

Proper Use

Scope

Tie-down criteria applies to the devices used in securing loads to commercial motor vehicles.

Definitions of tie-down assemblies and working load limit (WLL) ratings

Tie-down Materials

Synthetic Webbing. Polyester Synthetic webbing tie-down strap assemblies come in a variety of types and sizes. The most common webbing widths for securing loads on commercial vehicles are:

1 3/4 Inch (45mm) 2 Inch (50mm) 3 Inch (75mm) 4 Inch (100mm)



Fittings or Attachments

Devices used with or in tiedowns for purposes of attachment or tensioning. This includes:

- a. Hooks
- b. Ratchet Buckles
- c. Triangles or D-Rings
- d. Winches
- e. Sewn Loops
- f. Cam Buckles (logistic tiedowns)

Anchor Point

The location on a vehicle where a tie-down is attached. If the anchor point is inadequate to support the load rating of the tie-down system, then the load rating of the tie-down will be limited to the strength rating of the anchor point.

Minimum Breaking Strength

The minimum straight tensile load or force at which the Tiedown assembly fails to support the load.

Working Load Limit (WLL) Load Rating

The WLL load rating is the maximum load which shall applied:

Web tiedown WLL rating is a maximum of 1/3 of the minimum breaking strength of the assembly.

Method of Applying Working Load Limit (Based only on weight)

The aggregate static WLL of the tie-down assemblies used to secure an article against movement in any direction must be equal to at least (.5) times the weight of the article. Additional tie-downs may be required for specific types of loads.

$$NT = \frac{(\text{Load}) (.5)}{\text{WLL}}$$

NT = Number of tie-downs

Load = Weight of load to be secured

WLL = Working Load Limit of tie-downs

Synthetic Webbing

Marking or Labels Identification: Web tie-down assemblies shall be identified with a marking or label within 18 inches (46 cm) from one end of the assembly.

Minimum information required on label

- Manufacturer or trademark of final assembler
- a. Working Load Limit (WLL) in pounds and kilograms.
- b.

Repairs

Synthetic Webbing used in tie-down assemblies shall not be repaired or spliced.

For more detailed information, refer to applicable federal, state, provincial, local and industry standards.

U.S. Department of Transportation Federal Highway Administration (FHWA)

Federal Motor Carrier Safety Regulations FMCSRs 0, Title 49 of the Code of Federal Regulations (CFR): Sections 392.9, Safe Loading; Part 393, Subpart 1 Protection Against Shifting of Falling Cargo. Copies may be purchased from the U.S. Government Printing Office, (202) 512-1800. For Specific questions, you can contact the FHWA at:
400 Seventh Street, SW,
Washington, D.C., 20590.
Phone (202) 366-4009
Fax (202) 366-8842
Website: www.fhwa.dot.gov

California Highway Patrol (CHP) Title 13

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Canada

The Ministry of Transportation in each Province

Website: www.mto.gov.on.ca

Mexico

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