



THRIE-BEAM GUARDRAIL — PRODUCT MANUAL

THE HIGH-PERFORMANCE BARRIER FOR PROTECTION LEVELS SB / SA / SS

The primary competitive advantage of corrugated beam guardrails lies in their sophisticated, energy-absorbing structural design. At the exact moment of impact, the collision force is dissipated through a highly efficient, three-stage deformation mechanism:

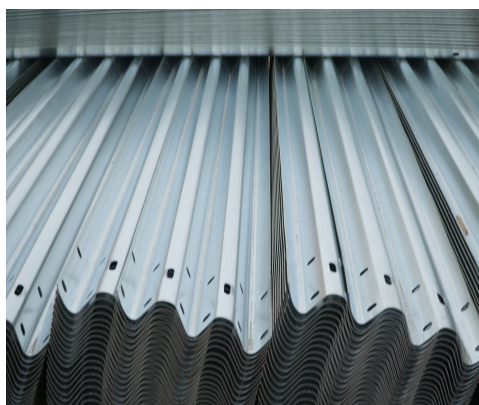
The Guardrail Panel: The force is initially transmitted to the corrugated steel rail, which undergoes controlled bending and deformation.

The Support Posts: The kinetic energy then moves to the posts, causing them to tilt or bend within the soil foundation.

The Soil Foundation: Finally, the surrounding soil matrix absorbs the remaining energy.



| By shedding force layer by layer, this progressive deformation effectively disperses what would otherwise be a catastrophic, instantaneous shock into a manageable deceleration over time and distance.



Key Engineering Advantages

Minimized Occupant Injury

As semi-rigid barriers, Thrie-beam guardrails inflict significantly less damage on vehicles and their occupants. They eliminate the severe, instantaneous peak impact force typical of rigid concrete barriers during high-angle collisions.

Rapid Post-Impact Repair & Low Maintenance Costs

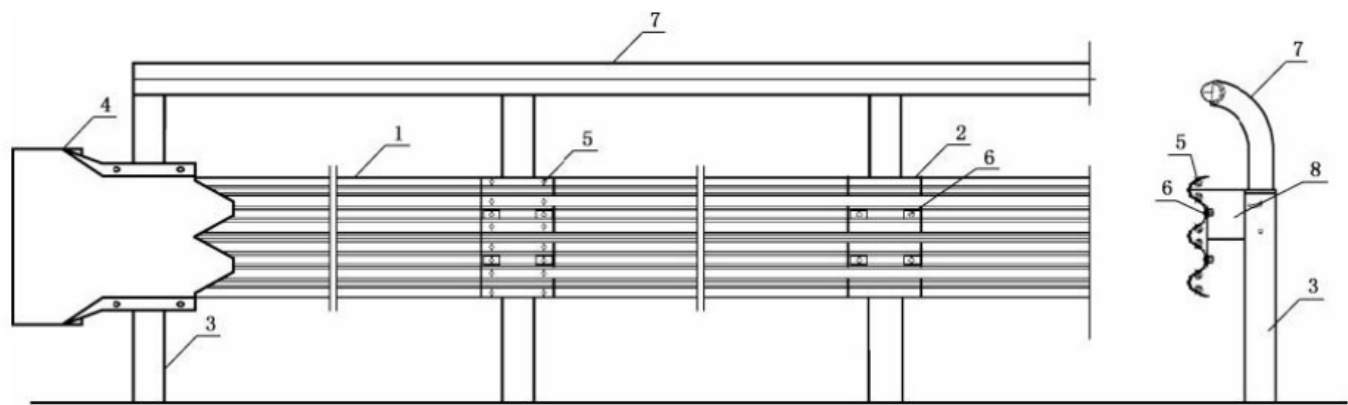
Both the beam panels and posts are highly standardized components. Following a collision, maintenance crews only need to replace the localized damaged sections rather than reconstructing the entire system — significantly reducing repair time and costs. This modularity is exceptionally valuable for highway maintenance budgets.

Lightweight Design & Cost-Effective Logistics

A standard Thrie-beam panel (4320 mm) at 3 mm thickness weighs approximately 66 kg, and about 88 kg at 4 mm thickness — far lighter than a concrete barrier of equivalent protective length. This reduces container shipping costs and simplifies on-site installation.

Highly Adaptable Specifications & Full-Spectrum Protection

By adjusting plate thickness (3.0 or 4.0 mm), post cross-sections (tubular, SHS, or H-section), and post spacing, Thrie-beam guardrails cover Protection Levels SB through SS (Levels 4–6), perfectly suiting all high-speed expressway, bridge, and median scenarios.



Components (Thrie-beam): 1—Thrie-beam panel; 2—Thrie-beam backup plate (H-section posts only); 3—post; 4—end terminal; 5—splice bolt assembly; 6—connecting bolt assembly; 7—reinforcing rail; 8—blockout or bracket.

Thrie-Beam Panels

Thrie-beam panel specifications shall comply with the table below (Table 1). Unit: mm.

Product Name	Model	Specification (L × W × Wave Height × Thickness)	Use
Thrie-beam panel	RTB00	8320 × 506 × 85 × (3 / 4)	Extended panel
	RTB01	4320 × 506 × 85 × (3 / 4)	Standard panel
	RTB02	3820 × 506 × 85 × (3 / 4)	Adjustment panel
	RTB03	3320 × 506 × 85 × (3 / 4)	Adjustment panel
	RTB04-1	Lx × 506 × 85 × 3	Adjustment panel
	RTB04-2	Lx × 506 × 85 × 4	Adjustment panel

Note 1: A standard panel is of standard length used in installation; an extended panel is lengthened to reduce splicing; an adjustment panel handles leftover spacing through the distribution method. Note 2: In models RTB04-1 and RTB04-2, Lx denotes an adjustment panel of any length under 2320 mm, used to handle the spacing remainder after standard, extended, and fixed-length adjustment panels have been used; the exact length is determined by design or project requirements.

Flexible Specifications with Broad Protection Level Coverage By adjusting the thickness of the beam plates (3.0 mm or 4.0 mm), post cross-sections (PSP tubular / PST square hollow / PHS H-section), and post spacing, Thrie-beam guardrails cover the complete protection level range from Level SB (Level 4) to Level SS (Level 6), perfectly suiting all high-speed expressway, bridge median, and high-hazard roadside scenarios.

Guardrail Model Selection Reference Table

Protection Level	Panel Model	Thickness	Post Type	Typical Application
SB (Level 4)	RTB01 / RTB00	3.0 mm	PSP $\phi 140 \times 4.5$ or PST $130 \times 130 \times 6$	High-speed roads; roadside hazard zones
SA (Level 5)	RTB01 / RTB00	4.0 mm	PST $130 \times 130 \times 6$ or PHS 150×100	Expressway medians, bridge sections
SS (Level 6)	RTB01 / RTB00 + Reinforcing rail	4.0 mm	PHS 150×100 (H-section)	Bridge parapets, high-risk medians, tunnels





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