



Safety Chains

Regulatory Citation	49 CFR 393.71(h)(10)(i-iii) - Safety devices
What It Is	Standard sets requirements for safety devices in case of a tow-bar failure or disconnection.
Who It Applies To	Employers with employees who tow vehicles or equipment.
Origination Date	12-25-1968

Overview

The Department of Transportation (DOT) sets requirements for coupling devices and towing methods. Every towed vehicle must be connected to the towing vehicle by a safety device to prevent the towed vehicle from breaking loose in the event the tow-bar fails or becomes disconnected. When safety chains or cables are used as the safety device for that vehicle, at least two safety chains or cables must be used. The tensile strength of the safety device and the means of attachment to the vehicles must be at least equivalent to the required longitudinal strength for tow-bars. If safety chains or cables are used as the safety device, the required strength must be the combined strength of the combination of chains and cables.

If chains or cables are used as the safety device, they must be crossed and attached to the vehicles near the points of bumper attachments to the chassis of the vehicles. The length of chain used must not be more than necessary to permit free turning of the vehicles. The chains must be attached to the tow-bar at the point of crossing or as close to that point as is practicable.

A safety device other than safety chains or cables must provide strength, security of attachment and directional stability equal to, or greater than, that provided by safety chains or cables. A safety device other than safety chains or cables must be designed, constructed and installed so that if the tow-bar fails or becomes disconnected, the tow-bar will not drop to the ground.

Chain Selection

The Commercial Vehicle Safety Alliance (CVSA) has issued cargo securement tie-down guidelines. The following charts should aid in selecting the correct grade and size of chain:

Safety Chains

Continued

GRADE 3 CHAIN (Proof Coil) **Identification Markings - PC, 3, 30**

Size	Working Load Limit (One Chain)	Working Load Limit (Two Chains)
1/4"	1,300 lbs.	2,600 lbs.
5/16"	1,900 lbs.	3,800 lbs.
3/8"	2,650 lbs.	5,300 lbs.
7/16"	3,500 lbs.	7,000 lbs.
1/2"	4,500 lbs.	9,000 lbs.
5/8"	6,900 lbs.	13,800 lbs.

GRADE 4 CHAIN (High Test) **Identification Markings - HT, PH, M, 4, 43, 430**

Size	Working Load Limit (One Chain)	Working Load Limit (Two Chains)
1/4"	2,600 lbs.	5,200 lbs.
5/16"	3,900 lbs.	7,800 lbs.
3/8"	5,400 lbs.	10,800 lbs.
7/16"	5,800 lbs.	11,600 lbs.
1/2"	9,200 lbs.	18,400 lbs.
5/8"	11,500 lbs.	23,000 lbs.

GRADE 7 CHAIN (Transport) **Identification Markings - 7, 70, 700**

Size	Working Load Limit (One Chain)	Working Load Limit (Two Chains)
1/4"	3,150 lbs.	6,300 lbs.
5/16"	4,700 lbs.	9,400 lbs.
3/8"	6,600 lbs.	13,200 lbs.
7/16"	8,750 lbs.	17,500 lbs.
1/2"	11,300 lbs.	22,600 lbs.
5/8"	15,800 lbs.	31,600 lbs.

Safety Chains

Continued

Size	GRADE 8 CHAIN (Alloy) Identification Markings - A, T, 8, 80, 800	
	Working Load Limit (One Chain)	Working Load Limit (Two Chains)
1/4"	3,500 lbs.	7,000 lbs.
5/16"	5,100 lbs.	10,200 lbs.
3/8"	7,100 lbs.	14,200 lbs.
1/2"	12,000 lbs.	24,000 lbs.
5/8"	18,100 lbs.	36,200 lbs.

FAQ & Interpretations

Follow these links:

https://www.fmcsa.dot.gov/guidance?keywords=393.71&issued_date_from=&field_issued_date_value_1

<https://www.cvsa.org/>