



Wind Power

Tractel® Safety Applications
and Product Guide

up here, there's no room for compromise on safety



As the world grows, so does its need for energy. Harnessing the power of the wind has become a thriving industry, and tens of thousands of wind turbines are currently generating power across North America. Additional new turbines are erected each year, and existing wind turbines must be maintained, inspected, repaired.

Brave professionals ascend and descend wind turbines to do their work. Climbing ladders and working on the exterior of the nacelle, they're exposed to the risk of falls each day. It's essential that they have the right climbing, work positioning, fall prevention, and rescue equipment and know how to properly use it.

wind power safety

The professionals who work on wind turbines and the companies which employ them need to be thoroughly familiar with the details of how tasks can be safely performed, as well as the equipment that must be provided.

This guide will focus on four of the most important wind turbine safety applications and provide examples of high quality, regulation-compliant equipment specially engineered to provide the highest standards of worker safety.



Fall Protection

With nearly all wind turbine tasks being performed at dangerous heights, fall prevention and protection are constant concerns in this work environment.

Full body harnesses worn by workers provide essential points of attachment for lifelines, lanyards, and tools. The harnesses used in the wind power industry are specially designed to provide comfort during long-term use. As part of the workers' fall arrest system, **shock-absorbing lanyards** with rescue rings are used that stop the fall, absorb the energy, and provide quicker access for rescue.

Work Positioning

In addition to fall arrest protection, wind turbine workers need secure connections to preventing falls before they happen. A **work-positioning lanyard** provides this protection, as well as making it possible for a climber to safely use both hands to do work while on the ladder.

Ascent and Descent

Ladders are the primary means for getting workers up and down wind turbines. A powered **climb assist system** can attach to the ladder and alleviate part of the worker's weight as they climb, reducing fatigue. A permanently installed **ladder safety system** allows workers to attach to a well-anchored wire rope throughout ascent and descent. The ladder climbing sleeve is also a **fall arrester**, which includes an automatic braking system to quickly stop a fall, should one occur.

Worker Rescue

In addition to the equipment that protects workers on wind turbines from the danger of falls, **controlled descent evacuation and rescue systems** are required for a rescuer to safely retrieve an injured worker. These systems are available as kits, which include the accessories needed for the safe, controlled descent of one or two persons.

In the following pages you'll find additional information and tips pertaining to these important wind turbine applications, as well as detailed information about equipment engineered to serve the wind energy industry.

tractel TRACX wind harness

Made for wind energy technicians and professionals climbing and working on turbines, this harness combines performance characteristics of the TracX Comfort Series with design features specific to the applications of the industry. Extra padding, multiple points of adjustment, and special strap placement provide maximum comfort and minimize weight on the shoulders. Tool attachments and a special lanyard keeper minimize risk of tripping and entanglement.

FEATURES

- High tenacity polyester webbing and lock-stitching
- Aluminum buckles to reduce weight
- Available in One Size Fits Most and Extra Large Sizes

BENEFITS

- Maximum comfort for long wear and frequent use
- Highly customizable, adjustable fit without compromising quick donning and removal
- Well-distributed weight minimizes wearer fatigue
- Tool rings and lanyard keep minimize risk of tripping and entanglement
- Easy and clear indicators of wear and position make inspection easy
- Safe, strong, and reliable fall arrest and positioning



important harness safety basics

1. Inspect your harness before each use.
2. Lift harness by dorsal ring, then put on chest straps one at a time, like sleeves of a jacket.
3. Secure chest buckle first, then leg buckles, ensuring no straps are twisted.
4. Adjust shoulder straps, then adjust chest strap, positioning it level with your sternum
5. Position dorsal D-ring between your shoulder blades by sliding straps through dorsal plate.
6. Adjust leg straps, creating snug, secure fit.
7. Always make sure to do buddy checks with a coworker, to ensure each worker is properly secure in their harness prior to climbing.
8. After use, inspect the harness again.



TRACPAC fall arrest lanyard

Composed of a dual shock absorber to which an extendible lanyard is attached, this fall arrest lanyard attaches to the worker's harness and an anchor point. By stretching out when needed, it provides mobility and fall protection without the clutter or hindrance of a long lanyard. The Tracpac F2 also includes several important feature and benefits that make it particularly suited to providing fall protection and facilitating quicker, more effective rescue operations on wind turbines.

