


Cargo Securement Equivalent Means of Securement

49 CFR 393.102(c)

Effective Date: October 13, 2020
Manufacturer Name: Container Moving Solutions LLC.
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THIS DOCUMENT MUST BE CARRIED BY THE DRIVER OF THE SUBJECT COMMERCIAL MOTOR VEHICLE AND PRESENTED UPON THE REQUEST OF ANY LEGALLY AUTHORIZED ENFORCEMENT OFFICIAL.

This document authorizes the operation of the Container Moving Solutions Container Chassis as a CMV in Interstate Commerce under the cargo securement conditions set forth in the attached engineering document. This commodity normally to be secured in accordance with the commodity specific requirements as specified at 393.126(d)(2). Because the commodity or cargo securement identified in this document is different from that envisioned prior to the development of the commodity specific cargo securement regulations, this company has determined that the alternative cargo securement technique discussed and analyzed below meets that cargo securement performance requirements at 49 CFR 393.102. Failure to comply with the requirements of the specific cargo conditions as identified in the attached document may result in cargo securement violations of any inspected load.

Engineering Document

Effective Date:
Engineering Firm: DOTec Corp
Ildefonso Gonzalez PhD. PE



I hereby certifies the operation of the Container Moving Solutions Container Chassis under scenarios as described has been evaluated to meet cargo securement performance requirements as identified in:

- FMCSA 49 CFR 393.102 (a) – Tests conducted on the Container Moving Solutions (CMS) Container Chassis demonstrated performance under the following conditions, applied separately:
 - (i) 0.8 g deceleration in the forward direction
 - (ii) 0.5 g acceleration in the rearward direction
 - (iii) 0.5 g acceleration in the lateral direction
- FMCSA 49 CFR 393.102 (c) (1) – The load is immobilized, such that it cannot shift or tip to the extent that the vehicles stability or maneuverability is adversely affected.

(See reverse for Conditions of Operation)

Conditions for Operation:

- The Container Moving Solutions Container Chassis is designed for hauling empty Intermodal Shipping containers.
 - Intermodal Shipping Containers vary in size from 10 feet to 53 feet in length.
- ISO containers are loaded onto the CMS Container Chassis and the ISO container is secured to the CMS Container Chassis with load rated devices serves as an "Equivalent means of securement" as defined in FMCSA 49 CFR 393.102 (c) (1) as it pertains to lateral motion. Shown in figure 1.
- The front of the ISO container is attached to the CMS Container Slide Arms on the crossbar of the vehicle towing the combination. The CMS Container Slide Arms are secured together using load rated devices serves as an "Equivalent means of securement" as defined in FMCSA 49 CFR 393.102 (a) (1) as it pertains to lateral motion. Shown in figure 2.
- The CMS Container Chassis can be loaded with up to 140" of ISO container overhang in the rear and up to 432" of ISO container overhang in the front.
- Prior to movement of the truck and trailer the ISO container is secured to the CMS Container Chassis using nylon ratchet straps with a minimum total working load limit of 9,999lbs. The ISO container is attached to the CMS Container Slide Arms using the ISO container corner castings. The CMS Container Slide Arms are slid into the corner castings, the slide arms attached together with a chain with a WLL of minimum of 4700lbs.
- Load securement strap / chains must be:
 - Nylon ratchet straps with a minimum WLL of 3,333lbs each strap.
 - Chain – Minimum 5/16" Grade 70, WLL 4,700.
 - In compliance with FMCSA 49 CFR 393.104

Figure 1: Picture of Specific Cargo Securement Technique (as applicable to this load)

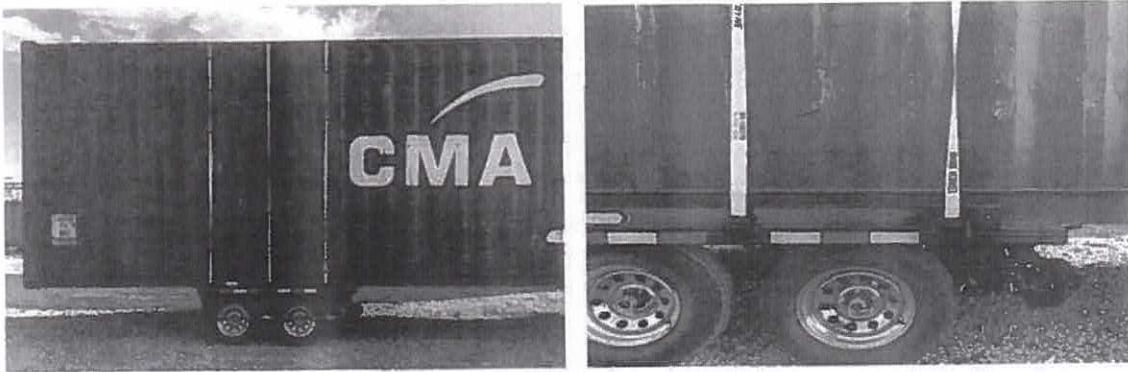


Figure 2: Picture of Specific Cargo Securement Technique (as applicable to this load)

