



# Information Leaflet „Load Safety for Beverages“

The aim of this information leaflet is to avoid hazards as a result of inadequately secured vehicles.

## Definitions of Beverage Loads:

To meet the requirements of the VDI Guideline 2700 Page 12 for the respective vehicle certificate categories “crates”, “barrels” or “two-layer empties transport”, in the case of dynamic vehicle tests to check the body stability in accordance with DIN EN 12642 Code XL - Appendix B, beverage load units corresponding to the following definitions must be used.

*Crates:* returnable plastic beverage crates stacked in columns on euro-sized pallets (0.8 x 1.2 m base area) with a GS1 height of 1.6 -1.95 m..

*Barrels:* Steel bung containers with a volume of 30 or 50 l in accordance with DIN 6647 ff. with outside diameters of 380 to 408 mm; 6 pcs. to be arranged standing on a pallet. 50 l drums are stacked twice and 30 l drums are stacked three times on top of each other with pallets to form a load unit (height from 1.40 - 1.7 m)

*Empties:* crates or barrels without product on a pallet (e.g. in the case of crates, empty glass bottles in beverage crates)

Loads with beverage pallets according to this definition results in a single-layer transport on the vehicle.

A two-layer transport of, for example, empties pallets stacked on top of each other using the entire volume of the vehicle body, is only permitted with suitable vehicles which have been successfully tested in terms of driving dynamics with regard to this type of transport.

## 1. Basic Requirements

The loading and driving personnel are appropriately trained with regard to beverage loads.

## 2. Loading Procedure

### 2.1 Vehicle Requirements

#### 2.1.1 Weights

- observe the permissible load capacity and total mass of the respective vehicle

#### 2.1.2 Vehicle Body

If beverage products are to be loaded, the vehicle must meet the following criteria:



### **Category A: Vehicle with certificate "Code XL & beverage suitability"**

Type of vehicle body: DIN EN 12642 Code XL, containing the additional phrase "suitable for transporting beverages".

- The vehicle-related load safety certificate must be presented.
- In the case of curtainsiders (sliding tarpaulin superstructures), pallet stop bars or other technical systems must be in place to prevent the load or the pallets from being able to slip sideways over the loading area
- Loading area must be "clean-swept"
- The tarpaulin and attachments must be in good order (no obvious damage, such as cracks or torn off tarpaulin belt buckles), since these are responsible for the load securing function
- Check the condition of the fixed or plug-in stanchions
- Check any plug-in boards present (quality and number according to the vehicle body description of the manufacturer)

**!! For partial loads, the load must be secured to the rear (see point 2.3.3)!!**

### **Category B: Vehicle without certificate "Code XL & beverage suitability"**

- Loading area must be "clean-swept"
- In the case of sliding tarpaulin superstructures, pallet stop bars or other technical systems must be in place to prevent the load or the pallets from being able to slip sideways over the loading area.
- Check the condition of the fixed or plug-in stanchions
- Check any plug-in boards present (quality)

**!! The load must be additionally secured (see 2.3) !!**

## **2.2 Loading of Vehicles with "Code XL & beverage Suitability Certificate":**

Loading must be carried out from the front wall without any gaps in the load. If there is a significant difference in height within the load (e.g. top layer of crates are unsecured), the higher loading units must be placed directly against the front wall.

Any gaps of more than 15 cm to the rear must be additionally secured (e.g. with euro pallets).

### **Requirements for loading without additional securing:**

- The load consists only of beverage crates, which form a composite column with stacking edges
- A load consisting of barrels may not be loaded more than 2.4 m in a row along the direction of travel unless bulkheading is provided by means of suitable pallets,



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intermediate layers (e.g. of screen-printed, plastic or monopan sheets) or other stable beverage loads

- In the case of vehicles with flexible side space limitation (e.g. curtains), steel barrels without PU foam covering must be additionally secured on the pallet (formation of a stable loading unit)
- The load must fill the load space inside the 2.4 m container without gaps transverse to the direction of travel. If it does not (in the case of mineral water crates), the gap must be filled by means of additional measures.

