

Road vehicle types and loading metres

Curtainsider, mega, reefer, jumbo: which vehicle, how many pallets, how many tonnes?

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Online interactive version: <https://ozgurkonakci.com/en/guide/road-vehicles-ldm/>

SHORT ANSWER

The standard vehicle of international road freight is the curtainsider semi-trailer with 13.6 m internal length: about 33 Euro pallets and 24 tonnes. A mega trailer offers about 3 m internal height and a jumbo the highest volume. Groupage is charged by loading metre: $LDM = (length \times width) \div 2.4$; one Euro pallet is 0.4 LDM.

Why road freight matters

In Türkiye's trade with Europe, the Middle East and Central Asia, road is the most flexible mode because it can deliver door to door. Even in sea and air shipments, cargo usually reaches the port or airport by road and leaves it by road.

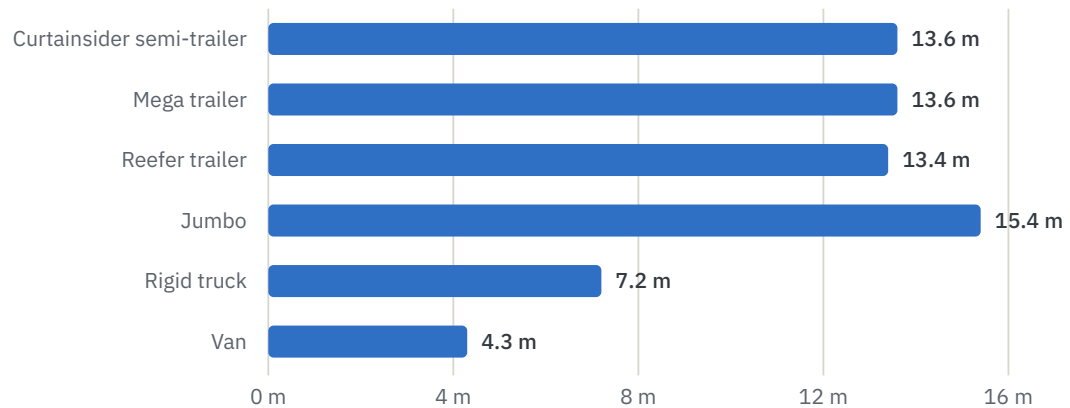
There are two basic types of service:

- **Full truck load (FTL):** The whole vehicle is used for a single shipper.
- **Less than truck load (LTL, groupage):** Cargo from several shippers is combined in the same vehicle. The price is based on the floor space or weight the cargo takes up.

Vehicle types

The dimensions below are **typical values**. They vary by vehicle manufacturer, trailer model and carrier. Exact dimensions and capacity should be confirmed with the carrier before loading.

Internal load length compared



Vehicle	Internal length	Internal width	Internal height	Volume (m³)	Euro pallets	Standard pallets	Payload
Curtainsider semi-trailer (standard)	13.60 m	2.45 m	2.70 m	≈ 90	33	26	≈ 24 t
Mega trailer	13.60 m	2.45 m	3 m	≈ 100	33	26	≈ 24 t
Reefer (refrigerated) trailer	13.40 m	2.46 m	2.60 m	≈ 85	33	26	≈ 22 t
Jumbo (truck and drawbar trailer)	15.40 m	2.45 m	3 m	≈ 110–120	36–38	28	≈ 22 t
Rigid truck	7.20 m	2.45 m	2.60 m	≈ 45	18	14	≈ 10–15 t
Van (3.5 t)	4.30 m	1.75 m	1.90 m	≈ 14	4–5	—	≈ 1–1.5 t
Container chassis	—	—	—	Depends on the container	—	—	Depends on the container
Lowbed (low loader)	—	—	—	—	—	—	Depends on the model
Tanker / bulk silo	—	—	—	Depends on the model	—	—	Depends on the model

Typical values; they vary by vehicle manufacturer, trailer model and carrier. These are the dimensions commonly used in international road freight in Europe and Türkiye. Payload depends on the vehicle's gross weight limit and axle loads.

