

Industry Standards

Paramount Products is providing the following information as a service to our customers. This information is intended to promote the safe use of our products.

SYNTHETIC WEB TIEDOWNS MUST BE USED IN ACCORDANCE WITH ALL STATE, FEDERAL, PROVINCIAL, LOCAL AND INDUSTRY REGULATIONS APPLICABLE.

U.S. Department of Transportation regulations subchapter B-Motor Carrier Safety Regulations, 49 CFR, Part 393, Paragraph 393.102 (b) requires that :
"The aggregate working load limit of the tiedown assemblies used to secure an article against movement in any direction must be at least 1/2 times the weight of that article."

15,000 LBS Break Strength=5,000 LBS WLL

3

It is the responsibility of the user to determine the proper Working Load Limit (WLL) requirement for specific applications. User shall consult vehicle manufacturer for anchorage strength rating.

An example using this regulation:

- Determine the number of synthetic web tiedowns required when using the Working Load Limit (WLL) value marked on the Synthetic web tiedown assembly.
- Weight of article being secured is 24,000 LBS (10,910 KG).
- Working Load Limit of the 3 inch synthetic web tiedown is 4,000 LBS (1,820 kg) as marked on the label.
- Required Aggregate WLL
 $1/2 \times 24,000 \text{ LBS (Article Weight)} = 12,000 \text{ LBS (5,455 KG)}$.
- 12,000 LBS (1/2 x Article Weight)=3
4,000 LBS (Web Tiedown WLL)

A minimum of 3 synthetic web tiedowns is required to secure an article, based only on the weight of the article.

Factors to be considered when determining the number and location of synthetic web tiedowns, as specified by state, federal, provincial local and industry regulations are:

- Article weight
- Configuration of load to be secured (pipe, coil, equipment, stacking, etc.)
- Number of tiers
- Length of load to be secured
- Minimum number of synthetic web tiedowns required
- Stakes, blocking and bracing
- Tension in the synthetic tiedown shall never exceed the WLL strength rating of anchorage
- Any factors that may affect safe securement of the load during normal and emergency conditions.

Operating Procedures

This section provides recommended guidelines for the operation, care (maintenance), use and inspection of synthetic web tiedowns.

Mechanical Considerations

- Determine weight of the cargo to be secured, including expected Dynamic "G" forces.
- Select synthetic web tiedowns having suitable characteristics for the type of load and environment.
- Synthetic web tiedown assemblies shall not be loaded in excess of their working Load Limit (WLL). Consideration should be given to the angle from the vertical (cargo tiedown to load angle), which affects working load limit capacity.

- Synthetic web tiedown shall be attached to provide control of the load, and positioned in accordance with applicable regulations.
- Synthetic web tiedown assemblies shall not be dragged on the floor, ground, or over an abrasive surface.
- Synthetic web tiedown shall not be tied in knots, or joined by knotting.
- Synthetic web tiedowns shall not be pulled from under loads if the load is resting on the tiedown.
- Synthetic web tiedowns shall always be protected from being cut by sharp corners, sharp edges, protrusions or abrasive surfaces.
- Synthetic web tiedowns shall not be dropped.
- The opening in fittings shall have the required shape and size to insure that the fitting will sit properly in the vehicle anchorage or other attachments. If the anchorage is inadequate to support the rating of the synthetic web tiedown assembly, then the load Rating will be limited to the strength of the anchorage.
- Synthetic web tiedowns shall not be used for lifting. Lifting includes raising, lowering and suspending.
- Before operating any tiedown assembly, the user shall secure his footing to prevent slipping or falling.
- In freezing temperatures caution shall be exercised when operating frozen tiedown assemblies
- A minimum of two (2) wraps of webbings shall be on the winch or ratchet buckle mandrel. Caution: Additional wraps of webbing on the mandrel will reduce the working load limit of the winch or ratchet buckle.

When tightening or loosening winches, always maintain a firm grip on the winch bar. Never release a winch bar without checking the pawl to ensure that it is fully engaged between ratchet teeth. Releasing a winch bar without the pawl being properly engaged can cause serious injury to the user or bystanders. The use of a slip resistant handle winch bar specifically designed to tighten or loosen winches is recommended. Only winch bars designed to be used with winches shall be used to tension and release the tiedown.

"Cheater Bars" ("extenders") shall not be used with the winch bars. User shall stand clear (to one side) of the winch bar handle during operation of the winch bar in case the winch bar slips. The tip of the winch bar shall be inserted through both holes in the end cap to prevent the winch bar from "slipping out" and overloading the tip and or end cap.

Synthetic web tiedowns shall be used, checked and adjusted during the transportation of cargo per applicable federal, state, provincial, local and industry regulations.

Environmental Considerations

Environments in which synthetic web tiedowns are continuously exposed to ultra-violet sunlight can effect the strength in varying degrees ranging from slight to total degradation.

***The FMCSA has published its final rule on standards for protection against shifting and falling cargo 49 CFR Parts 392 and 393: Rule is effective Dec.26, 2002, compliance due by Jan. 2004. This standard focuses on crash avoidance types of cargo securement rules. Several new additions to old standard: Section 392.9 (b)(2) Inspection is required within 50 miles versus old standard of 25 miles. Section 393.102 (a) - Securement must withstand .8 deceleration in forward direction: .5 deceleration in rearward and lateral direction. Sections 393-116 through 393-136 call out specific securement requirements by commodity type.**

IT IS THE OWNER'S AND USER'S RESPONSIBILITY TO DETERMINE SUITABILITY OF A PRODUCT FOR ANY PARTICULAR USE. REMEMBER, ALL STRAPASSEMBLIES OR SYSTEMS ARE AS STRONG AS THEIR WEAKEST COMPONENT INCLUDING THE POINT OF ATTACHMENT.