

6.6 Road vehicles

6.6.1 Road vehicles are available in a number of different formats and designs.

6.6.2 Most vehicles have a strong front wall integrated into the closed superstructure. Closed superstructures of road vehicles may be provided with arrangements for applying approved seals.

6.6.3 Semi-trailers suitable for combined road/rail transport are generally equipped with standardized recesses for being lifted by suitable cranes, stackers or forklift trucks, to enable the lifting transfer from road to rail or vice versa.

6.6.4 Road vehicles are allocated a specific maximum payload. For road trucks and full trailers the maximum payload is a constant value for a given vehicle and should be documented in the registration papers. However, the maximum allowed gross mass of a semi-trailer may vary to some extent with the carrying capacity of the employed articulated truck as well as in which country it is operating. The total gross combination mass, documented with the articulated truck, should never be exceeded.

6.6.5 The actual permissible payload of any road vehicle depends distinctly on the longitudinal position of the centre of gravity of the cargo carried. In general, the actual payload should be reduced if the centre of gravity of the cargo is conspicuously off the centre of the loading area. The reduction should be determined from the vehicle specific load distribution diagram (see [annex 7](#), subsection 3.1.7). Applicable national regulations on this matter should be observed. In particular closed [freight containers](#) transported on semi-trailers with the doors at the rear of the vehicle quite often tend to have their centre of gravity forward of the central position. This may lead to an overloading of the articulated truck if the container is packed toward its full payload.

6.6.6 The boundaries of the loading platform of road vehicles may be designed and made available in a strength that would be sufficient - together with adequate friction - to retain the cargo under the specified external loads of the intended mode of transport. Such advanced boundaries may be specified by national or regional industry standards. However, a large number of road vehicles are equipped with boundaries of less resistivity in longitudinal and transverse direction, so that any loaded cargo should be additionally secured by lashings and/or friction increasing material. The rating of the confinement capacity of such weak boundaries may be improved if the resistance capacity is marked and certified for the distinguished [boundary](#) elements of the vehicle.

6.6.7 In Europe, European standard EN 12642 would apply. According to this, there are two levels of requirements of vehicle sides and ends: Code L and Code XL. The strength requirements of the side walls for the Code L vehicles is similar to the requirements for sides of swap bodies according to the standard EN 283 (see paragraph 6.4.4). The side walls of Code XL vehicles are designed to withstand a force equal to 40% of the permitted payload uniformly distributed over the side up to 75% of the height of the side, independently of the type of vehicle. The front wall of Code L vehicles is designed to take up a force equal to 40% of the permitted payload, the maximum however is 50 kN. For Code XL vehicles the front wall is designed to withstand a force equivalent to 50% of the payload without any further limit. The rear wall of Code L vehicles is designed to withstand a force equal to 30% of the permitted payload, the maximum however is 31 kN. For Code XL vehicles the rear wall is designed to withstand a force equivalent to 40% of the payload without any further limit.

6.6.8 Road vehicles are generally equipped with securing points along both sides of the loading platform. These points may consist of flush arranged clamps, securing rails or insertable brackets and should be designed for attaching the hooks of web lashings and chains. The lashing capacity of securing points varies with the maximum gross mass of the vehicle. The majority of vehicles is fitted with points of a lashing capacity (LC) or maximum securing load (MSL) of 20 kN. Another type of variable securing devices are pluck-in posts, which may be inserted into pockets at certain locations for providing intermediate barriers to the cargo. The rating of the lashing capacity of the securing points may be improved if their capacity is marked and certified. Modern vehicles are often equipped with continuous connecting points for lashing bars on each side, thus to enable the affixing of the lashing bars exactly in the required positions to block the cargo against movement towards the rear side.