| Matrix:<br>“How to secure which load on which vehicle”? |   | Vehicle   |   |                          |
|---|---|---|---|--------------------------|
|   |   | Curtainsider with certificate for beverages in general or crates  | Swing walls with certificate for beverages in general or crates   | All other vehicles       |
| Load<br>on wooden euro-pallets                          | PU-barrel (400 mm diameter) (20, 30 & 50 litre)         | Without additional securing, if no more than 6x6 barrels in the base area (2,4 m x 2,4 m of loading area) | Without additional securing, if no more than 6x6 barrels in the base area (2,4 m x 2,4 m of loading area) | With additional securing |
|   | Steel barrel (from 380 mm diameter) (30 & 50 litre)     | With additional securing or extra proof via certificate *   | Without additional securing, if no more than 6x6 barrels in the base area (2,4 m x 2,4 m of loading area) | With additional securing |
|   | All other barrels                                       | With additional securing  | With additional securing  | With additional securing |
|   | Crates stacked  | Without additional securing   | Without additional securing   | With additional securing |
|   | Crate empties single layer up to 1.95 m stacking height | Without additional securing   | Without additional securing   | With additional securing |
|   | Crate empties two-layer                                 | With additional securing or extra proof via certificate *   | With additional securing or extra proof via certificate *   | With additional securing |
|   | One-way goods   | With additional securing  | With additional securing  | With additional securing |
|   | Other   | With additional securing  | With additional securing  | With additional securing |

\*If necessary, vehicle body certificate with 0.55 x load capacity to the side

Note: The additional securing can be achieved, for example, by down lashing in accordance with 2.3 or by forming a stable load unit (e.g. VDI 3968).

**!! For other beverage products, such as barrels with smaller diameters or one-way goods, the load units must be secured against falling apart or slipping (formation of a stable load unit) !!**



Fig. 1: Sensible arrangement for mixed loads Fig.2: Pallets can help when barrels only are being transported (Formation of "form-locking compartments" using crates for not more than 6 X 6 steel barrels (total 36 barrels per layer) in the loading area)

For mixed loads, alternating loading of barrel and crate pallets is recommended in order to avoid additional securing measures for the bulkheads.

## 2.3 Additional Securing

In the case of loads consisting of crates or barrels, subsequent securing must be carried out, e.g. by means of down lashing:

### 2.3.1 Securing to the front

In semi-trailer vehicles, the front wall (cowl) must be secured by means of lashing straps, as it cannot secure the forces exerted by the load during the required deceleration.

In order to secure the front wall of a semi-trailer for a 25 t beverage load, 2 lashing straps must be fitted at medium height to provide additional securing force. Care must be taken to ensure that these belts are attached to different force application points in the vehicle frame. If there are no lashing points on the front wall, it is sufficient to place the pair of belts through upright pallets and then lash them down to the rear at an angle of approx. 45° to the vehicle frame.



Fig. 3: Securing the front wall





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### 2.3.2 Securing to the side

The lateral securing of the beverage load units can be secured on the vehicle with one lashing strap per pallet row.



Figs. 4 & 5: Pallets or suitable edge protection angles are required for stabilisation and lashing

Due to the elasticity of the plastic crates, a wooden pallet or other aid must be used to transfer force from the top of the lashing into the load unit. Barrels can also be secured in this way.

### 2.3.3 Securing to the rear

Loading gaps to the rear should be secured by form-locking procedures such as, for example, verifiably suitable (type plate) plug-in or corresponding clamping bar systems.

Securing to the rear can also be carried out by means of head lashing using straps and upright pallets.



Fig. 6 & 7: Head lashing for securing to the rear and clamping bar systems



### **2.3.4 Miscellaneous**

Any gaps in the load that occur to limit the lateral loading space must be filled using upright pallets or, for example, turnable plug-in boards.

Other technical solutions that verifiably achieve the same level of securing as those mentioned above are also permissible.

### **Partial/additional loads**

These instructions for securing loads must also be applied to any foreign loads already standing on the loading area.

In the case that smaller quantities or mixed load units are transported on flatbed vehicles, care should be taken to ensure that the top layer of crates or barrels still has a form-locking grip to the side wall of the vehicle.