

01

SEATBELTS AND SPEED LIMITS

Zero tolerance

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**VISION
ZERO** RISKS
ACCIDENTS
DEATHS



LE GOUVERNEMENT
DU GRAND-DUCHÉ DE LUXEMBOURG
Ministère de la Mobilité
et des Travaux publics

The seatbelt



Wearing your seatbelt is compulsory and non-negotiable, even for short distances.

It should be a reflex: don't start the car until all seatbelts are fastened!

Seatbelt use is compulsory for all occupants, both children and adults, whether in a front seat or in the rear.

In the event of a collision at 50 km/h, the force of the impact is equivalent to a fall from the 3rd floor! Wearing a seatbelt can therefore save lives.

Penalties

Drivers or passengers who do not use seatbelts are liable to be fined €145 and have 2 points removed from their driving licence.

The seatbelt must be well adjusted and fit the body properly.

Please note that pregnant women are not exempt from using a seatbelt (unless subject to medical contraindication). The horizontal strap of the belt should be placed under the rounded belly, against the pelvis. The diagonal strap should pass over the stomach and down the middle of the chest.

3-point seatbelt

1. The seatbelt

must pass over the shoulder and not at the base of the neck

2. The headrest

should almost be at the same height as the top of the head

3. The seatbelt

should lie across the bones of the pelvis, not on the stomach

Bad example:



Good example:



The seatbelt



Did you know?

- Airbags offer additional protection only in the event of a violent impact, but in no way can they replace using a seatbelt. They are only effective in combination with seatbelts worn according to the law.
- Seatbelts are particularly effective at low and medium speeds. Beyond a certain force of impact, the human body is completely unable to resist the shock.
- Rear-seat passengers who do not use seatbelts are a danger for the driver and the front-seat passenger. In the event of a collision, they turn into powerful projectiles, with dangerous consequences not only for themselves, but also for the driver and front-seat passenger.
- In buses and coaches, the use of seatbelts is compulsory in all seats that are fitted with one.

A few tips:

For your own safety and that of your passengers:

- Only start off when all seatbelts are properly fastened.
- Get used to wearing a seatbelt on every trip, no matter how short (indeed, many accidents occur less than 10 minutes away from home on well known roads).
- If you use a van, a hired car or a minibus, make sure that seatbelts are fitted.
- Do not transport more people than the number of seatbelts available.



Children as passengers



As defined by art. 93 of the Social Security Code, the journey may not be the most direct one. The insured person may need to make a detour to drop off or collect a child, who lives in their household, from a third party to whom they entrust the child to be able to pursue their professional activity. This includes the journey to the nursery, school or care centre.

Children under the age of 3 must always be seated in an approved special child seat, except on line buses and coaches that are not fitted with seatbelts. The approved seat must be installed in accordance with the manufacturer's instructions. It must be adapted to the weight of the child being transported and provide adequate body support as soon as the vehicle is in motion.

Penalties

Any driver carrying a minor shorter than 150 cm in height in an illegal manner risks a fine of €145 and the withdrawal of 2 points from their driving licence.

- In exceptional cases, children aged between 3 and 17, who have not yet reached a height of 150 cm or a weight of 36 kg, must sit in the rear seats and wear only the horizontal strap of the seatbelt (the diagonal strap is passed behind the back).
- Other exceptions are if, exceptionally and for a short distance, there are not enough restraint systems available,
- If there is not enough room on the rear seats to fit 3 restraint systems to carry a third child,
- If in taxis, there is no special restraint system.



Children as passengers



For child safety, it is compulsory to use a seat suitable for their age, size and weight.

Age/size/weight	Both front and rear of the vehicle
Less than 3 years old	Special restraint device (CRD)
3 to 17 years old and shorter than 150 cm	Special restraint device (CRD)
3 to 17 years old and taller than 150 cm	Seatbelt
From age 18	Seatbelt

Note that a seat with the child’s back to the road is not allowed on the front passenger seat fitted with an airbag unless the airbag is disconnected.

“Child restraint devices” (CRDs) include car seats, shells and booster seats. They are intended for safely transporting babies and children in vehicles and must be type-approved in accordance with [ECE] regulation no. 44 or with the new [ECE] regulation no.129 [i-Size].

