

GUIDELINES FOR TRANSPORT EQUIPMENT USED FOR CHEMICAL PACKED CARGO

ISSUE 1 | MARCH 2007



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INTRODUCTION

Continuous efforts to improve safety during transport and the associated handling of chemicals are part of the overall objective of both the chemical industry and the transport industry to improve the safety performance and to operate in accordance with the guiding principles of Responsible Care.

The current guidelines have been developed with the aim of offering guidance regarding transport equipment used for the transport of packed cargo. Separate best practice guidelines will be developed for transport equipment for bulk cargo.

These guidelines are of a voluntary nature. Individual companies may decide to apply the guidelines either in full or partly, according to their own judgment and taking into account their specific circumstances and requirements.

The applicable national and international regulations should always be complied with and take precedence over the recommendations made in the present guidelines.

OBJECTIVE AND SCOPE

The objective of the present guidelines is to promote the use of appropriate equipment for the transport of packed chemical cargo and to provide guidance on the application of best practices for securing and stowage of the cargo.

The scope of these guidelines includes existing and new transport vehicles, trailers and containers used for:

- the different modes of transport except air transport;
- the carriage of palletized and non-palletized packed cargo;
- the transport of dangerous and non-dangerous goods;
- FTL (full truck loads) and LTL (less than full truck loads). For certain types of LTL, different requirements may be needed.

The tractor unit and any specialized or product specific equipment (e.g. equipment for temperature control, goose necks, high volume road trains) are outside the scope of these guidelines.

Additional guidance on the roles and tasks for load securing are included in the Cefic/ECTA Behaviour Based Safety Guidelines for the Safe Loading and Unloading of Road Freight Vehicles (Issue 2, March 2007).

Further guidance on cargo securing can also be found in the European Best Practice Guidelines on Cargo Securing for Road Transport, issued by the European Commission - Directorate General for Energy and Transport.

1

DIFFERENT TYPES OF TRANSPORT EQUIPMENT

This section gives an overview of the main types of transport equipment used for packed cargo, with a short description of each type.

1.1 | Vehicle with sideboards (tilt trailer or cover/stake body type)

Tilt trailers are trailers with tarpaulins on both sides and with sideboards which are fixed to the floor frame and can be tilted in order to allow loading and unloading from both sides as well as from the back. The dimensions are in general as follows: 13,60 m length and 2,44 m internal width.

1.2 | Vehicle without sideboards (curtainsider or “tautliner”)

A curtainsider is based on the same construction as the tilt trailer but without sideboards fixed to the floor frame. Its tarpaulin sides can be moved easily by pushing them aside like a curtain. The tarpaulin is meant to protect the cargo against weather conditions, but is not suitable for cargo securing.

1.3 | Curtainsider constructed according to standard EN 12642-XL

EN 12642-XL refers to reinforced body structures as described in the revised standard EN 12642:2007 which will supersede EN 12642:2001 “Securing of cargo on road vehicles – body structure of commercial vehicles – minimum requirements”.

Curtainsiders constructed according to the revised standard EN 12642-XL need to fulfill certain minimum requirements regarding stability criteria and test conditions of the front wall, rear wall and side walls. Vehicle body structures in compliance with the requirements of this standard are in general marked with a specific sign.



1.4 | Box trailer

As opposed to the above-described vehicle types, the box trailer does not have flexible tarpaulin sides but is completely surrounded by a stable metal or steel construction. The closed unit offers improved stability and cargo securing for different types of packaging. Because its sides cannot be opened, only loading and unloading from the back of the vehicle is possible. This requires a fixed ramp or a movable ramp ('loading bridge') for the cargo to be moved in or out of the box trailer.

1.5 | Swap body

Swap bodies have the same constructional characteristics as the above described four vehicle types, but need to be put on a chassis for any kind of movement. They are typically used for inter-modal transport and drop and swap operations.

1.6 | Container

ISO containers have a solid closed construction as defined in ISO standards (e.g. ISO 830 and ISO 1496-1) including requirements such as:

- a rigid construction for repeated use, trans-loading and terminal operations;
- a design to facilitate the carriage of goods by one or more means of transport;
- fittings permitting its easy stowage, handling and stacking.

ISO containers with a length of 20 or 40 feet and an internal width of 2,34 m are most used. In addition there are 40 and 45 feet containers with an inner width of 2,44 m (pallet wide) which are not constructed according to an ISO standard.

2 | GENERAL TRANSPORT EQUIPMENT REQUIREMENTS

To ensure a proper loading and transport process, all the equipment should be selected, assembled and used in such a way that the loaded vehicle withstands the forces under normal transport conditions. Normal transport conditions include emergency breaks, sudden maneuvers, shunting operations (during intermodal carriage), handling and container terminal operations.

