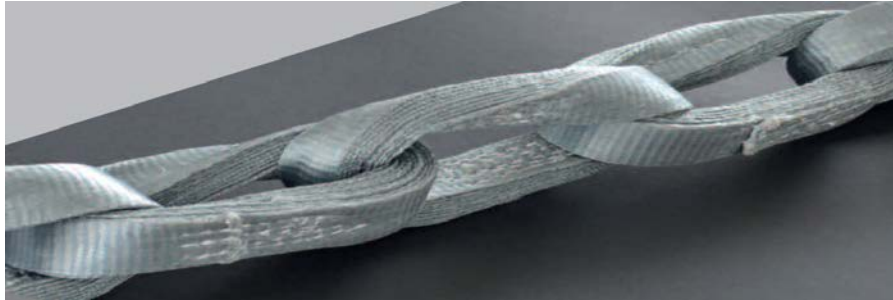


## 2018-03 – Doleco USA Textile Link Tiedown Assembly

*Created: Sept. 27, 2018*



### Summary

This Inspection Bulletin provides guidance for identifying and inspecting the Doleco USA textile link tiedown assembly (used for cargo securement on trucks or trailers) during a roadside inspection. It also provides guidance for identifying when a defect found within the system qualifies as a violation or an out-of-service condition.

### Background

Doleco USA has developed a tiedown assembly to be used for the securement of cargo and equipment. This system is comprised of synthetic chain links of Ultra High Molecular Weight Poly Ethylene (UHMWPE) Dyneema® webbing with specialized hooks and binders. The high-performance webbing is as strong as steel chain link but weighs up to 85 percent less. Due to the unique nature of its synthetic links, the manufacturer also provides product specific hooks/fittings for securing the tiedown ends and a specialized load tensioner for tightening.

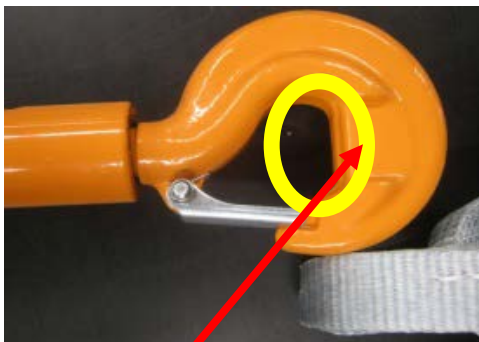
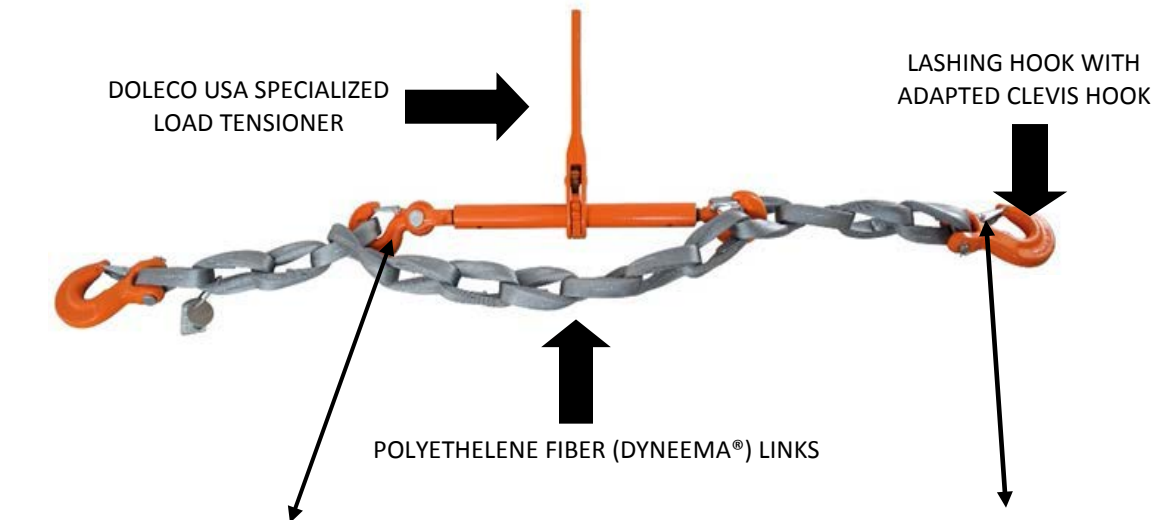
Because linked webbing is not addressed in the U.S. Federal Motor Carrier Safety Regulations (FMCSRs), Canada's National Safety Code (NSC) Standard 10 or the Commercial Vehicle Safety Alliance's (CVSA) Out-of-Service Criteria (OOSC), this bulletin has been created to provide information and guidance for inspectors to identify violations and out-of-service conditions.

### Applicability

This guidance is intended to apply to any truck or trailer transporting cargo that is secured with a Doleco USA textile link tiedown assembly. Tiedowns not specifically listed in 393.104 or NSC Standard 10 can still be used if the securement device(s) are marked with a working load limit (WLL) by the manufacturer.

