



# IWG VGL

Heavy vehicles issues



# Load cases

## ➤ 2 different vehicle configurations for trucks:

### 🌐 Tractors

#### ❖ Load defined in Annex 5, paragraph 2.4.1.

– 2.4.1. Drawing vehicles for semi-trailers:

– 2.4.1.1. unladen vehicle without a load on the coupling attachment and one person in the driver's seat;

– 2.4.1.2. one person in the driver's seat: technically permissible load on the coupling attachment in the position of the attachment corresponding to the highest load on the rear axle

#### ❖ The load is applied using a laden semi-trailer. Then all the load is applied at coupling point (no horizontal variation)





# Load cases

## ➤ 2 different vehicle configurations for trucks:

### 🌐 Rigid vehicles

#### ❖ Load defined in Annex 5, paragraph 2.3.

- 2.3.1. The angle of the light beam from the dipped-beam headlamps shall be determined under the following loading conditions;
- 2.3.1.1. vehicle unladen and one person in the driver's seat;
- 2.3.1.2. driver, plus a load so distributed as to give the maximum technically permissible load on the rear axle or axles, or the maximum permissible mass of the vehicle, whichever occurs first, without exceeding a front axle load calculated as the sum of the front axle load of the unladen vehicle plus 25 per cent of the maximum permissible payload on the front axle. Conversely, the front axle is so considered when the load platform is at the front.

#### ❖ The load is applied using steel frame and concrete or pig-iron blocks. Then all the load is applied in order to reach the higher load at the rear, with as little load as possible on the front



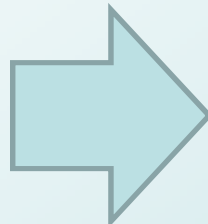


# Load cases

➤ Diversity of bodies



As delivered by vehicle manufacturer  
(incomplete vehicle)  
Subject to R48 approval



After bodywork  
(completed  
vehicle)  
No new R48  
approval





# Load cases

## ➤ Other issues related to mass of vehicle:

### 🌍 Mass at UN R48 certification

- ❖ The systems certification needs to cover the Maximum Technical Permissible Mass of the vehicle configuration

- E.g. may be 20.5 t for a specific model of 4X2 tractor



### 🌍 Mass of the vehicle once registered

- ❖ Every country in EU keeps its national rules concerning Maximum Mass authorized in circulation

- For the same 4X2 tractor, the maximum registration mass may be 18t in Germany, 19t in France, 20t in Netherlands...
- The national rules apply also for the maximum axle load (for motor axle: 13t in France, 11.5t in Germany...)

- 🌍 Then there is very little probability that the R48 test case will be appropriate to identify only one position of leveling device that could apply in real driving, due to the diversity of authorized national masses for the same technical configuration. For this reason, heavy vehicles need leveling devices with several positions (NB: no current offer of automatic leveling on trucks in EU market).