Highway Guardrail (W-Beam)

OMEGA STEEL CO.
Istanbul · Dilovası plant

Complete galvanized road safety barrier systems: W-beam (two-wave) and thrie-beam (three-wave) rails 3.0 / 4.0 mm in S235JR / S355JR hot-dip galvanized ≥ 550 g/m² (EN ISO 1461 / ASTM A123), sigma, C and U posts, spacer blocks, end terminals, transitions, fishbolts and post bolts, delineators — supplied as tested systems per EN 1317-2 containment classes N2, H1, H2 and AASHTO M180 Class A/B Type 2, packed per kilometre and exported to road contractors and ministries in Iraq, the Gulf, Africa, Central Asia and the Balkans.

W-beam · thrie-beam | 3 / 4 mm · Z550 – Z600 | EN 1317 N2 · H1 · H2 | AASHTO M180 A / B | Complete systems per km

Roads in Iraq, the Gulf, Kazakhstan and Africa are built with Turkish guardrail because it is EN 1317-tested, galvanized to 550 g/m² and shipped per kilometre with every post, spacer, bolt and terminal. We supply W-beam (AASHTO M180 / EN 1317 N2) and thrie-beam (H1/H2) systems, 3 or 4 mm, with sigma or C posts, complete or as rails only, from the Marmara region's roll-forming and galvanizing plants.

GUARDRAIL SYSTEMS: W-BEAM AND THRIE-BEAM

System	Rail	Post	Spacing	Height	Containment	Typical road
W-beam single-sided	W 3.0 mm, 4.32 m (4.0 effective)	Sigma 100×55×3 or C 125×62.5, 1.9–2.0 m	2.0 m (4.0 m light)	750 mm	EN 1317 N2 / AASHTO TL-2/3	Highways, rural roads, most exported
W-beam double-sided	2 × W 3.0 mm	Sigma / C, 1.9–2.1 m	2.0 m	750 mm	N2 / H1	Medians
W-beam 4 mm heavy	W 4.0 mm	Sigma 4 mm / IPE 100	1.33–2.0 m	750 mm	H1	High-speed highways
Thrie-beam	3-wave 3.0–4.0 mm, 4.32 m	Sigma / IPE 100, 2.2 m	1.33–2.0 m	850–900 mm	H1 / H2	Bridges, trucks, mountain roads
Bridge / parapet	Thrie-beam on base-plated posts	Base-plated IPE / sigma	1.33 m	900–1 000 mm	H2 / H4b	Bridge decks
Terminals / transitions	Flared, fish-tail, energy-absorbing	—	—	—	Per class	Ends, bridge approaches

W-BEAM RAIL: DIMENSIONS AND WEIGHT

Beam	Profile	Thickness	Length	Effective length	Weight (galv.)	Zinc
W-beam Class A	312 × 83 mm two-wave	2.67 mm (12 ga)	4 318 mm	4 000 mm	≈ 45 kg	≥ 550 g/m² (Z550)
W-beam Class B	312 × 83 mm	3.50–4.0 mm (10 ga)	4 318 mm	4 000 mm	≈ 62–70 kg	≥ 550 g/m²
W-beam EN (3 mm)	310 × 81 mm	3.0 mm	4 320 mm	4 000 mm	≈ 49 kg	Z550–Z600
Thrie-beam	506 × 83 mm three-wave	3.0 / 4.0 mm	4 318 mm	4 000 mm	≈ 70 / 92 kg	≥ 550 g/m²
Terminal end (fish-tail / bull-nose)	—	3.0 mm	—	—	≈ 8–15 kg	≥ 550 g/m²

Rails are roll-formed from S235JR / S355JR strip, punched with 8 slotted splice holes and post slots, then hot-dip galvanized; minimum 550 g/m² (≈ 78 µm) per AASHTO M180 / EN 1317 practice.

POSTS, SPACERS, BOLTS AND ACCESSORIES

Component	Specification	Qty per 4 m	Weight
Sigma post	100 × 55 × 3 mm (or 4 mm), 1 900–2 000 mm, galvanized, cap	2	2 × 12–15 kg
C post (alternative)	125 × 62.5 × 4.5–6 mm (US) or UPN 100, 1 830 mm	2	2 × 19 kg
Spacer block	W-shaped 3 mm galv. or sigma 100 × 55 × 3, 350 mm	2	2 × 2.5 kg
Splice bolts	M16 × 30 mushroom-head fishbolt, 8.8, galv. + nut + washer	8	0.8 kg
Post bolt	M16 × 40 / M16 × 200 with washer plate	2	0.5 kg
Delineator / reflector	Galvanized bracket + reflector	1 per 12–20 m	0.2 kg
End terminal	Fish-tail, bull-nose or flared per 100–200 m section	—	8–15 kg

Per kilometre of single-sided W-beam: 250 rails, 500 posts, 500 spacers, 2 000 fishbolts, 500 post bolts ≈ 24–26 t (3 mm) — one 40' HC.

STANDARDS

EN 1317-1/-2 (road restraint systems: performance classes N2, H1, H2, H4b) · AASHTO M180 (corrugated sheet steel beams for highway guardrail) · ASTM A123 / EN ISO 1461 (hot-dip galvanizing) · EN 10025-2 (S235JR / S355JR rail and post steel) · ASTM A307 / ISO 898 (bolts) · TS 7768 / RAL-RG 620 (Turkish and German system standards)