



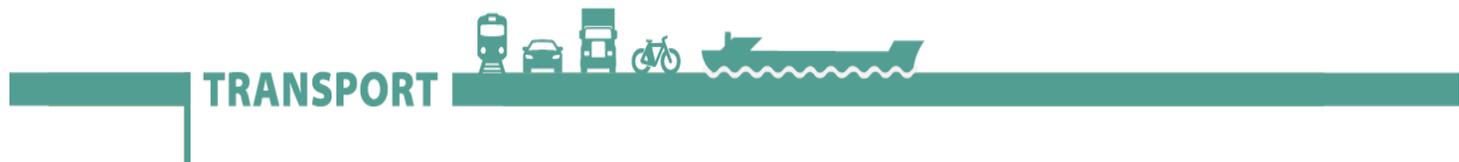
# Use of safety belts on rear seats

## UN Regulation No. 16 (Safety-belts)

### World Forum for Harmonization of Vehicle Regulations (WP.29)

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# Safety-belts

## UN Regulations No. 16



# Safety-Belts (UN Regulation No. 16)

## How safety-belts work

- **Safety-belts** are intended for individual fittings, by persons occupying forward-facing, rearward-facing and side-facing seats, designed for installation in any category of vehicles.
- **It is an arrangement of straps** with a securing buckle, adjusting devices and attachments capable of being anchored to the interior of a vehicle and is designed to diminish the risk of injury, in the event of collision or deceleration, by limiting the mobility of the wearer's body.
- **Such arrangement is a "belt assembly"**, which embraces any device for absorbing energy or for retracting the belt:
  - **Tension-reducing** device which is incorporated in the retractor and reduces the tension of the strap automatically when the safety-belt is fastened.
  - **Pre-loading** device which tightens the seat-belt webbing in order to reduce the slack of the belt during a crash sequence.

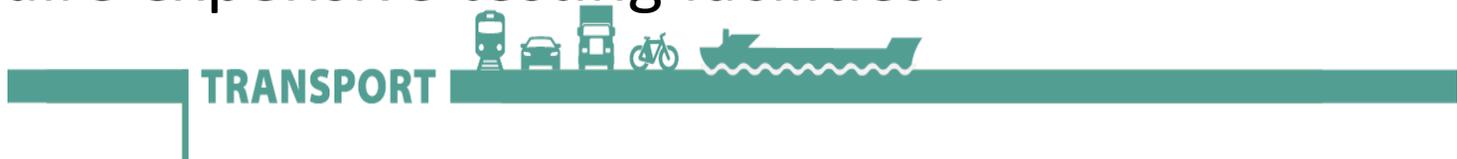


# Tests

**All tests are based on performance requirements:**

- Safety-belts are required for the buckle inspection;
- Low-temperature buckle test;
- Buckle durability test;
- Corrosion test;
- Retractor operating tests;
- Dynamic test and the buckle-opening test after the dynamic test.

All the performance tests are simple and do not require expensive testing facilities.



# Why safety-belts are so important

## Here are top 4 reasons why wearing a safety-belt saves lives:

1. Passengers in a vehicle who are not wearing a seat belt can become projectiles during an accident. Unbuckled passengers can very easily be ejected through the front, rear or side windows, resulting in death.
2. Passengers in the rear seat of an automobile who use safety belts are 44% more likely to survive in crash. The percentage increases to 73% for rear seat passengers in Vans or SUV vehicles.
3. In 2014, according to NHTSA, there were 9,385 fatalities on US roads due to unbuckled passenger vehicle occupants.
4. Wearing a safety-belt prevents passenger ejection during a severe accident that involves a rollover. The chances of surviving this type of accident increases 45% when wearing a proper safety restraint device. In pickup trucks, that number increases to 60%.



# Why wearing safety-belts on rear-seats?



- In the event of a high-velocity impact, the unbelted rear passenger can turn into a deadly 'bullet' fired at the driver or passenger in the front seats.
- UN Regulation No. 16 requires that safety-belts are supported by a "Safety-belt reminder": a system dedicated to alert the driver when any of the occupants do not use the safety-belt.
- The system is established by a detection of an unfastened safety-belt and by two levels of driver's alert.



# How do I recognize UN Regulation No. 16 compliant safety-belt?

- The safety-belt must carry the type approval mark on the buckle tongue.
- A type-approved safety-belt shall display a capital E in a circle followed by a number that represents the country whose certified authority granted its approval.
- This is followed by a series of numbers and letters representing specifics of the type approval, approval number and production serial number.



