

The Tirsafe™ is an energy absorber for temporary horizontal lifeline systems (HLLs) that can accommodate up to 3 workers. It is the first in the industry to incorporate a tension indicator that lets you know when your line is correctly tensioned.

The Tirsafe™ energy absorber consists of a specially developed polymer conical sleeve of 100% memory retention. Running through the center of this special sleeve is a stainless steel axle with ball-peen termination. When the system is subject to a force of a fall the axle runs through the conical sleeve controlling the impact force on the anchorage.

The deployment activation force and tension indicator aspects of the Tirsafe™ result from tension spring/housing resistance. This clever design indicates correct tension when the knurled ring appears in the indicator window.

The Tirsafe™ energy absorber offers the unique advantage of re-setting. After activation or deployment of the Tirsafe™ is reconditioned and placed back into service (through authorized service center).

Benefits

- The Tirsafe™ energy absorber is designed to be used within a 65 ft. (20 m) single span HLL. On longer lengths, up to 300 ft. (100 m), intermediate supports capable of sustaining 3,600 lbs (1,630 kg) must be used every 50 ft. (15 m).
- Tested for up to three persons use within horizontal lifeline systems up to 300 ft. (100 m).

Features

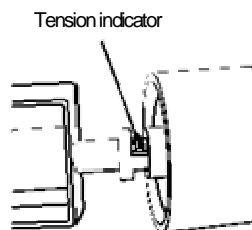
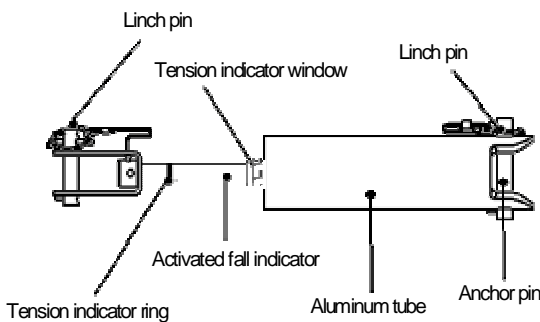
- Single span
- Minimal line deflection
- Multiple spans up to 300 ft. (91.3 m) using
- Re-settable by authorized service center intermediates at every 50 ft. (15 m)
- Lightweight and quick to install
- Built-in tension indicator
- Sold separately or as a system
- Built-in impact indicator
- Corrosion resistant – aluminum and stainless steel
- Three workers

Applications

- Steel erection
- Pipe racks
- Installation of concrete flooring
- Roof work
- Manufacturing facilities
- Transport maintenance (marine, aircraft...)

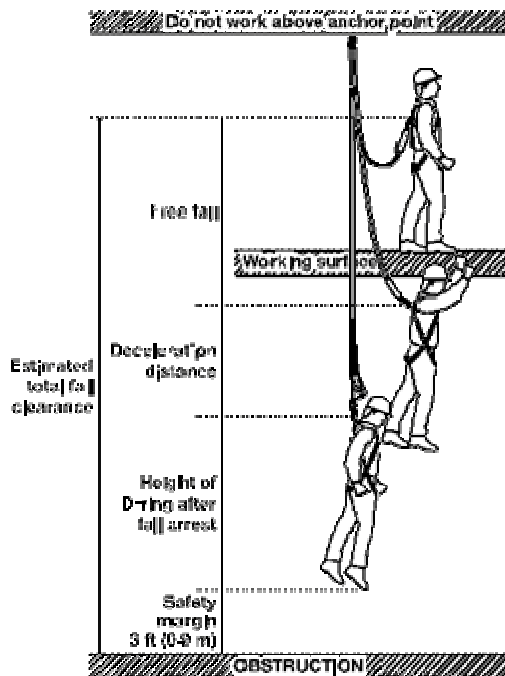
Applicable standards

- ANSI Z359.1 safety requirements for personal fall arrest systems, sub-systems, and components
- OSHA fall protection requirements
- CSA Z259.13-04 for flexible horizontal lifeline systems
- CSA Z259.16-04 for design of active fall protection systems



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⚠ WARNINGS

When selecting an anchorage point, there must be sufficient clearance below the user to arrest a fall before this user strikes the ground or other obstruction. Ensure that the anchorage to which the worker is attached is capable of sustaining the fall arrest forces requested when designed, installed and used under the supervision of a qualified person.

“Federal, state and provincial regulations require that horizontal lifelines are to be designed, installed and used under the supervision of a qualified person, and as part of a complete fall arrest system which maintains a safety factor of at least two.”

