

Spring Steel Buffers

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Spring steel buffers are impact-absorbing end terminals designed to reduce vehicle damage and structural failure at the ends of guardrail systems. The buffer uses a spring steel structure with a precision-bent and plasma-cut profile to absorb crash energy through controlled deformation. Made from high-strength spring steel and thermally treated for flexibility, it reduces anchor bolt pull-out forces during impact. The buffer is suitable for use at vehicle access points, loading docks, and industrial barriers where space is limited and impact energy must be dissipated safely.

Specifications

Material	High-strength spring steel
Treatment	Thermally treated for flexibility and strength
Dimensions	100 mm x 14 mm
Surface Treatment	Hot dip galvanized
Mounting	Bolted with springs and caps
Design	Retro-lavado column for energy absorption
Application	Guardrail end terminals, industrial barriers, loading docks

Key Benefits

- Absorbs impact energy through controlled deformation, reducing damage to vehicle and barrier structure
- Thermally treated spring steel provides high flexibility and resistance to repeated loading
- Precision-bent and plasma-cut profile ensures consistent geometry and reliable performance
- Reduces anchor bolt pull-out force during impact, improving terminal integrity



- Compact design with low footprint makes it suitable for tight installation spaces
- Galvanized surface resists corrosion, extending service life in exposed environments

Technical Features

- Made from high-strength spring steel, thermally treated for flexibility and durability
- Precision-bent using automatic bending machine and plasma-cut for accurate radius
- Material dimensions: 100 mm x 14 mm, with bolted mounting system including springs and caps
- Designed with retro-lavado (reversed bend) column to reduce impact force transmission
- Galvanized surface for corrosion resistance on exposed installations
- Compact footprint suitable for space-constrained locations

Materials

- High-strength spring steel sourced from Tang Steel, China's top steel producer
- Thermal treatment applied to enhance flexibility and fatigue resistance
- Zinc coating applied during hot-dip galvanizing to resist corrosion at cut and drilled surfaces
- Bolts, nuts, and spring components made from compatible steel to ensure system integrity

Application Scenarios

- End terminals on highway and roadway guardrail systems where vehicle run-off is a risk
- Loading docks and warehouse entrances where vehicles approach fixed structures at speed
- Parking barrier systems in industrial yards and commercial facilities
- Industrial compound perimeters where vehicle impact at barrier ends must be managed
- Areas with limited space for traditional crash cushioning, such as narrow shoulders or tight corners

Installation Notes

- Install buffer at the end of each guardrail run or at all access points
- Ensure the retro-lavado column faces the direction of oncoming traffic
- Anchor buffer to post using bolts and spring assembly as per design
- Check galvanized surface at cut edges and repair any bare steel before installation
- Inspect buffer after impact and replace if deformed or damaged
- Coordinate with post and beam system to ensure full compatibility and load transfer