

W-Beam Guardrail

W-Beam and Thrie-Beam Guardrail



W-beam guardrail is the most widely installed crash barrier on highways and roadways, built to keep an errant vehicle on the carriageway and away from roadside structures. The corrugated beam absorbs impact energy and redirects the vehicle at a controlled exit angle instead of stopping it dead. Hongda rolls the profile to AASHTO M180 from Tang Steel coil and hot-dip galvanizes it to 550 g/m², which is the specification most road authorities in the Americas write into their tenders. Standard sections run 4128 x 310 x 83 mm at 2.67 mm wall thickness, with other thicknesses rolled to order.

Specifications

Standard Size	4128 x 310 x 83 x 2.67 mm
Thickness	2.67 mm or customized
Steel Grade	Q235B (equivalent to S235JR) / Q345 (S355JR / ASTM A529M 1994)
Surface Treatment	Hot dip galvanized
Zinc Coating	550 g/m ² (80 microns)
Standard	AASHTO M180
Application	Highway, roadway

Key Benefits

- Redirects an errant vehicle back onto the carriageway instead of bringing it to an abrupt stop
- Rolled to AASHTO M180, the barrier standard specified across most road authorities in the Americas
- Hot-dip galvanized at 550 g/m² (80 microns) for service life on exposed roadside installations



- Bolts beam to spacer then spacer to post, so a crew installs it without site welding
- Q235B or Q345 steel from Tang Steel, so impact performance is consistent across a delivery
- Damaged sections unbolt and swap individually, keeping repair cost to a single beam

Technical Features

- Two-corrugation W profile, 4128 mm section length by 310 mm depth by 83 mm rib height
- 2.67 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 highway runs
- Q345 higher strength steel, equivalent to S355JR and ASTM A529M 1994, where the specification calls for it
- Coil supplied by Tang Steel so grade and thickness stay consistent batch to batch
- Zinc for the hot-dip bath applied at 550 g/m², the coating weight written into most tender documents

Application Scenarios

- Highway and expressway shoulders where run-off-road departures are the main crash risk
- Rural roadway edges protecting drainage ditches, embankments and roadside structures
- Median separation between opposing traffic flows on divided carriageways
- Approaches to bridges, culverts and sign gantries needing point-hazard shielding
- Boundary lines where the barrier also keeps straying livestock off the running lanes

Installation Notes

- Set posts to the spacing and embedment depth given in the road authority specification
- Fix the beam to the spacer block first, then fix the assembly to the post
- Lap splices in the direction of traffic flow so the joint does not snag an impacting vehicle
- Fit 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 whole line