Refer to OSHA 1926.502 (d) (8) & CSA Z259.13-04

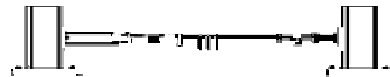
When used, the Tirsafe™ must be properly tensioned, as indicated in the indicator window, and positioned with a maximum angle of 5 degrees from the horizontal.

Clearance – There must be sufficient clearance below the user to arrest a fall before this user strikes the ground or other obstruction. The clearance required depends on the following factors: a) height of the Tirsafe™ anchorage points; b) connection subsystem (shock-absorbing lanyard) length; c) deceleration distance; d) movement of harness attachment element; e) worker height; f) free fall distance.

Never connect two or more Tirsafe™ systems to one another.

Available models

H088159 Unit Tirsafe™ alone



- H365001 Tirsafe™ system with tumbuckle – 65 ft. (20 m)
- H310001 Tirsafe™ system with tumbuckle – 100 ft. (30 m)
- H320001 Tirsafe™ system with tumbuckle – 200 ft. (60 m)
- H330001 Tirsafe™ system with tumbuckle – 300 ft. (90 m)



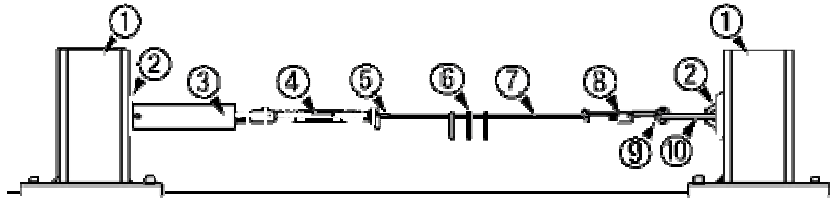
- H41001 Tirsafe™ system with T3 Tirfor – 100 ft. (30 m)
- H41501 Tirsafe™ system with T3 Tirfor – 150 ft. (45 m)
- H42001 Tirsafe™ system with T3 Tirfor – 200 ft. (60 m)
- H42501 Tirsafe™ system with T3 Tirfor – 250 ft. (75 m)
- H43001 Tirsafe™ system with T3 Tirfor – 300 ft. (90 m)



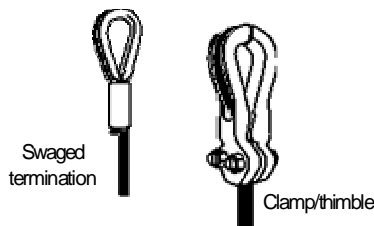
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Tirsafe™ and turnbuckle system components



- 1 – Structure
- 2 – Anchor point
- 3 – Tirsafe energy absorber
- 4 – Turnbuckle
- 5 – Swaged termination
- 6 – O-rings
- 7 – Lifeline
- 8 – Wire rope clip
- 9 – Clamp thimble
- 10 – Carabiner



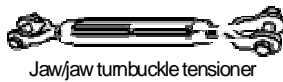
Wire rope lifeline

- 5/16-in. (8.3 mm) galvanized steel wire rope
- Minimum breaking strength: 10,790 lbs. (48 kN)
- Swaged termination with heavy-duty thimble at turnbuckle end
- Pass-through combination clamp/thimble at anchor point



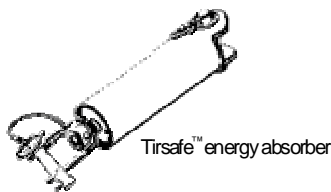
Wire rope clip – 442906

- 30 lbs./ft. torque
- For 5/16-in. (8.3 mm) wire rope



Turnbuckle tensioner – 78JW8L

- 9-in. (23 cm) take up adjustment
- Constructed of galvanized steel
- Minimum breaking strength: 7,000 lbs. (31.1 kN)
- 1/8-in. (16 mm) diameter thread



Tirsafe™ – H088159

- Minimum breaking strength: 6,750-lbs. (30 kN)
- 3-people maximum absorption
- 36 lbs. (160 daN) pretensioning



Autolocking carabiner – P773

- Heat-treated alloy steel construction
- Zinc-plated
- Minimum breaking strength: 11,240 lbs. (50 kN)
- Gate opening: 1 in. (26 mm)
- Captive pin