FEATURES

- Dual arm design with dual shock absorber
- Stretches from 4½ to 6 ft. (1.4 to 1.8 m)
- In-line connection point for use as rescue line

BENEFITS

- Limits freefall distance to 12 ft. (3.6 m)
- Absorbs energy of fall, minimizing impact
- Allows 100% tie-off while working or on the move
- Reduces tripping hazard
- Easy access connection for rescue team



ADJUSTFOR® work-positioning lanyard

A wide range of tasks need to be performed on the platforms and other areas of a wind turbine. The Adjustfor® lanyard is designed to provide the secure work-positioning support and easy adjustment needed to allow technicians, inspectors, and other specialists to perform their jobs with safety and simplicity.

FEATURES

- Kernmantle® rope, made from polyester sheath with a heatset nylon core
- 6 ft. (1.8 m) lanyard length
- Adjuster rotates and locks when weight is applied
- Secure attachment to harness D-rings

BENEFITS

- Provides secure work positioning and fall prevention protection
- Fits around tower, pilons, or other regulation-compliant anchoring structure
- Allows easy, one-handed regulation of lanyard length

WARNING: The Adjustfor® lanyard is not designed for fall arrest. It is regulation-compliant only for work positioning, and it must be used in conjunction with a full body harness and fall arrest designed for such a purpose. Maximum allowable fall distance within work positioning is 2 ft. (0.6 m).



STOPCABLE ladder safety system

This permanent wire rope fall protection system is ideal for wind turbine tower use, providing constant attachment to a steel cable and allowing the use of both hands as needed for a range of tasks. The integrated fall arrest system includes a close coupled assembly that minimizes freefall distance. Rescue personnel can easily reach and assist any injured personnel, and uninjured workers can easily descend.

FEATURES

- Galvanized or stainless-steel brackets and cable
- Brackets can be easily adapted to most structures
- LT38E detachable traveler (sold separately)
- $\frac{3}{8}$ in. (9.5 mm) steel cable contained with intermediate brackets every 25 ft. (7.6 m)

BENEFITS

- Compliant with OSHA, ANSI, and CSA standards
- Uninterrupted connection during ascent and descent
- Fall protection for individuals (including gear worn) up to 310 lb. (140 kg)
- Allows full use of both hands while on ladder
- Tension brackets minimize cable vibration and slack
- Minimizes freefall distance and absorbs energy of fall



TRACTELIFT® climb assist system

The Tractelift® was designed with two pulleys and a continuous belt loop to assist technicians while climbing to the top of wind turbines. With a Tractelift® installed, you can lower risk of accidents and reduce employee fatigue and injuries.

Options	Tractelift® II
Fixed motor and control	X
Fixed motor and removable control	X
Removable motor and control	X

Feature	Tractelift® II
Speed	Adjustable speed based on your capability
Start	Soft start
Force	Adjustable force based on your weight
Motor and control	Fixed, detachable control and detachable motor



Tractelift® Belt Grab



Tractelift® II

DEROPE® up a descent device system

When a turbine climber is injured, rescue teams need a specialized equipment system to safely lower them to the ground. The Derope® emergency escape/controlled descent device enables the evacuation of up to two people at a controlled speed of 235 ft./min. (72 m/min.). The Derope® Up A descent device system is a kit containing the descent/lift device as well as the accessories to use it in rescue and training operations.