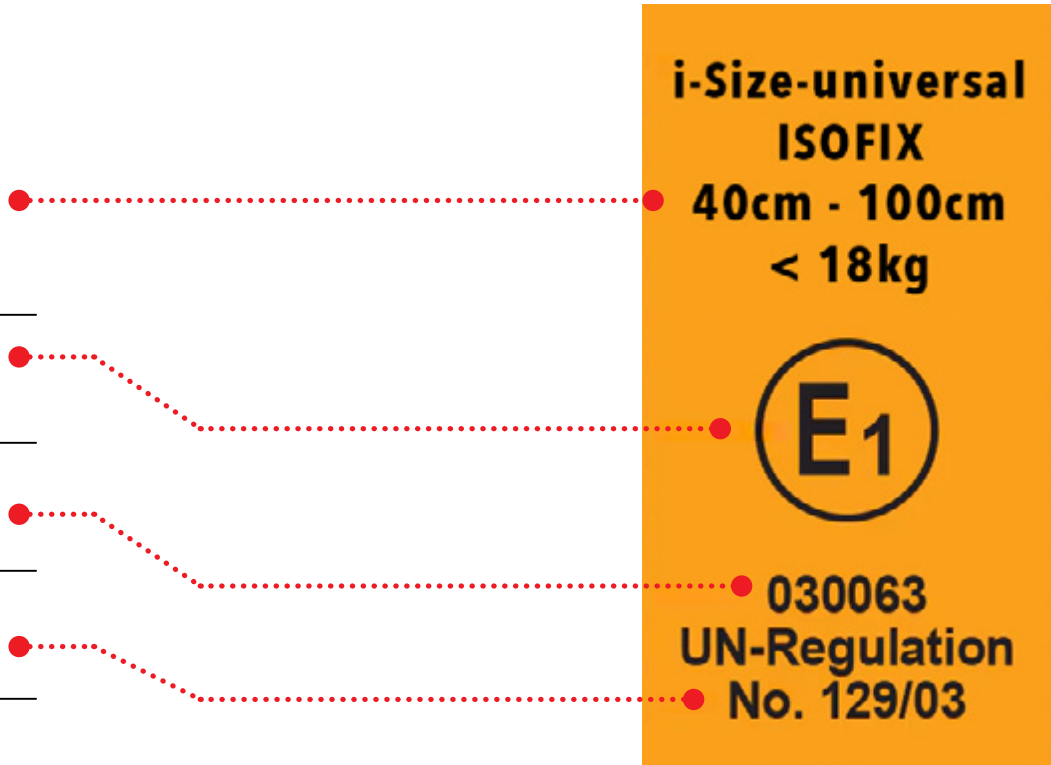
Lifespan and use of old seats

Some manufacturers indicate a lifespan in their user manual, as the materials used become less resistant over time.

Before using an old seat, make sure that it has not been damaged and that it has all the necessary parts, particularly for fixing.

Examples of product approvals

- Child’s weight range when using the seat secured by the Isofix system
- Country of seat approval [E₁] Germany
- Approval number
- Control standard used: version 3 of regulation R129



