



Use of Child Restrain Systems

UN Regulations Nos. 44 (Child Restraint Systems) and UN Regulation No. 129 (Enhanced Child Restraint Systems)

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

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Child Restraint Systems

UN Regulations
Nos. 44 and 129



Why to use Child Restraint Systems

- Child restraint systems (CRS) have had a significant safety impact as well. The Norwegian Traffic Safety Handbook (Høye, 2020) provides an example, of a simplified utility cost analysis to approximate the number of child injuries avoided annually thanks to the use of approved child safety equipment.
- The costs incurred to achieve today's level of use of CRS equipment and the socio-economic benefit stemming from the harm-reducing effect of child safety equipment.
- The effect is calculated under the following preconditions: In the years 2008-2012, an average of 10.4 of children aged 0-10 were killed, 8.2 were severely injured and 258.4 were slightly injured (applies only to children who were passengers in light vehicles).
- The applied model assumed that the statutory use of child safety equipment reduces the risk of fatalities by 40 per cent, the risk of severe injury by 35 per cent and the risk of minor injuries by 20 per cent.
- If in 95 per cent of the cases CRS were for transporting children in cars, according to the model, 6.4 deaths, 4.1 severe injury and 60.6 slight injuries would be avoided.



Always use a child restraint system when transporting your child in a car.

- ❑ Babies and toddlers have – compared to older children and adults – weaker neck muscles carrying a relatively large and heavy head in relation to their body.
- ❑ To reduce the risk of severe injuries in the case of crashes or emergency braking, it is important that this group of children is transported against the driving direction for as long as possible.
- ❑ Most of national or regional legislation requires the use of child restraint systems for the transport of children up to a certain age or height



Use and misuse of child restraint systems

- ❑ Where the use of child restraint systems is required by law, a high rate of use of these systems can be observed at least for children up to 1 year of age.
- ❑ The rate of use is drastically reduced especially as of the age of 5 years.
- ❑ High rates of improperly installed universal child restraint systems or even unsecured children in a child restraint system have been observed.
- ❑ Child restraint systems using ISOFIX anchorages for their installation reduce the possibility for misuse or improper installation
- ❑ Air-bags have to be deactivated when using a rear facing child restraint system in the first row



