Load Securement – Stay in Your Lane

Each of the below items is considered separately. If you have a 393.106 (working load) violation and a 393.110 (length) violation, CVSA Policy 14 says you will write both violations separately and place both OOS. Also only one violation code per vehicle.

392.9 – Unsecured Dunnage – OOS violation. This violation is strictly for dunnage that includes tarps, straps, chains, boards, tires, and anything else the driver uses to secure a load that is laying about unsecured. Violations for unsecured dunnage goes against the driver. In the violation description describe what items are unsecured.

393.100 – Protection against Shifting and Falling Cargo – OOS violation. This violation is for when the load is not secure and items could fall onto the road or the non-secured items could affect the stability of the vehicle. This also includes sifting loads as well as loads such as roofing shingles that are not placed where straps secure them.

393.104 – Damaged securement devices - *Never OOS*. When there is a securement device where the damage meets the defect table in the OOS criteria you will write this violation and remove the strap/chain from the weight and length equations. This also includes knots, and no edge protection.

393.106 – Weight – OOS violation. Remember to always take the weight of the load and divide it in half. Securement devices get the full working load limit (WLL) if they go from one side of the vehicle to the other (indirect). They only receive half the WLL if they go from one side of the trailer directly to the load or to the load and back to the same side of the trailer (direct). Violations for WLL should include the weight of the article of cargo and WLL of the securement devices in the description. If chains, straps, or cables are not marked with the WLL use the tables in 393.108.

Also – Articles not restrained from rolling and articles of cargo beside each other that do not touch falls under 393.106.

393.110 – Length – OOS violation. For the length of the load there should be a strap, chain, or cable every 10 feet and fraction thereof. If there is no header-board or if the cargo is not placed against the headerboard or other items that act as a headerboard then an additional penalty strap is required. Violations for length should include measurements in the description as well as how many securement devices were used vs. how many are required. I.e. 40 foot load of beams not blocked and braced. 5 straps required, only has 4 effective. Note – gut wraps fall under 393.118 commodity specific and are ONLY applicable to lumber and similar building products banded and stacked in tiers.

393.116 – 136 – Commodity Specific – Will be a violation and OOS. With commodity specific be sure to read the applicability before applying the specific part. If it doesn't meet the applicability then you will use the general rules 393.100 through 393.114. Any violation of the specific rule is considered OOS.

**Reminder – Use the violation codes in the OOS criteria when writing load securement violations.

Table – Working Load Limits (WLL) for Chain						
Chain Size in millimeters (inches)	**Unmarked Chain**	**Grade 30 proof coil**	**Grade 43 high test**	**Grade 70 transport**	**Grade 80 alloy**	**Grade 100 alloy**
Chain Marking	**None**	**3, 30, 300**	**4, 43, 430**	**7, 70, 700**	**8, 80, 800**	**10, 100, 1000**
7mm (1/4in)	580kg (1,300lb)	580kg (1,300lb)	1,180kg (2,600lb)	1,430kg (3,150lb)	1,570kg (3,500lb)	1,950kg (4,300lb)
8mm (5/16in)	860kg (1,900lb)	860kg (1,900lb)	1,770kg (3,900lb)	2,130kg (4,700lb)	2,000kg (4,500lb)	2,600kg (5,700lb)
10mm (3/8in)	1,200kg (2,650lb)	1,200kg (2,650lb)	2,450kg (5,400lb)	2,990kg (6,600lb)	3,200kg (7,100lb)	4,000kg (8,800lb)
11mm (7/16in)	1,680kg (3,700lb)	1,680kg (3,700lb)	3,270kg (7,200lb)	3,970kg (8,750lb)	n/a	n/a
13mm (1/2in)	2,030 kg (4,500lb	2,030 kg (4,500lb)	4,170kg (9,200lb)	5,130kg (11,300lb)	5,400kg (12,000lb)	6,800kg (15,000lb)
16mm (5/8in)	3,130kg (6,900lb)	3,130kg (6,900lb)	5,910kg (13,000lb)	7,170kg (15,800lb)	8,200kg (18,100lb)	10,300kg (22,600lb)

Working Load Limits (WLL) for Natural and Synthetic Fiber Rope									
Manila		**Polypropylene (3 & 8 Strand)**		**Polyester (3 & 8 Strand)**		**Nylon**		**Double Braided Nylon**	
Size	***WLL***	***Size***	***WLL***	***Size***	***WLL***	***Size***	***WLL***	***Size***	***WLL***
10mm (3/8in)	90kg (205lb)	10mm (3/8in)	180kg (400lb)	10mm (3/8in)	250kg (555lb)	10mm (3/8in)	130kg (278lb)	10mm (3/8in)	150kg (336lb)
11mm (7/16in)	120kg (265lb)	11mm (7/16in)	240kg (525lb)	11mm (7/16in)	340kg (750lb)	11mm (7/16in)	190kg (410lb)	11mm (7/16in)	230kg (502lb)
13mm (1/2in)	150kg (315lb)	13mm (1/2in)	280kg (625lb)	13mm (1/2in)	440kg (960lb)	13mm (1/2in)	240kg (525lb)	13mm (1/2in)	300kg (655lb)
16mm (5/8in)	210kg (465lb)	16mm (5/8in)	4200kg (925lb)	16mm (5/8in)	680kg (1,500lb)	16mm (5/8in)	420kg (935lb)	16mm (5/8in)	510kg (1,130lb)
20mm (3/4in)	290kg (640lb)	20mm (3/4in)	580kg (1,275lb)	20mm (3/4in)	850kg (1,880lb)	20mm (3/4in)	640kg (1,420lb)	20mm (3/4in)	830kg (1,840lb)
25mm (1in)	480kg (1,050lb)	25mm (1in)	950kg (2,100lb)	25mm (1in)	1,500kg (3,300lb)	25mm (1in)	1,140kg (2,520lb)	25mm (1in)	1,470kg (3,250lb)

Working Load Limits for Synthetic Webbing	
Size	**WLL**
45mm (1-3/4in)	790kg (1,750lb)
50mm (2in)	910kg (2,000lb)
75mm (3in)	1,360kg (3,000lb)
100mm (4in)	1,810kg (4,000lb)

Working Load Limits for Steel Strapping	
Size	**WLL**
31.7 x .74mm (1-1/4 x 0.029in)	540kg (1,190lb)
31.7 x .79mm (1-1/4 x 0.031in)	540kg (1,190lb)
31.7 x .89mm (1-1/4 x 0.035in)	540kg (1,190lb)
31.7 x 1.12mm (1-1/4 x 0.044in)	770kg (1,690lb)
31.7 x 1.27mm (1-1/4 x 0.05in)	770kg (1,690lb)
31.7 x 1.5mm (1-1/4 x 0.057in)	870kg (1,925lb)
50.8 x 1.12mm (2 x 0.044in)	1,200kg (2,650lb)
50.8 x 1.27mm (2 x 0.05in)	1,200kg (2,650lb)

Working Load Limits for Wire Rope	
Size	**WLL**
7mm (1/4in)	640kg (1,400lb)
8mm (5/16in)	950kg (2,100lb)
10mm (3/8in)	1,360kg (3,000lb)
11mm (7/16in)	1,860kg (4,100lb)
13mm (1/2in)	2,400kg (5,300lb)
16mm (5/8in)	3,770kg (8,300lb)
20mm (3/4in)	4,940kg (10,900lb)
22mm (7/8in)	7,300kg (16,100lb)
25mm (1in)	9,480kg (20,900lb)

For additional load securement information please refer to your regulation Part 393.100 through 393.136 or you can refer to the Load Securement Handbook.