Children as passengers



How to properly secure a child in their car seat

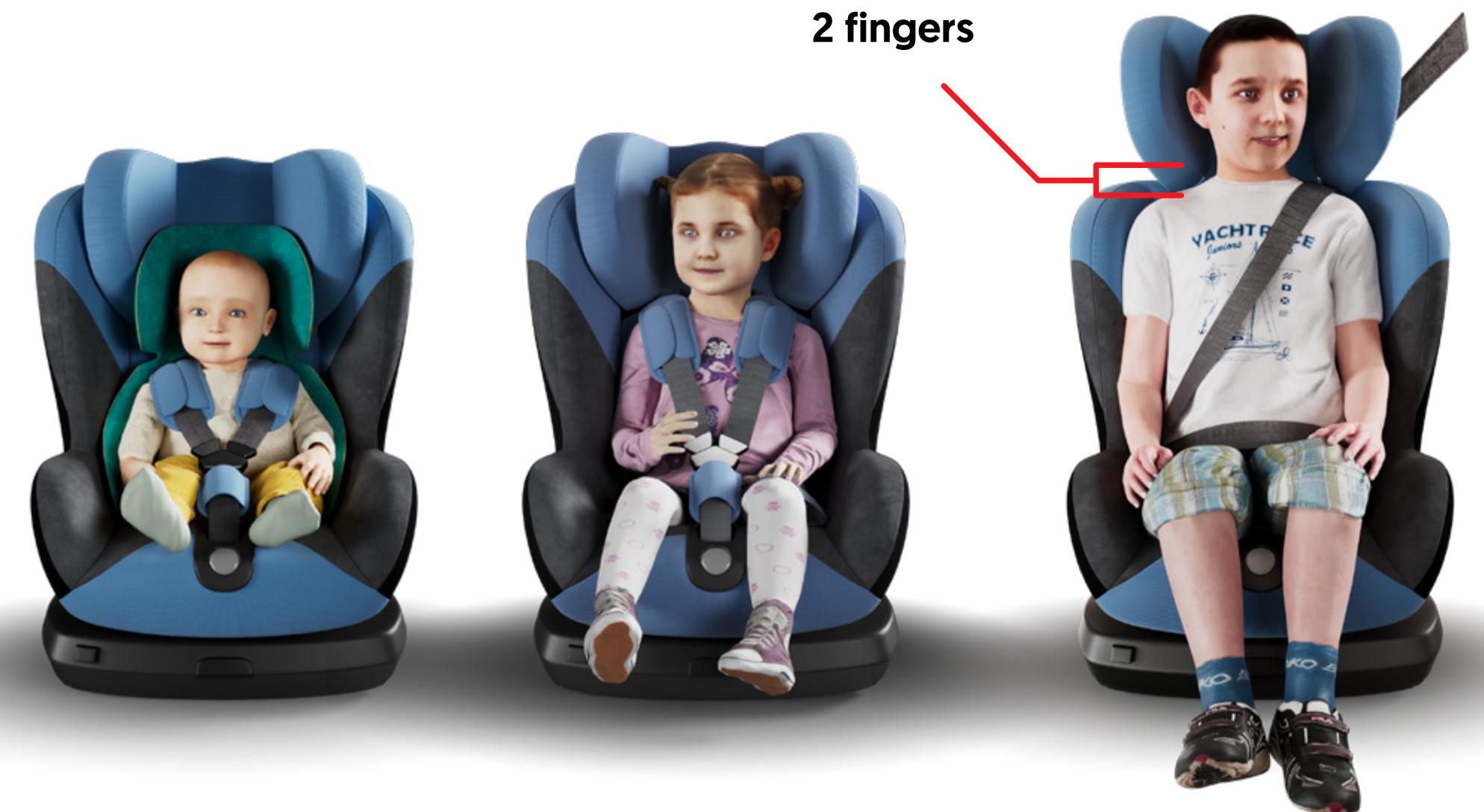
Firstly, follow the manufacturer's instructions for installing the child restraint device, whether it is secured using the vehicle's seatbelt or an ISOFIX system. The "back to the road" principle is the position to adopt from birth and for as long as possible. Regulations also require children to be seated facing backwards until they reach a weight of 9 kg. For new models approved under regulation R129 (i-Size), children must be older than 15 months.

Next, the seat itself must be adjusted correctly. This is particularly important for so-called "evolving" seats. For example, car seats approved for group 1/2/3 are designed to accommodate children weighing between 9 kg and 36 kg, i.e. children aged approximately 9 months to 10 years. Adjusting the height of the headrest, the height of the shoulder straps and sometimes the width of the backrest are just a few examples. It is clear that the "basic adjustment" of the seat must be adapted very regularly as the child grows.

Leave approximately **two fingers' width** between the child's shoulder and the bottom of the headrest, as shown in the image above.

To fasten the harness correctly, you need to remove the child's coat or any bulky clothing on a daily basis.