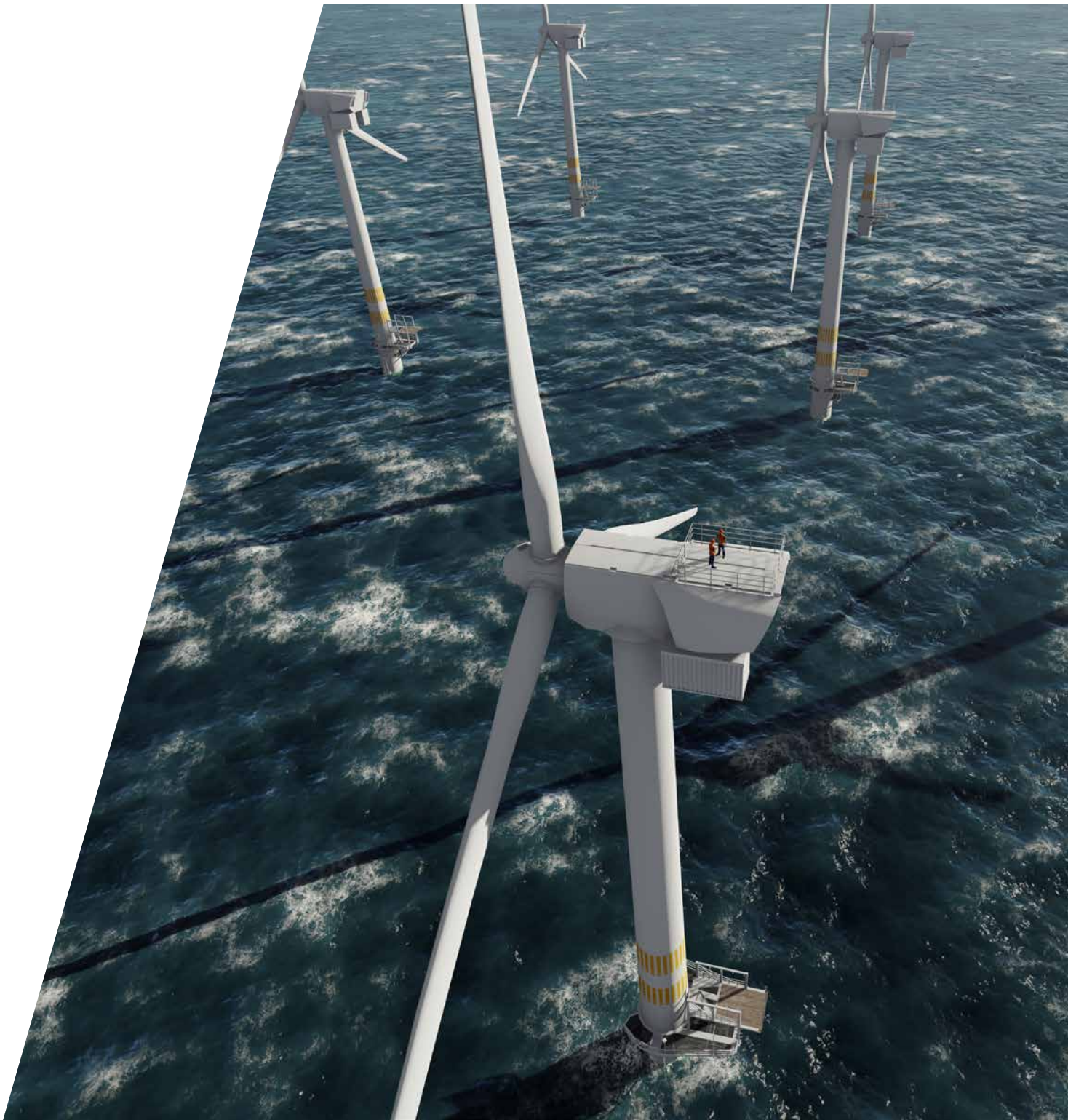
FEATURES

- Kit includes :
 - Derope® descent device unit with hand wheel winch
 - 6 ft. (1.8 m) vinyl covered wire rope sling
 - 5/8 in. (16 mm) autolocking Karabiner
 - J-knife
 - Rescue/rope bag
- Winch has a 2:1 lift ratio

BENEFITS

- Easy, reliable operation
- Minimal training required
- Allows raising and lowering of supported person during rescue operation
- The system is rated for up to two people





staying on top in a high growth sector

Wind power is vital to the sustainable future. Tractel® provides safety and support for the industry and its workers through advanced solutions and innovative, specially engineered technologies. Tractel® offers a complete product range designed for building and maintenance of wind turbines, from blade maintenance platforms and service lifts to material handling hoists, fall protection products, and evacuation and rescue devices.

In addition, Tractel® provides comprehensive training and unparalleled support for putting our products to the safest, most effective use in industrial settings, worldwide.

Choose the industry leader. Choose Tractel®

For details on Tractel® solutions and products for the wind power industry, visit tractel.com or contact your Tractel® specialist.



BOSTON
1 800 421-0246
tractel.usa-east@tractel.com

LOS ANGELES
1 800 675-6727
tractel.usa-west@tractel.com

MONTREAL
1 800 561-3229
tractel.canada@tractel.com

www.tractel.com