<thead>
<tr>
<th>TYPE</th>
<th>H x b x t1 x t2 (mm)</th>
<th>Unit Weight (kg/m)</th>
<th>Section Area (cm²)</th>
<th>Moment of Inertia</th>
<th>Section Modulus</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>C178 x 76 x 6 x 6</td>
<td>14.3</td>
<td>19.08</td>
<td>903.5</td>
<td>101.5</td>
</tr>
<tr>
<td>B</td>
<td>C150 x 76 x 6 x 6</td>
<td>13.2</td>
<td>17.50</td>
<td>610.0</td>
<td>80.3</td>
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<tr>
<td>C</td>
<td>C125 x 65 x 6 x 8</td>
<td>13.4</td>
<td>17.11</td>
<td>425</td>
<td>68.0</td>
</tr>
</tbody>
</table>

**TERMINAL UNIT (TYPE 1)**

**TERMINAL ANCHORAGE UNIT OR FLARE END (TYPE 2)**

**BUFFER RETURN (Detail B)**

Spacing of post beyond terminal shall be 3810/4000 unless otherwise stated.
**90° TWIST TERMINAL ANCHORAGE UNIT (TYPE 3)**

**PLAN**

- 90° Twist Guardrail
- See packer detail (Type A)
- See packer detail (Type B)
- See packer detail (Type C)

**backing section**

- Stiffener at centre post where required - Optional

**Top of rail element to be flush with ground line**

Spacing of post beyond terminal shall be 3810/4000 unless otherwise stated

**FORMULA 1, SEPANG**

**ELEVATION**

- 16mm Dia. bolt with hex nut and washer (Galvanized)
- 178 x 76 x 6 GI Channel Section
- 2 Nos. 16mm Dia. hex head bolt with standard hex nut (Galvanized)

**PACKER (TYPE A)**

**PACKER (TYPE B)**

**PACKER (TYPE C)**

**TYPE 2 COMPLETE SET**

**TERMINAL SECTION 1:6 (TYPE 4)**

**PLAN**

- Opened out approx 5° terminal buffer end
- Butt-welded joint with tensile strength not less than 330KN (74,000lb)
- Spacing between terminal buffer and rail is flush with top of rail, surrounding ground is rammed up to same level

**ELEVATION**

- Terminal buffer end see detail 'C'
- 23 x 29 Slotted holes 4 off
PRESTAR ENGINEERING SDN BHD (PESB) is a fully integrated manufacturer and supplier of highway guardrail and accessories. Our highway guardrail and accessories are manufactured strictly conforming to the design usage and application with the latest engineering know how and is certified by SIRIM.

As an affiliated company to PRESTAR RESOURCES BHD, PESB have the access to the various facilities and technical support which further enhance the capability to undertaken all aspect of project involving highway guardrail and accessories. The range of facilities include hot dip galvanising services and metal fabrication equipment such as press and forming machines etc.

The highway guardrail and accessories are produced at the new factory in Rawang Industrial Estate under the brand name PRESTAR and is in compliance with

American Association Of State Highway & Transportation Official (AASHTO)

Standard Industry Research Institute Of Malaysia (SIRIM)

Malaysia Public Work Department Standard (JKR)

The product galvanising finish is in compliance with

- AASHTO DESIGNATION : M 111M/M111-09
- BS EN ISO 1461: 2009
We are a group of companies specializing in the manufacture and export of steel related products from Malaysia. Our integrated facilities include highway guardrails, steel service center, steel pipes factory, hot-dip galvanizing plant and PVC doors manufacturing plant.

We are involved in the group's core activity of manufacturing material handling products such as Wheelbarrows, Hand Trucks, Industrial Castors, Industrial Wheels. Besides supplying to domestic market, our manufactured products are exported overseas substantially to the United States, Japan, Europe, ASEAN Region, the Middle East etc.

We are the manufacturer of Highway Guardrail, Posts, Packers, Bridge Railing and steel related product to the major highway project in Malaysia.

PRESTAR ENGINEERING SDN BHD

- **Local Sales Office** -
  Lot 17494, B / S Miles, Jalan Ipoh, Selayang Industrial Estate 68100 Batu Caves, Selangor Darul Ehsan, MALAYSIA
  Tel: 603 - 6138 0033  Fax: 603 - 6138 3685
  E-mail: peshb@prestar.com.my / steven_ng@prestar.com.my

- **Factory Address** -
  Lot 1298, Rawang Industrial Estate, 16 1/2, Miles, Jalan Ipoh 48000 Rawang, Selangor Darul Ehsan, MALAYSIA
  Tel: 603 - 6092 5200 (Ext.192)  Fax: 603 - 6093 4301

- **Singapore Agent** -
  **Y.K. TOH MARKETING (S) PTE LTD**
  8, Changi North Street 1
  TSK Building,
  Singapore 498829
  Tel: (65) 6542 3232  Fax: (65) 6542 3636
  E-mail: enquiry@yktoh.com

Website : www.prestar.com.my
HIGHWAY GUARDRAIL PRODUCT FEATURES & APPLICATION

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<td>2.67</td>
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Typical Rail Section

THRIE BEAM

(All dimensions are subject to manufacturing tolerance)

All dimensions are in mm
## PRESTAR POST

### Table: Dimensions and Properties

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### Diagrams:
- **Prestar Post Diagrams**: Various projections and sections illustrating the post's dimensions and structural integrity.
- **W Beam to Thrie Beam Transition Rail**: A detailed diagram showing the transition from a W beam to a thrie beam, highlighting key features and dimensions.
- **Thrie Beam Terminal Connector**: Diagram illustrating the connector's design, including slot holes for spiked bolts.
- **Bridge Endpost Connection Bracket**: Diagram depicting the bracket's structure, designed for secure connection with spiked bolts.

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- **Factory Address**
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