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## Linked Webbing System Components and Nomenclature



WIDENED HOOK SUPPORT

The Doleco USA lashing tiedown may only be tensioned and shortened using the Doleco USA special load tensioner Grade 100 (WLL 22,000 lbs. (9,979 kg)) with a specially developed widened hook support. The lashing hook with the adapted clevis hook mount has likewise been developed for the special shape of the textile link. Other fittings may not be used. The tiedown assembly can only attain the manufacturer's WLL if all the components are used together. (NOTE: Utilizing the lashing in a choker hitch – as shown on this page – reduces the WLL by 20 percent)



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The textile lashing chain may also be combined with connecting elements or end fittings from other Doleco USA lashing systems.

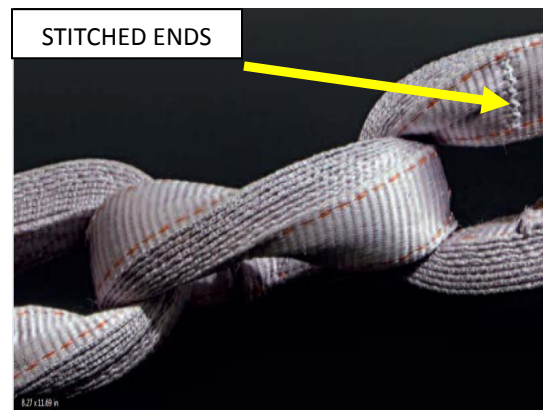
### Working Load Limit (WLL)

The WLL of 22,000 lbs. (9,979 kg) for the tiedown assembly is marked by the manufacturer with a metal tag attached by a small cable to the assembly. The tiedown assembly will be afforded this WLL provided the tag is present.

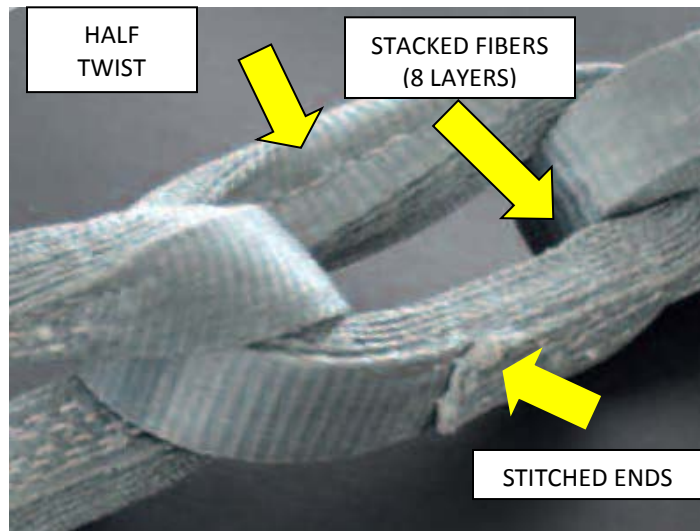


### Identification and Characteristics

The links are made by weaving narrow polyethelene (Dyneema®) fibers, stacking the resulting fabrics into eight-layer links and stitching the end connections with Dyneema® yarn. Each link contains a half twist and therefore has no real inner or outer side. This results in an even loading of the layers. The performance of such a shaped winding link is considerably higher than that of similar multi-layer winding where the layers are simply placed above one another.



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### Specific Commodity Requirements

Some specific commodities (e.g., crushed cars) outline specific use of steel chains for the purposes of securing the load. In cases where synthetic webbing is prohibited, this tiedown alone will also be prohibited based on the design and potential of damage similar to that of synthetic webbing.

### Cut/Abrasion Protection

As per the manufacturer, the textile links may only be used with loads containing sharp edges and rough surfaces if the endangered points are protected (e.g., the DoAntiCut® protective sleeve made of UHMW-PE).

#### MANUFACTURER-PRODUCED EDGE PROTECTION



#### EXAMPLES OF ACCEPTABLE EDGE PROTECTION ALTERNATIVES



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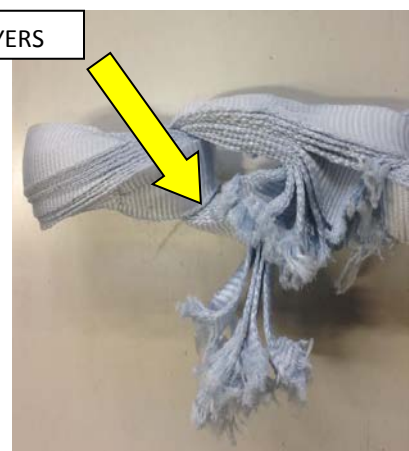
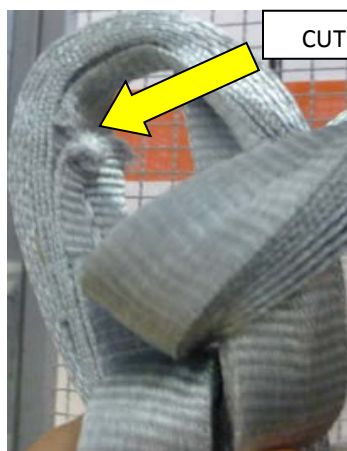
## Tiedown Defect and Out-of-Service Conditions Guidance

Defect limits are not yet outlined in the Out-of-Service Criteria/Tiedown Defect Table. The guidance below must be consulted when determining if a tiedown is no longer compliant and a violation should be noted, or the tiedown can no longer be used to secure cargo. **(Note:** The out-of-service conditions relating to WLL and the required number of tiedowns found in the North American Standard Out-of-Service Criteria should still be consulted for appropriate action.)