Please note that if you can fit three fingers between the shoulder and the harness, there may be a risk of ejection. This may also be the case if the straps are twisted, which is why it is important to **check that the straps lie flat on the child**, as shown in the image at the bottom right.



wrong



correct



Your position at the steering wheel



To ensure your safety and comfort, sit correctly at the steering wheel. An incorrect position can cause serious injury in the event of a collision. Adjust and check the following elements in turn, especially if the same vehicle is used by other people:

0. Remove your jacket and empty your pockets. Thick clothing reduces the effectiveness of the seatbelt, which must be properly adjusted and fit snugly against the body, as previously indicated (see page 20).
1. Ensure the seat is positioned at the correct distance. Your elbows should be bent at a right angle to make manoeuvring easier. When the clutch pedal is fully depressed, your left leg should be slightly bent.
2. Adjust the seat back angle to almost a right angle. Your back and shoulders should be touching the seat.
3. Adjust the steering wheel to the correct height and depth so that you can use it properly. Hold it with both hands in the 9 o'clock and 3 o'clock positions.
4. Adjust the headrest at the same height as your head, which should rest comfortably against the headrest.
5. Adjust the interior and exterior mirrors so that you can see the traffic behind and on both sides of the vehicle.



Stopping distance versus speed



One in three fatal road accidents are caused by excessive or inappropriate speed.

To stay in control of your vehicle, adapt your speed to suit traffic conditions, the weather, the load of your car, the state of your tyres, etc.

The best way to avoid a collision is to always keep a safe distance from the vehicle in front of you. This will allow you to brake in time in the event of a dangerous situation.

Stopping distance

The stopping distance of a vehicle is the distance travelled during the driver's reaction time, plus the braking distance.



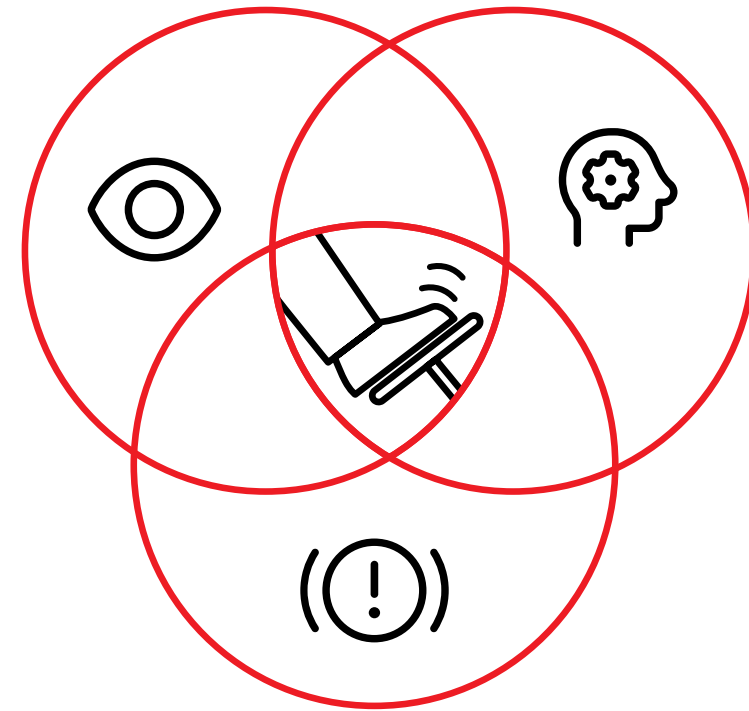
Stopping distance versus speed



The time lag between perceiving information and starting to brake is called **reaction time**. It is estimated to be 1 second.

What happens during this second:

- The driver's eye receives the information
- The information is transmitted to the brain
- The brain analyses the information and decides to act
- This command is transmitted to the muscles



To calculate the approximate reaction distance, with a reaction time of 1 second, the following approximate formula can be applied:

$$[\text{speed} \div 10] \times 3$$

Applied to a speed of 50 km/h, for example, this formula generates a reaction distance of 15 metres.

$$[50 \text{ km/h} \div 10] \times 3 = 15 \text{ metres}$$

Reaction time exceeds 1 second if the driver is tired, under the influence of alcohol, distracted, etc.

During the reaction time, the vehicle continues at the same speed and travels a distance called the **reaction distance**.

The **reaction distance** depends on:

- Speed;
- Driver's condition.

The reaction distance may be shortened if the driver is ready to brake in any potentially dangerous situation.



Stopping distance versus speed



Braking distance

The reaction distance is added to the braking distance, i.e. the distance travelled between the moment when braking starts and the moment when the vehicle comes to a standstill.

The braking distance increases proportionally to the square of speed.

If speed is doubled, the braking distance is multiplied by four.

