



Tactical Safety for Access & Falls

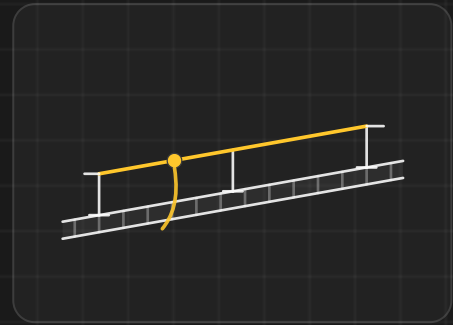
Product datasheet

— A PART OF MT&T GROUP —

LIFELINE SYSTEMS

Horizontal Lifeline System

A TsaF horizontal lifeline gives roof workers a continuous, engineered anchor along the routes they actually use, in fall-restraint or fall-arrest configuration. Pass-through trolleys glide past intermediate brackets, so workers never need to unclip while they move.



8-12 m

Typical intermediate bracket
spacing

Ø8 mm

SS AISI 316L cable, 7×7
construction

12 kN

Activating force of the TSAF-100A shock absorber
cum tensioner

Overview

The risk on working roofs

Industrial roofs are workplaces. Maintenance teams cross them to service fans, gutters, solar panels and HVAC plant, often close to unprotected edges, and individual anchor points force workers to unclip and re-clip as they move. Each transfer is a moment without protection. Falls from height remain a leading cause of serious injury in construction, maintenance, utilities, oil and gas and power, which is why a roof that is used regularly needs a continuous anchor along its working routes.

How a TsaF horizontal lifeline works

The system is a Ø8 mm stainless steel cable (SS AISI 316L, 7×7) tensioned between end anchors and supported by intermediate brackets, typically every 8 to 12 metres. The TSAF-100A integrated shock absorber cum tensioner keeps the cable at the right tension and absorbs energy in a fall. Workers connect to the line through a travelling trolley, which passes through intermediate and corner brackets automatically, so they can walk the whole route with both hands free and without unclipping.

Depending on the route and the distance to the edge, the line can be laid out as a **fall-restraint** system, which stops a worker reaching the edge, or a **fall-arrest** system, which arrests a fall that does occur. The choice is made at design stage after measuring clearances on the actual roof.

Fixing to the roof

TsaF supplies two families of roof fixing. Screw-down systems suit trapezoidal metal sheets. Standing seam systems clamp onto Snap-lock, Kalzip and Klip-lock seams. Both use 6063 T6 aluminium roof posts in a range of end, corner and intermediate sizes, with 90° corner brackets so the line can follow building contours.

Where horizontal lifelines are used

Typical applications include flat and sloped factory and warehouse roofs, PEB structures, aircraft hangars, stadiums, construction sites and rooftop solar maintenance. On many roofs the lifeline works alongside other systems: a rooftop walkway gives a defined route, a skylight protection system covers fragile roof lights, a rooftop barricade, such as the aluminium barricade system, protects edges collectively, and a vertical lifeline secures the climb up. For loading bays and vehicle tops, see the overhead lifeline system.

Why TsaF

TsaF designs each line around the roof profile, the routes and the number of people who will use it. Components are made in our Jewar facility to tight tolerances, installed by certified technicians, and handed over with training for your team. Lifelines need regular attention to cable tension, terminations and the energy absorber, and our Annual Maintenance Check covers each of these. Request a site assessment to plan a line for your roof.

System types

Screw-down (trapezoidal roofs)

Roof posts fixed through the sheet into the trapezoidal profile, for the most common metal roofs on Indian industrial buildings.

Standing seam (Snap-lock, Kalzip, Klip-lock)

Clamp-on fixings that grip the standing seam, for roofs where the sheet should not be pierced.

Fall-restraint layout

The line and lanyard length are set so a connected worker cannot reach the edge, preventing a fall rather than arresting one.

Fall-arrest layout

The line is designed to arrest a fall where restraint is not practical, with clearance checked at design stage.

Roof post range

6063 T6 aluminium end, corner and intermediate posts in several footprints to suit different sheet profiles and heights.

How it works

- 01 End anchors** — End anchorages and anchor plates terminate the line at each end and transfer loads into the roof fixings.
- 02 Cable** — A Ø8 mm SS AISI 316L 7×7 cable runs the length of the route, terminated with swageless wedge-socket ends.
- 03 Shock absorber cum tensioner** — The TSAF-100A sets cable tension and absorbs energy in a fall, with an activating force of 12 kN.
- 04 Intermediate and corner brackets** — SS-316 intermediate brackets typically every 8–12 m, and 90° corner brackets, support the cable and follow the roof layout.
- 05 Travelling trolley** — The SS-304 Glider-8 trolley with karabiner passes through brackets automatically, so the worker never unclips.

