Thrie-Beam Guardrail

W-Beam and Thrie-Beam Guardrail

Thrie-beam guardrail features a three-corrugation profile, offering higher impact resistance than standard W-beam barriers. It is designed to absorb and redirect energy from errant vehicles, reducing damage to both the vehicle and its occupants. Hongda produces the barrier to AASHTO M180 from Tang Steel coil and hot-dip galvanizes it to 550 g/m2, meeting the specification required by many road authorities in the Americas. Standard sections measure 4128 x 506 x 83 mm with a 3.0 mm wall thickness, with other thicknesses rolled to order.

Specifications

Standard Size	4128 x 506 x 83 x 3.0 mm
Thickness	3.0 mm or customized
Steel Grade	Q235B (equivalent to S235JR) / Q345 (S355JR / ASTM A529M 1994)
Surface Treatment	Hot dip galvanized
Zinc Coating	550 g/m2 (80 microns)
Standard	AASHTO M180
Application	Highway, dangerous area

Key Benefits

- Three corrugations provide greater impact resistance than standard W-beam barriers
- Rolled to AASHTO M180, the barrier standard specified by road authorities in the Americas
- Hot-dip galvanized at 550 g/m2 (80 microns) for long-term corrosion resistance on exposed roadside installations

- Bolt-through splice pattern allows continuous runs and single-section replacement without site welding
- Q235B or Q345 steel from Tang Steel ensures consistent impact performance across a delivery
- Designed for high-risk areas where vehicle redirection and energy absorption are critical

Technical Features

- Three-corrugation profile, 4128 mm section length by 506 mm depth by 83 mm rib height
- 3.0 mm standard wall thickness, other thicknesses rolled to customer specification
- Q235B (equivalent to S235JR) or Q345 (S355JR / ASTM A529M 1994) hot rolled steel
- Hot-dip galvanized finish, zinc coating 550 g/m2 measured at 80 microns
- Bolt-through splice pattern allowing continuous runs and single-section replacement
- Rolled and punched to AASHTO M180 hole spacing for compatibility with standard posts

Materials

- Q235B hot rolled carbon steel, equivalent to S235JR, for standard high-impact applications
- Q345 higher strength steel, equivalent to S355JR and ASTM A529M 1994, where the specification requires it
- Coil supplied by Tang Steel so grade and thickness remain consistent batch to batch
- Zinc for the hot-dip bath applied at 550 g/m2, the coating weight specified in most tender documents

Application Scenarios

- High-risk road sections such as sharp curves, steep ramps, and bridge approaches
- Median separations on divided carriageways where higher impact resistance is required
- Approaches to bridges, culverts, and sign gantries with high crash potential
- Roadside installations near steep embankments or drainage ditches where vehicle run-off is a concern
- Areas with heavy truck traffic where the barrier must withstand repeated or high-energy impacts

Installation Notes

- Set posts to the spacing and embedment depth specified in the road authority document
- Fix the beam to the spacer block first, then secure the assembly to the post
- Lap splices in the direction of traffic flow to prevent snagging on impacting vehicles
- Install upstream and downstream terminal ends at every opening and at the end of each run
- Inspect galvanizing at cut or drilled points and treat any bare steel before handover
- Replace crash-damaged sections individually rather than re-running the entire barrier line