The braking distance depends on:

- Speed;
- Weather conditions (rain, snow, ice, etc.);
- The condition of the road surface (quality of the surface);
- The configuration of the premises (uphill, downhill, etc.);
- The condition of the tyres and brakes;
- To a lesser extent, the weight of the vehicle and its load;
- The condition of the tyres and brakes.

Note that good emergency braking depends on the driver.

When using a vehicle equipped with ABS (anti-lock braking system), which became mandatory for all new vehicles in 2003, the driver should quickly remove their right foot from the accelerator and press the brake pedal as hard as possible while firmly holding the steering wheel.

It is essential not to release the brake pedal if you feel vibrations caused by the ABS system. In case the vehicle has a manual gearbox, you must also disengage the clutch at the same time as braking.

To calculate the approximate braking distance on a dry road, with good tyres and a vehicle in perfect condition, the following simplified formula can be applied:

$$[\text{speed} \div 10]^2 \div 2$$

Examples:

Speed	Braking distance (m)
30 km/h	4.5 m
50 km/h	12.5 m
70 km/h	24.5 m
90 km/h	40.5 m
100 km/h	50 m
130 km/h	84.5 m



Stopping distance versus speed

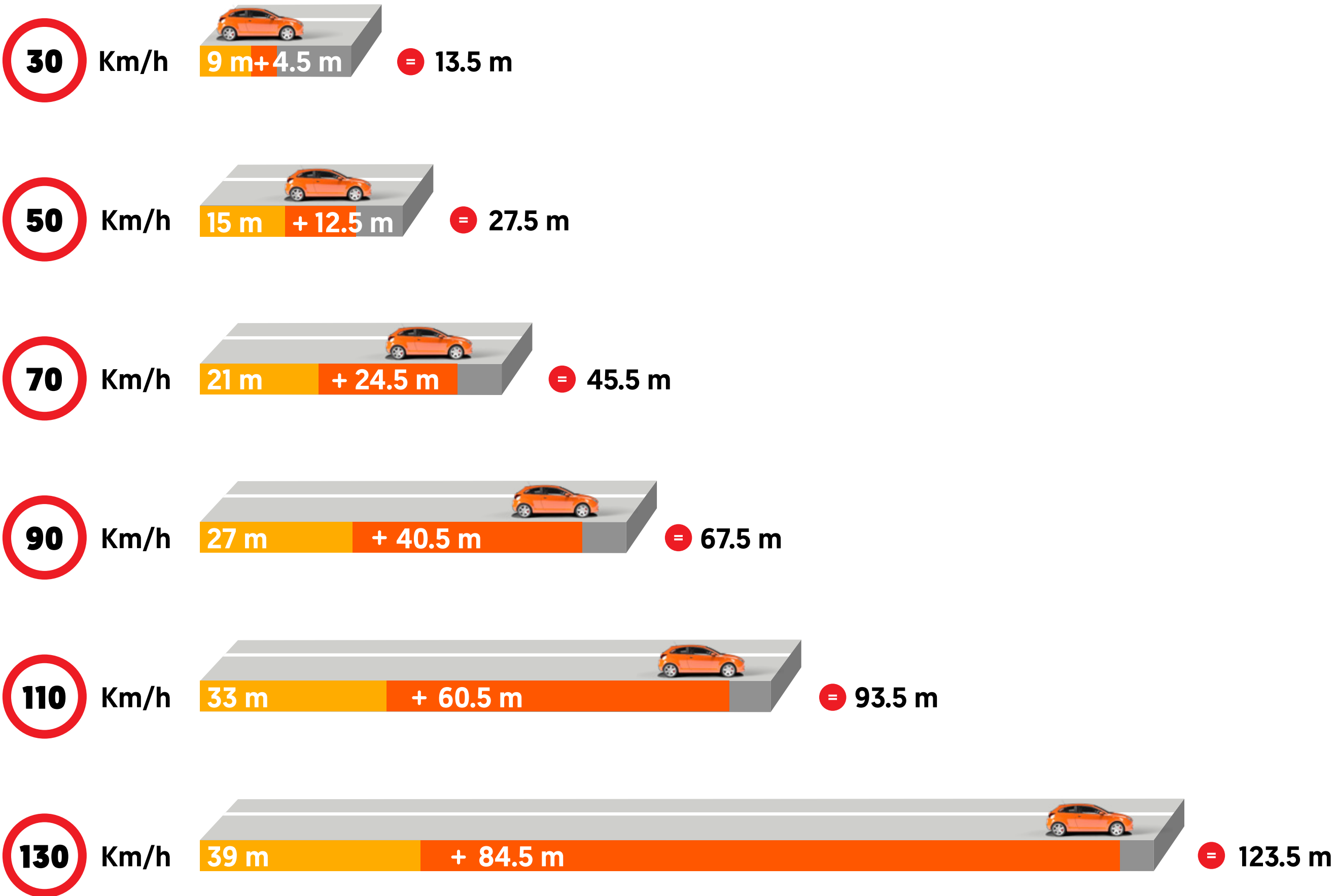


**Stopping distance =
reaction distance + braking distance**

Did you know that the faster you drive,

- **the narrower your field of vision.**
At 130 km/h, the field of vision is reduced to just 30°, which is referred to as “tunnel vision”.
- **the longer the stopping distance.**
The driver’s reaction time is incompressible (1 to 2 seconds on average) and the braking distance increases.