Tiedowns or anchor points with defects outlined below are not out of service, only violations. If these tiedowns are required to meet the requirements for length and/or weight, the out-of-service condition(s) will be recorded under the applicable weight and/or length and/or the specific commodity.

Inspectors should consider the following when inspecting a Doleco USA textile link tiedown assembly:

- Tiedowns shall not be loose.
- Tiedowns must not be knotted.
- A fitting, tensioning device or other hardware (other than webbing) shall not be broken, obviously sprung, bent, twisted, or contain a visible crack, significant nick or gouge.
- Tensioning and connecting elements must not be loaded to the point of bending.
- Links shall not be deformed due to heat (friction, radiation).
- Lashing hooks must be loaded in the hook bowl (see lashing hook with the adapted clevis hook mount). Links may not be loaded on a hook tip.
- The hook mouth must not be widened by 5 percent or more.
- Links shall not contain cut layers and severe abrasions.

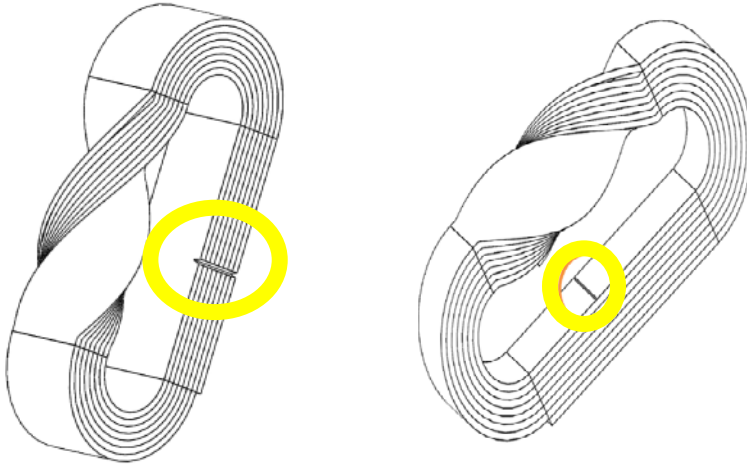


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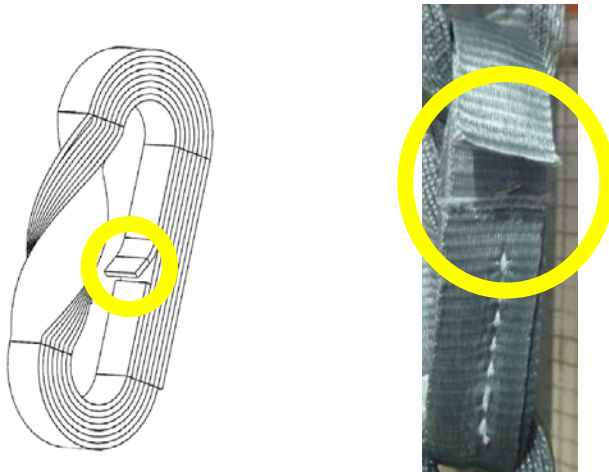
- Links shall not have more than one 10 percent transverse or longitudinal cut.

TRANSVERSE

LONGITUDINAL



- Links shall not have one ply (or more) cut through - inside or outside.



- Links must have yarn completely through the stitching; not partly cut through.



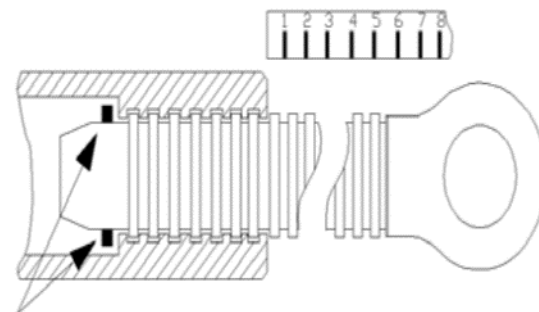
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- The hook shall not be hooked in between the plies.



- Links shall not contain repairs to damaged ply.
- The unscrewing safeguard of the load binder must not be disabled or damaged (see below).

The special load tensioner is equipped with an unscrewing safeguard.



Safeguard

The unscrewing safeguard of this tensioner consists of a bolt at the end of the spindle arm that stops against the internal thread of the guide tube as soon as the maximum unscrewing length has been reached. Overturning of this safeguard is possible only with the use of extreme force and is noticeable in all cases. If the safeguard is overturned, the bolt cuts into the internal thread of the guide tube and destroys it.