O-rings – 47700

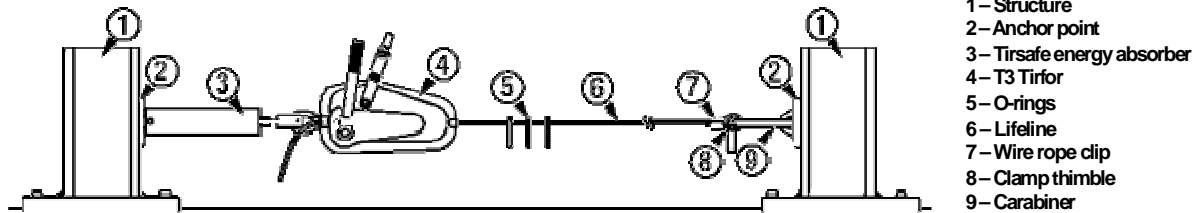
- 1/2 in. (80 mm)
- Carbon steel



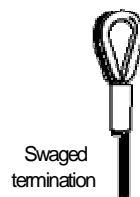
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Tirsafe™ and T3 Tirfor system components



- 1- Structure
- 2- Anchor point
- 3- Tirsafe energy absorber
- 4- T3 Tirfor
- 5- O-rings
- 6- Lifeline
- 7- Wire rope clip
- 8- Clamp thimble
- 9- Carabiner



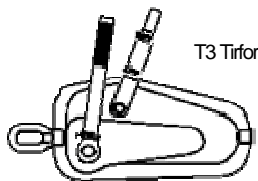
Wire rope lifeline

- 5/16-in. (8.3 mm) galvanized steel wire rope
- Minimum breaking strength: 10,790 lbs. (48 kN)
- Swaged termination with heavy-duty thimble at anchor point



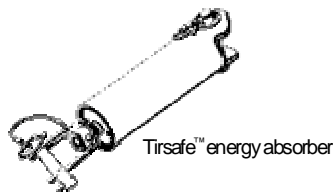
Wire rope clip – 442906

- 30 lbs./ft. torque
- For 5/16-in. (8.3 mm) wire rope



T3 Tirfor – T3-006139

- Locking jaw tensioning device
- Optimum line control with line length adjustment and accurate tensioning in single function
- For 5/16-in. (8 mm) wire rope



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- 36 lbs. (160 daN) pretensioning



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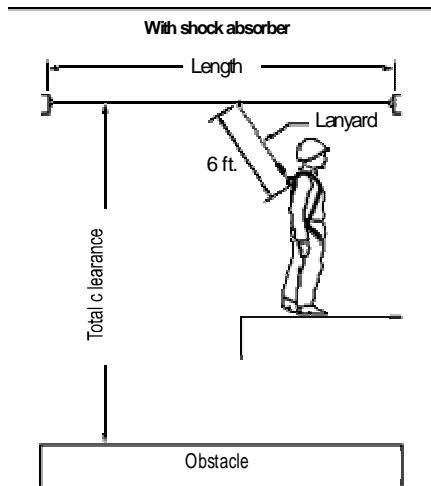
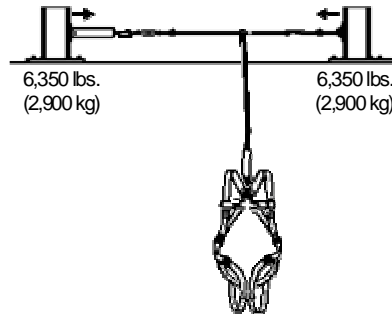
- 1/2 in. (80 mm)
- Carbon steel



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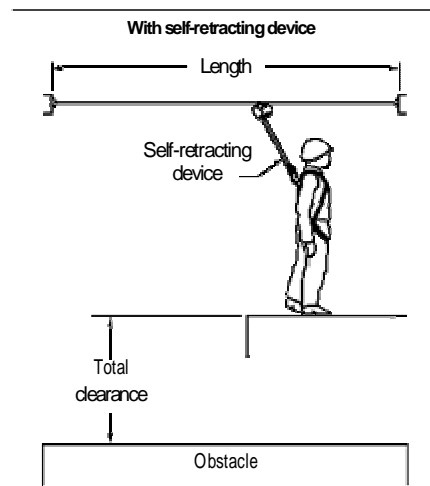
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Anchor point breaking strength