- **the more tired you get.**
Processing a large amount of information in a short period of time and constantly adapting your vision causes significant stress, which leads to tiredness and loss of vigilance.
- **the more serious the accident.**
At 100 km/h against a fixed obstacle, the force of the impact is equivalent to a fall of 40 metres. At this speed and with a seatbelt, the internal organs (brain, heart, etc.) continue to move forward due to inertia and violently strike the internal walls of the body. This is referred to as clean death, as no injuries are visible from the outside.
- **the more fuel you consume.**
Driving at a 120 km/h instead of 110 km/h on the motorway increases your fuel consumption by 1 litre per 100 km.

Reaction distance + Braking distance = Stopping distance



Stopping distance versus speed



A few tips:

- Always drive to road conditions (surface, weather, etc.).
- On motorways, maintain a constant speed.
- Speed limits are a maximum not to be exceeded, they are not average traffic speeds.
- The Highway Code stipulates that outside built-up areas, a safety distance between vehicles which corresponds to an interval of at least 2 seconds must be maintained. This distance increases with speed.
- Make sure you always keep a safe distance from the vehicle in front of you.
- Use new technologies. Some devices, such as speed limiters, can stop you from accidentally driving too fast or exceeding a set speed (e.g. 120 km/h). The use of such technology can help drivers adapt to different speed limits on a single journey.
- Maintain your vehicle: tyres and brake pads should be checked regularly.