Typical uses

Curtainsider semi-trailer (standard): The basic vehicle of international road freight. Can be loaded from the side, rear and top; used for full (FTL) and groupage (LTL) loads.

Mega trailer: A lowered chassis gives about 3 m of internal height. Preferred for bulky cargo such as automotive parts and household appliances.

Reefer (refrigerated) trailer: Temperature-controlled transport of goods such as food, pharmaceuticals and flowers; a temperature record (thermograph) is kept.

Jumbo (truck and drawbar trailer): Consists of two separate compartments, the truck body and the trailer (about 2 × 7.7 m). The highest volume; an advantage for light, bulky cargo.

Rigid truck: Urban and regional distribution, part loads. Body length and capacity vary widely by vehicle class.

Van (3.5 t): Urgent and small shipments, express deliveries. The most flexible vehicle in terms of licence and driving rules. The number of pallets depends on the width between the wheel arches.

Container chassis: Carries a shipping container from the port to the consignee or from the shipper to the port. Models are available for 20', 40' and 45' containers.

Lowbed (low loader): Tall and heavy cargo such as construction machinery, transformers and turbine parts. Out-of-gauge loads need special permits and route planning.

Tanker / bulk silo: Bulk liquids (fuel, chemicals, food) or bulk powders (cement, flour). ADR rules apply to dangerous goods.

What is a loading metre (LDM)?

In groupage road freight the **floor space** the cargo occupies matters, because a pallet that nothing can be stacked on uses that part of the vehicle completely. This space is measured in **loading metres (LDM)**.

1 LDM is 1 metre of length across the full width of a standard trailer (about 2.40 m). The calculation is:

LDM = (length × width) ÷ 2.4 (dimensions in metres)

- One Euro pallet (1.20 × 0.80 m): $0.96 \div 2.4 = \mathbf{0.4 \text{ LDM}}$
- One standard pallet (1.20 × 1.00 m): $1.20 \div 2.4 = \mathbf{0.5 \text{ LDM}}$
- A 13.6 m trailer: **13.6 LDM**

For pricing, carriers also convert LDM into weight. In common practice 1 LDM is counted as somewhere between 1,650 and 1,850 kg. The factor varies by carrier and is stated in the quotation.

Example	LDM	Chargeable weight (1 LDM = 1,750 kg)
10 Euro pallets, non-stackable	4.0	7,000 kg
10 Euro pallets, stackable (2 high)	2.0	3,500 kg
12 standard pallets, non-stackable	6.0	10,500 kg

LDM = (length × width) ÷ 2.4. The weight equivalent of 1 LDM varies by carrier; 1,750 kg is used in the example. If the actual weight is higher, the charge is based on the actual weight.

Can it be stacked?

If the cargo is **stackable** (another pallet can be placed on top), the LDM can be halved, which cuts the cost considerably. That is why stackability must always be stated when booking. Non-stackable cargo is charged for the full floor space it occupies.

Test yourself

1. How many LDM are 10 Euro pallets? (*Answer: $10 \times 0.4 = 4$ LDM.*)
2. Which vehicle suits a load of light but bulky cartons that is 2.9 m high? (*Answer: A mega trailer or a jumbo.*)
3. Why does it matter in groupage that your cargo is stackable? (*Answer: The floor space it occupies, and therefore the LDM charged, goes down.*)

Frequently asked questions

How many pallets fit on a truck?

A standard 13.6 m curtainsider takes about 33 Euro pallets (1.20×0.80 m) or 26 standard pallets (1.20×1.00 m) in a single layer. These are typical values; confirm exact capacity with the carrier.

How is LDM calculated?

$\text{LDM} = (\text{length} \times \text{width}) \div 2.4$, with dimensions in metres. One Euro pallet is $0.96 \div 2.4 = 0.4$ LDM and one standard pallet 0.5 LDM. Stackable cargo uses less floor space and therefore fewer LDM.

How many kilograms is 1 LDM?

It depends on the carrier; in common practice 1 LDM is counted as somewhere between 1,650 and 1,850 kg. The factor is stated in the quotation.

SOURCES

Typical vehicle dimensions commonly used in the industry; exact values should be confirmed with the vehicle manufacturer and the carrier

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