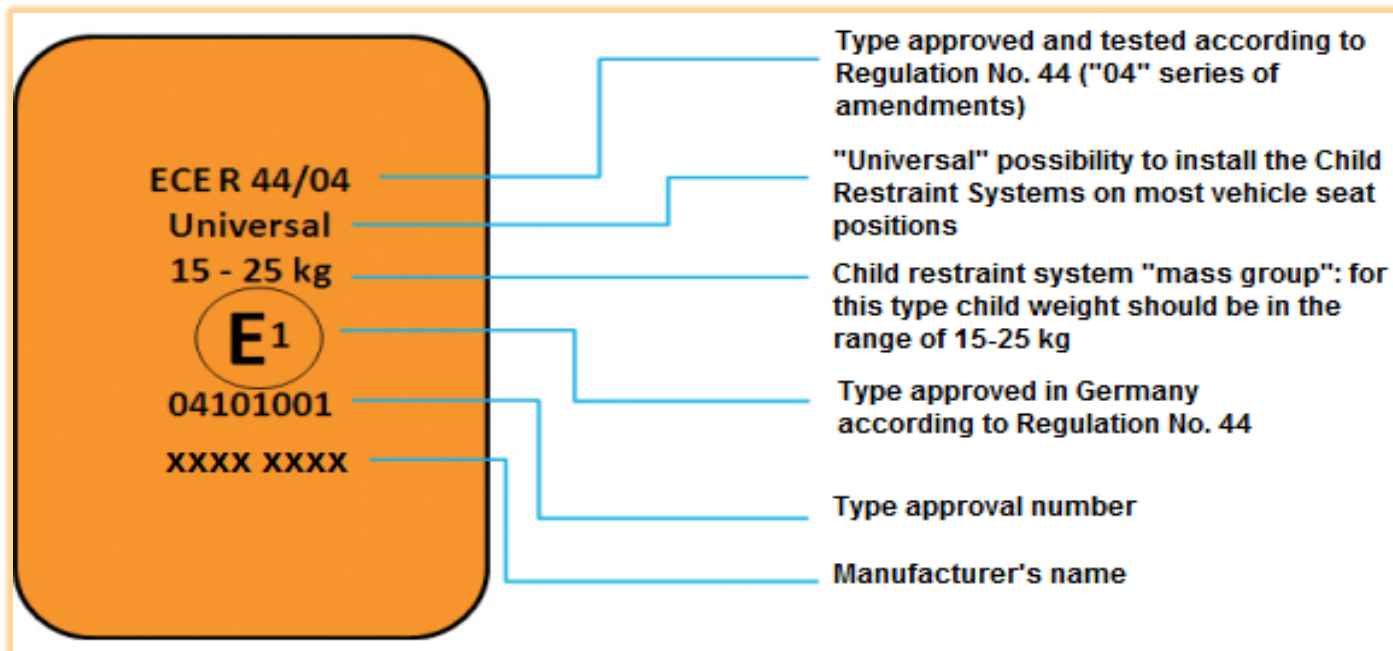
UN Regulation No. 44

- ❑ Child restraint systems approved under UN Regulation 44 are classified into five weight groups. For children up to 13 kg they are rearward facing. For the groups up to 18 kg these child restraint systems have integrated harness system or impact shield.
- ❑ The groups for heavier children up to 36 kg mostly use the vehicle's safety-belt for restraining.



Type approval markings – UN Reg. 44

An approved child restraint system can easily be identified by its label:



UN Regulation No. 129

Regulation
No. 44

Regulation
No. 129

Classification based on
weight (mass groups)

Use of old test dummies

Forward facing possible >
9 kg (9 months)

Protection against side
impact

No forward facing before
15 months

Universal (Support leg or
top tether)

Choose like a cloth: on
stature and mass

***Use only child restraint systems
that are approved according to
UN Regulation No. 44 or UN
Regulation No. 129***



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Type approval markings – UN Reg. 129

The diagram shows a rounded orange rectangle representing a type approval marking. The text inside the rectangle is as follows:

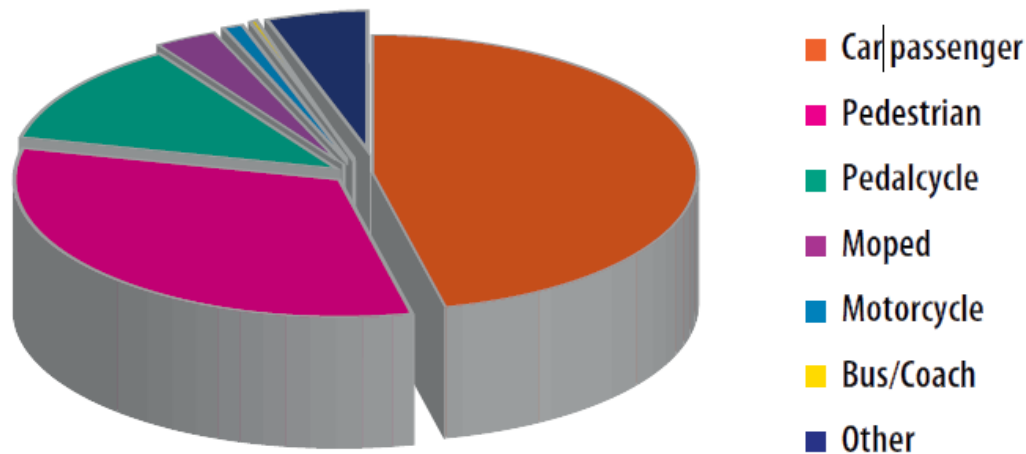
- Top line: i-Size universal ISOFIX
- Second line: 40cm – 70cm / ≤ 24kg
- Third line: A circle containing the letter 'E' with a subscript '1' (E₁)
- Fourth line: 002439
- Fifth line: UN-Regulation No. 129/00

Five blue lines with brackets point from the text on the right to the corresponding parts of the marking:

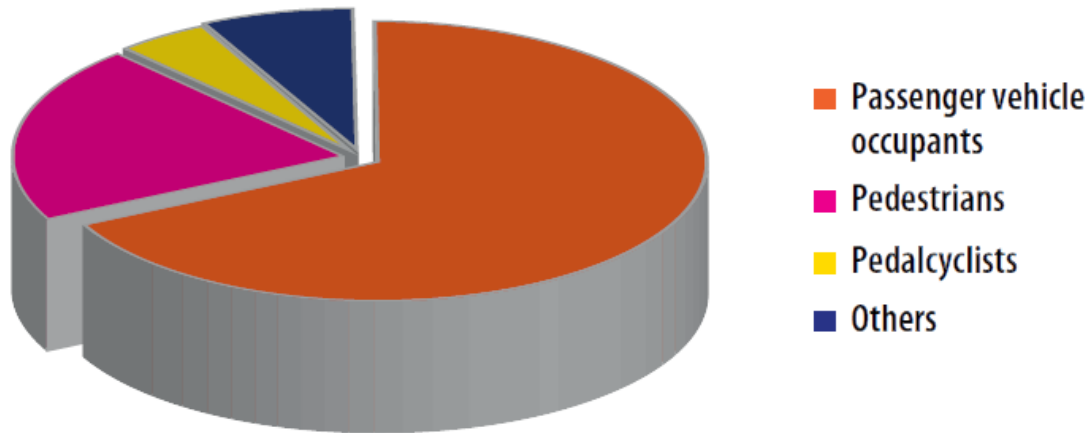
- Line 1: Category name, size and weight indication (i-Size universal ISOFIX, in this example ranging from 40 to 70 cm and a weight smaller or equal to 24 kg)
- Line 2: The letter “E” in a circle and the country code of the state responsible for approval (e.g. “1” for Germany)
- Line 3: Approval number (00 for the series of amendments with subsequent approval number, in this example: “2439”)
- Line 4: The designation of the Regulation 129 including the series of amendments (here: 00)

The scale of children safety in road traffic

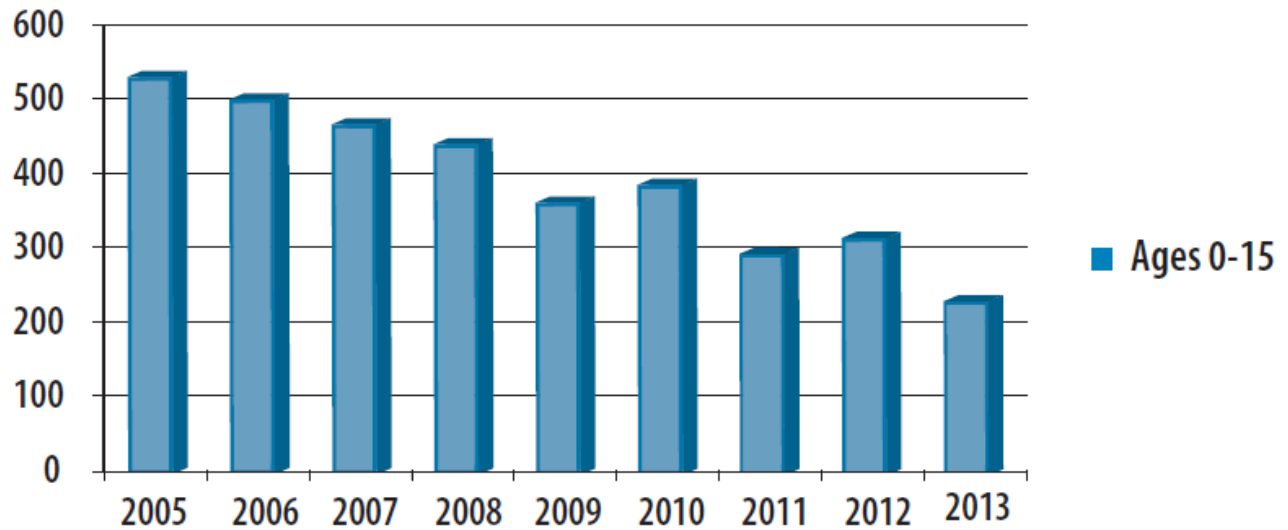
European Union 2010: Nearly half of all children aged 0-15 killed in road crashes ¹ were car passengers, 32 per cent were pedestrians, while 12 per cent were pedalcyclists.

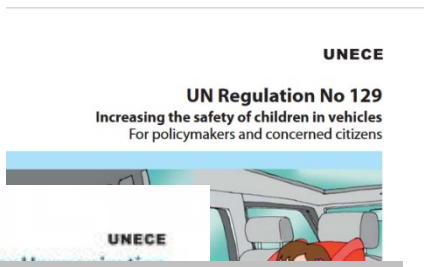


United States, 2013: 1,149 children aged 14 and younger died in road traffic accidents: 776 passenger vehicle occupants, 236 pedestrians and 52 pedalcyclists⁴.



Evolution of child fatalities in the EU (source: Eurostat)





Thank you for your attention !



October 13, 2022

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