Drive to weather conditions

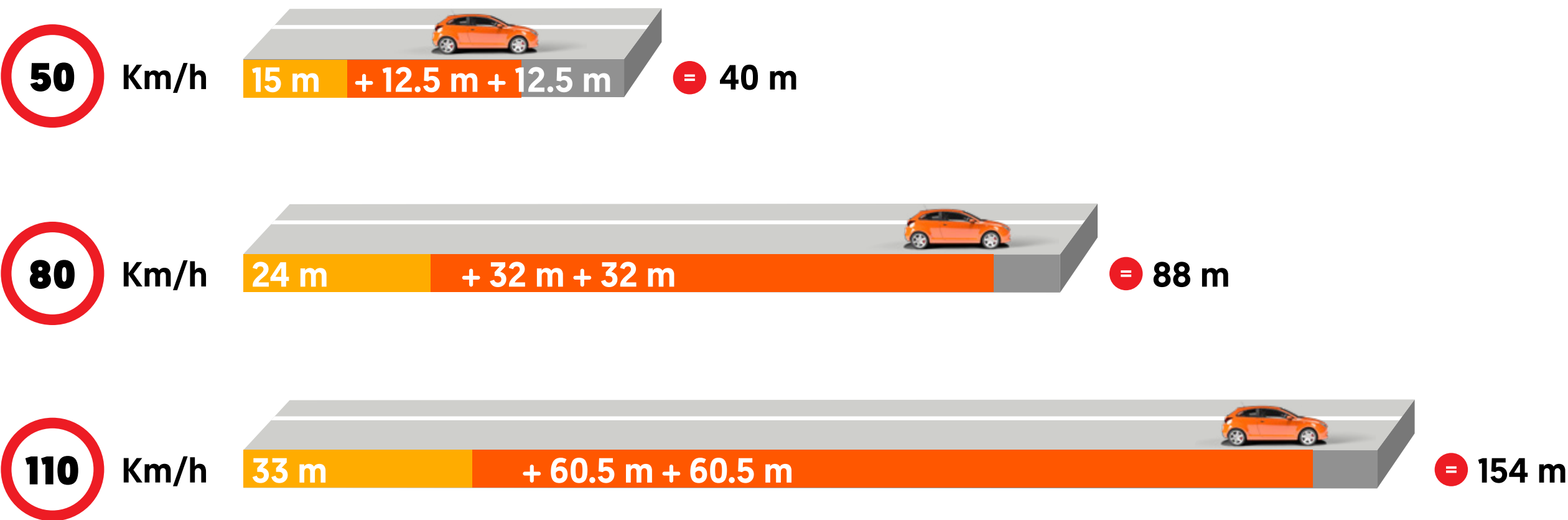


Your driving style must always be adapted to the weather conditions. This means that in case of rain, fog, strong wind, snow or ice, you must **slow down and increase your safety distance** from the vehicle in front of you.

In addition, in case of bad weather, authorised speed limits are reduced.

In Luxembourg, the maximum speed limit on motorways is reduced from 130 km/h on dry roads to 110 km/h in wet weather. So slow down!

On a wet road, braking distances can double.



Rain

Rain reduces tyre grip on the road surface:

- Braking distance increases.
- Vehicles have less road holding in bends.
- The wheels may skid if you start off too quickly.

Some tips in case of rain or wet roads:

- Slow down to reduce braking distance and prevent aquaplaning.
- Increase the safety distance between your vehicle and the one in front of you.
- Switch on your dipped-beam headlights.
- Always keep your windscreen wipers in good condition.



Drive to weather conditions



In case of snow or ice

- Clear snow or ice from windows, mirrors, lights and number plates.
- Also remove snow from the roof and bonnet of the vehicle.
- Switch on your headlines.
- Adjust your speed to the reduced road grip and increase your safety distance.
- Avoid sudden acceleration and braking.

In case of fog

- You must be able to stop your vehicle within the limits of the existing visibility zone, hence the need to adjust your speed to reduced visibility. Do not exceed 50 km/h if visibility is less than 50 m.
- If the vehicle is equipped with fog lights, use them and remember to turn them off as soon as the fog lifts.
- If you are following a car, keep a considerably increased safety distance, especially if you cannot see beyond that vehicle.
- In case of dense fog, driving requires greater attention. Visual and cognitive tiredness quickly sets in. It is advisable to take more frequent breaks.
- Do not overtake in fog as it conceals obstacles and makes it very hard to judge distances.

In case of wind

- To limit the effects of wind, slow down and firmly hold the steering wheel (some vehicles such as vans are light and have a low wind resistance, so be careful!).
- When overtaking a two-wheeled vehicle, leave extra space to the side to prevent any sudden changes in direction that the rider may take due to gusts of wind.



Drive to weather conditions



Automatic headlight activation

Most drivers use an automatic headlight system. However, depending on weather conditions, automatic headlight activation may not work properly.

Therefore, in foggy conditions, fog lights must be switched on manually. Most automatic lighting systems do not yet offer automatic activation.

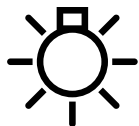
Similarly, at dawn or in case of rain or snowfall during the day, the lights may not be activated by the automatic system, which may pose a safety risk.

Use of fog lights

Front fog lights should only be switched on in fog or similar conditions with poor visibility, such as heavy rain.

The same applies to rear fog lights, which must be switched on when visibility is less than 50 metres, in order to signal to other traffic users that your vehicle is on the road.

Do not forget to switch off these lights as soon as the fog clears. Rear fog lights must also be switched off when another vehicle is following closely behind you.

	Position lights	Dipped- beam headlights	Main headlights	Front fog lights	Rear fog lights
					
When parked with poor visibility	✓				
In lit built-up areas		✓			
In unlit built-up areas		✓	or ✓		
On a lit road [outside built-up areas]		✓			
On an unlit road		✓	or ✓		
Rain		✓		✓*	✓
Snow		✓		✓*	✓
Fog		✓		✓	✓

* In heavy rain or snowfall