THE FOLLOWING GENERAL SPECIFICATIONS SHOULD APPLY:

- All transport vehicles, trailers and containers should be in a road-worthy condition, clean and odour-free inside, fit for purpose, compliant with all relevant legislation and well maintained.
- Vehicles and trailers described in sections 1.1, 1.2, 1.3 and 1.5 of these Guidelines need to be equipped with horizontal wooden or aluminium side planks to ensure the safe transportation of the goods (at least 2 planks per section between the stanchions for tilt trailers; at least 4 planks per section between the stanchions for curtainsiders).
- The floor should be solid and capable of supporting fork-lift trucks (with maximum total weight of 5740 kg) entering the loading space (in accordance with standard EN 283).
- The floor should be flat, level and free of objects (e.g. protruding nails) and holes or other damage that might either cause risk to loading/unloading staff or damage to the cargo.
- The roof, walls and tarpaulin/curtain should be free of holes and protect the cargo against normal weather conditions.
- All transport equipment should be sealable and easy to lock tightly from ground level.
- A sufficient number of lashing points should be available to allow appropriate cargo securing methods (see section 3).
- The use of pre-mounted load securing systems should be considered so that all load securing activities can be carried out from ground level.

All newly purchased equipment should be constructed in compliance with EN 12642-XL. This should be marked on the equipment with a specific sign.



3 | GUIDELINES FOR STOWAGE AND CARGO SECURING EQUIPMENT

The table describes possible stacking methods (single or double stack) and the minimum number of lashings that should be available on a standard vehicle (length of 13.60 m) for the most commonly used types of packages and types of transport equipment. Depending on the load-plan and the method of cargo securing that is agreed between the principal and the carrier, the number of lashing straps required for securing the cargo may be different from the numbers specified in the table below. The table therefore does not give guidance on the number of lashings to be used for securing the cargo.

Additional cargo securing material may be needed dependent on the specific method of cargo securing that is used.

Further guidance on cargo securing and the calculation of the required number of lashing straps to be used can be found in the European Best Practice Guidelines on Cargo Securing for Road Transport issued by the European Commission.

Further guidance on the respective roles and tasks of the principal, the carrier, the loader and the driver in load securing is given in the Cefic /ECTA Guidelines on "Behaviour Based Safety - Guidelines for the Safe Loading and Unloading of Road Freight Vehicles – Issue 2 / March 2007."

A number of examples of stowage and securing of the most commonly used packagings for chemical goods in road transport are described in separate Cefic/ECTA Guidelines.

NON-PALLETIZED DRUMS

TYPE OF EQUIPMENT	POSSIBLE STACKING METHOD	MINIMUM NUMBER OF LASHINGS*
Vehicle with sideboards (tilt trailer)	Single	4 lashing straps
Curtainsider according to EN 12642-XL	Single	4 lashing straps
Box trailer / Container	Single/double stack	—

PALLETIZED DRUMS

TYPE OF EQUIPMENT	POSSIBLE STACKING METHOD	MINIMUM NUMBER OF LASHINGS*
Vehicle with sideboards (tilt trailer)	Single/double stack	4 or 12 lashing straps**
Vehicle without sideboards (curtainsider)	Single/double stack	12 lashing straps
Curtainsider according to EN 12642-XL	Single/double stack	4 or 12 lashing straps**
Box trailer / Container	Single/double stack	—

BAGS ON PALLETS, BIG BAGS

TYPE OF EQUIPMENT	POSSIBLE STACKING METHOD	MINIMUM NUMBER OF LASHINGS*
Vehicle with sideboards (tilt trailer)	Single	4 or 12 lashing straps**
Vehicle without sideboards (curtainsider)	Single	12 lashing straps
Curtainsider according to EN 12642-XL	Single	4 or 12 lashing straps**
Box trailer / Container	Single	—

IBC'S

TYPE OF EQUIPMENT	POSSIBLE STACKING METHOD	MINIMUM NUMBER OF LASHINGS*
Vehicle with sideboards (tilt trailer)	Single/double stack	4 or 12 lashing straps**
Vehicle without sideboards (curtainsider)	Single/double stack	12 lashing straps
Curtainsider according to EN 12642-XL	Single/double stack	4 or 12 lashing straps**
Box trailer / Container	Single/double stack	—

OCTABINS

TYPE OF EQUIPMENT	POSSIBLE STACKING METHOD	MINIMUM NUMBER OF LASHINGS*
Vehicle with sideboards (tilt trailer)	Single	12 lashing straps
Vehicle without sideboards (curtainsider)	Single	12 lashing straps
Curtainsider according to EN 12642-XL	Single	12 lashing straps
Box trailer / Container	Single	—

* The numbers in the table indicate the minimum number of lashings that **should be available** on a standard vehicle (only valid for single stack loads). The number of lashings **to be used** for securing the cargo may be different.

** The minimum number of lashings to be available on the transport equipment will be dependent on the method of cargo securing agreed between the shipper and the carrier: 4 straps in case of form-locked securing and 12 straps in case of securing by top-over lashing.



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DISCLAIMER This document is intended for information only and sets out guidelines for transport equipment used for chemical packed cargo. The information contained in these guidelines is provided in good faith and, while it is accurate as far as the authors are aware, no representations or warranties are made about its completeness. It is not intended to be a comprehensive guide to all detailed aspects of transport equipment. No responsibility will be assumed by the participating associations, Cefic and ECTA, in relation to the information contained in these guidelines.



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**ECTA is supported by EPCA (European Petrochemical Association)*