06 **Harness and lanyard** — Each worker connects with a full body harness and an energy-absorbing lanyard suited to the restraint or arrest layout.

Benefits

No unclipping

Automatic pass-through trolleys move past intermediate anchors, keeping both hands free.

Multiple teams

Lines can be designed for more than one worker, so inspection and repair teams can work at the same time.

Follows the building

Corner brackets allow the line to follow roof contours and route around obstructions.

Lighter than fabricated steel

Aluminium posts and stainless steel cable keep the load on the roof low.

Corrosion-resistant

SS-316 and 316L components and anodised aluminium posts for long outdoor service.

Custom-engineered

Each layout is designed for the roof profile, routes and clearances on your site.

Components & specifications

SKU	Component	Key specifications
TSAF-108	Stainless Steel Wire Rope Dia 8 mm	Material: SS-316 · Construction: 7×7 · Dia: 8 mm · Length: 1m · Weight: 0.25 kg/Mtr.
TSAF-131	Karabiner	Material: Alloy Steel · Finishing: Natural Finish · Weight: 0.26 kg · Breaking Strength: 23 kN
TSAF-100A	Integrated Shock Absorber cum Tensioner	Material: SS-316 & AB-2 · Finishing: Natural Finish · Weight: 1.12 kg · Activating Force: 12kN · Max. Breaking Strength: 50kN
TSAF-102B	End Swage Less (Wedge Socket I-Bolt Type)	Material: SS-316 & AB-2 · Finishing: Natural Finish · Weight: 0.580 kg · Open Length: 250mm · Close Length: 160mm
TSAF-104	Intermediate Cable Bracket for HLLS	Material: SS-316 · Finishing: Natural Finish · Weight: 0.385 kg · Fixing: Through SS-304 Fasteners
TSAF-129	90° Corner Bracket	Material: SS-316 · Finishing: Natural Finish · Weight: 0.82 kg · Fixing: Through SS-304 Fasteners
TSAF-130A	Travelling Trolley (Glider-8 with Karabiner)	Material: SS-304 · Finishing: Natural Finish · Weight: 0.42 kg
TSAF-134	Rope Grab with Adjustable Lanyard	Material: Nylon (Polyamide) · Finishing: Natural Finish · Weight: 1.9 kg
TSAF-132	Full Body Harness with Energy Absorbing Lanyard	Material: Nylon, Steel & Plastic · Breaking Strength: 25kN · Weight: 0.95 kg
TSAF-110	Roof Post for End and Corners	Size (LxBxH): 680 × 196 × 59mm · Material: AL 6063 T6 · Finishing: Anodizing Natural Finish · Fixing: Through SS-304 Fasteners

SKU	Component	Key specifications
TSAF-111	Roof Post for Intermediate	Size (LxBxH): 680 × 395 × 59mm · Material: AL 6063 T6 · Finishing: Anodizing Natural Finish · Fixing: Through SS-304 Fasteners
TSAF-112A	Roof Post for End, Corners & Intermediate	Size (LxBxH): 680 × 540 × 46mm · Roof Post Plate Material: AL 6063 T6 · Roof Post Clamps Material: AL 6063 T6 · Finishing: Anodizing Natural Finish · Fixing: Through Aluminium Riveting
TSAF-116	Roof Post for End and Corners	Size (LxBxH): 680 × 395 × 69.5mm · Material: AL 6063 T6 · Finishing: Anodizing Natural Finish · Fixing: Through SS-304 Fasteners
TSAF-117	Roof Post for Intermediate	Size (LxBxH): 680 × 195 × 69.5mm · Material: AL 6063 T6 · Finishing: Anodizing Natural Finish · Fixing: Through SS-304 Fasteners
TSAF-125	Roof Post for Intermediate	Size (LxBxH): 680 × 195 × 89 mm · Material: AL 6063 T6 · Finishing: Anodizing Natural Finish · Fixing: Through SS-304 Fasteners

Applications

Flat and sloped industrial roofs

Warehouse and PEB roofs

Aircraft hangars

Stadiums and large-span structures

Construction sites

Rooftop solar panel maintenance

Access to rooftop HVAC and ventilation plant

Standards & specifications. Specifications are indicative and may vary with configuration. Final layouts, loads and applicable standards are confirmed by TsaF engineering for each project. Subject to technical changes.

Plan your horizontal lifeline system with TsaF

Site assessment · System design · In-house manufacturing
· Installation · Training · Annual Maintenance Check

We don't just install your safety system. We stand on the roof with you.

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