# Type-approved safety-belts can be easily identified by their label.

- Type approval markings are placed on the attachment
- shank, or with a tag or on the buckle tongue:
- **e.g. buckle tongue:**
- **E** = UN Regulation No. 16 certified by **1** = German
- authority;
- **06 1869** = UN Regulation No. 16+**06** series of
- amendments
- + Approval Number **1869** issued in Germany
- **ZAer4mp** = The belt bearing the above approval
- mark is part of a restraint system ("**Z**") is a three-point
- belt ("**A**") type **4** with a multiple-sensitivity ("**m**") with
- pretensioner ("**p**")
- This safety-belt must be fitted to a vehicle equipped
- with an **airbag** in the given seating position.



# Facts and myths about safety-belt use

*Myth: Safety-belts hamper occupants to evacuate passenger compartment after a crash*

**Fact:** Being buckled up during a crash helps keep you safe and secure inside your vehicle; being completely ejected from a vehicle is almost always deadly.

*Myth: Air bags are enough to protect occupants*

**Fact:** Only the teamwork of the seat belt together with an airbag provides the protection, the restraint system is developed for. Both systems independently from each other can only provide a part of the job, which is essential to be protected and finally to survive a severe impact.

*Myth: Safety-belts are dangerous for pregnant women and the baby*

**Fact:** Safety-belts are unharmed to the fetus, on the contrary, they considerably reduce the risks in the event of an accident. The airbag alone is not enough, but the combined action of the two safety systems can reduce the danger to the mother and the baby she is carrying.

*Myth: Safety-belts break bones of elderly people during sudden deceleration*

**Fact:** Most of vehicles provide load-limiters devices on their safety-belt systems. It is a device which is incorporated in the retractor and reduces the tension of the strap automatically on chest, shoulder and neck of vehicle occupants during an impact.

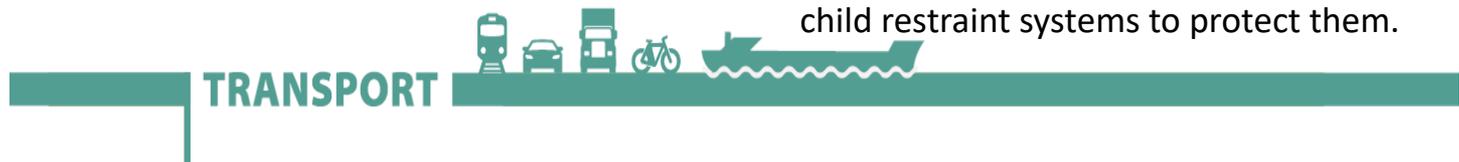
UN Regulation No. 94 tests biomechanical criteria during a front crash test, where the dummies wear the seatbelts, in order to reduce or eliminate fractures to elderly occupants.

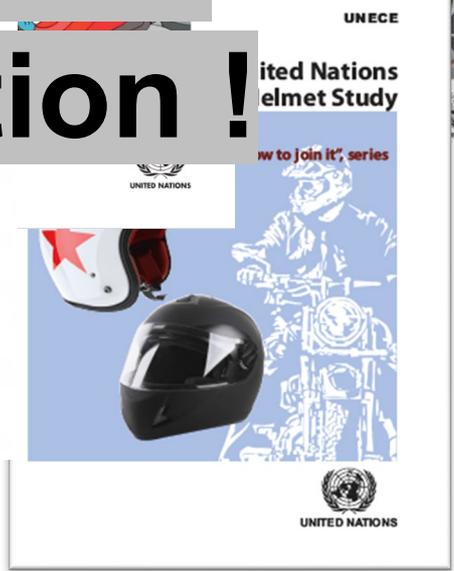
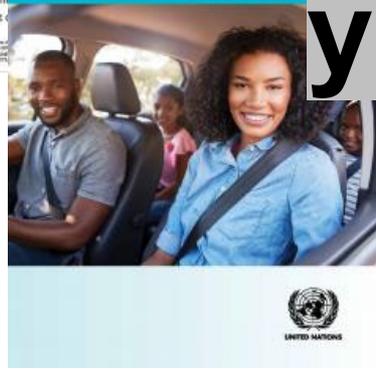
*Myth: Wearing safety-belts under the arm or travelling in a reclined seat is comfortable and safe*

**Fact:** Such behaviour in case of crashes or sudden deceleration when traveling at 50 km/h may cause injuries to the liver, spleen and abdomen and then lead to death or serious disabilities.

*Myth: Children may wear safety belts instead of a child restraint system*

**Fact:** Safety belts are designed to restrain adult occupants and do not necessarily accommodate children's anatomy, which would likely to lead to serious or fatal injuries. It is essential to use approved child restraint systems to protect them.





**Thank you for  
your attention !**

October 13, 2022

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