Length	Workers	Line deflection	Anchor point BS	Total clearance†
65 ft. (20 m)	1	6'11" (2.1 m)	4,460 lbs. (1,985 kg)	26'7" (8.1 m)
	2	6'11" (2.1 m)	5,420 lbs. (2,410 kg)	26'7" (8.1 m)
	3	7'3" (2.2 m)	6,217 lbs. (2,820 kg)	26'11" (8.2 m)
100 ft.* (30 m)	1	6'3" (1.9 m)	3,680 lbs. (1,670 kg)	25'11" (7.9 m)
	2	6'3" (1.9 m)	4,460 lbs. (2,020 kg)	25'11" (7.9 m)
	3	6'7" (2.0 m)	5,195 lbs. (2,355 kg)	26'3" (8.0 m)
200 ft.* (60 m)	1	6'11" (2.1 m)	3,300 lbs. (1,495 kg)	26'7" (8.1 m)
	2	7'3" (2.2 m)	3,950 lbs. (1,790 kg)	26'11" (8.2 m)
	3	7'7" (2.3 m)	4,570 lbs. (2,070 kg)	27'3" (8.3 m)
300 ft.* (90 m)	1	7'7" (2.3 m)	3,050 lbs. (1,380 kg)	27'3" (8.3 m)
	2	7'10" (2.4 m)	3,630 lbs. (1,645 kg)	27'7" (8.4 m)
	3	8'2" (2.5 m)	4,180 lbs. (1,900 kg)	27'11" (8.5 m)

*one intermediate at every 50 ft. (15 m).
†clearance calculated from the horizontal lifeline.



Length	Workers	Line deflection	Anchor point BS	Total clearance†
65 ft. (20 m)	1	6'11" (2.1 m)	4,460 lbs. (1,985 kg)	10'6" (3.2 m)
	2	6'11" (2.1 m)	5,420 lbs. (2,410 kg)	10'6" (3.2 m)
	3	7'3" (2.2 m)	6,217 lbs. (2,820 kg)	10'10" (3.3 m)
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	2	7'3" (2.2 m)	3,950 lbs. (1,790 kg)	10'10" (3.3 m)
	3	7'7" (2.3 m)	4,570 lbs. (2,070 kg)	11'2" (3.4 m)
300 ft.* (90 m)	1	7'7" (2.3 m)	3,050 lbs. (1,380 kg)	11'2" (3.4 m)
	2	7'10" (2.4 m)	3,630 lbs. (1,645 kg)	11'6" (3.5 m)
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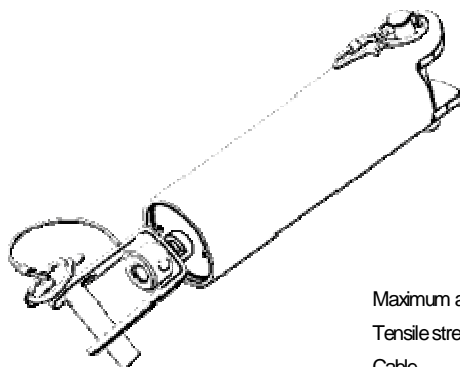
*one intermediate at every 50 ft. (15 m).
†clearance calculated from the walking surface.



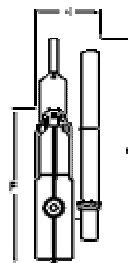
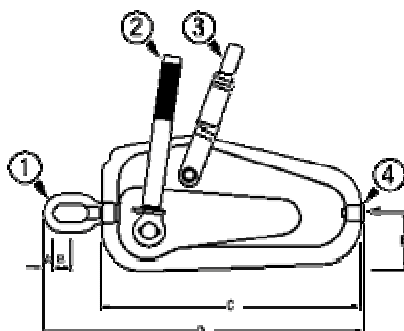
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horizontal lifeline systems



Maximum arresting force	3,375 lbs. (15 kN)
Tensile strength	6,750 lbs. (30 kN)
Cable	5/16 in. (8.3 mm)
Unit weight	6 lbs. (2.7 kg)
Unit length	15 3/4 in. (40 cm)
Unit length when activated	23 3/4 in. (60 cm)
Unit diameter	3 1/2 in. (8 cm)



- 1 – Anchor ring
- 2 – Forward operating lever
- 3 – Reversing lever
- 4 – Rope guide

Maximum effort lbs. (kg)	Ø cable in. (mm)	in. Wire rope travelling (mm)	Dimensions in. (mm)								(kg) Weight lbs.
			A	B	C	D	E	F	G	H	
359 (163)	5/16 (8.3)	1.18 (30)	0.55 (14)	1 (26)	14.5 (369)	18.5 (470)	3.2 (82)	7.6 (193)		3.9 (100)	16.3 (7.41)
		1.38 (35)								13.8 (350)	



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