

# **UN Regulation No 129**

## **Increasing the safety of children in vehicles**

For policymakers and concerned citizens





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## United Nations Economic Commission for Europe

The United Nations Economic Commission for Europe (UNECE) is one of the five United Nations regional commissions, administered by the Economic and Social Council (ECOSOC). It was established in 1947 with the mandate to help rebuild post-war Europe, develop economic activity and strengthen economic relations among European countries, and between Europe and the rest of the world. During the cold war, UNECE served as a unique forum for economic dialogue and cooperation between East and West. Despite the complexity of this period, significant achievements were made, with consensus reached on numerous harmonization and standardization agreements.

In the post-cold-war era, UNECE acquired not only many new member States, but also new functions. Since the early 1990s the organization has focused on analyzing the transition process, using its harmonization experience to facilitate the integration of Central and Eastern European countries into the global markets.

UNECE is the forum where the countries of Western, Central and Eastern Europe, Central Asia and North America – 56 countries in all – come together to forge the tools of their economic cooperation. That cooperation concerns economics, statistics, environment, transport, trade, sustainable energy, timber housing and land management. UNECE offers a regional framework for the elaboration and harmonization of conventions, norms and standards. The experts of UNECE provide technical assistance to the countries of South-East Europe and the Commonwealth of Independent States. This assistance takes the form of advisory services, training seminars and workshops where countries can share their experiences and best practices.

## Transport in UNECE

The UNECE Sustainable Transport Division is the secretariat of the Inland Transport Committee (ITC) and the ECOSOC Committee of Experts on the Transport of Dangerous Goods and on the Globally Harmonized System of Classification and Labelling of Chemicals. The ITC and its 17 working parties, as well as the ECOSOC Committee and its sub-committees are intergovernmental decision-making bodies that work to improve the daily lives of people and businesses around the world, in measurable ways and with concrete actions, to enhance traffic safety, environmental performance, energy efficiency and the competitiveness of the transport sector.

The ECOSOC Committee was set up in 1953 by the Secretary-General of the United Nations at the request of the Economic and Social Council to elaborate recommendations on the transport of dangerous goods. Its mandate was extended to the global (multi-sectoral) harmonization of systems of classification and labelling of chemicals in 1999. It is composed of experts from countries which possess the relevant expertise and experience in the international trade and transport of dangerous goods and chemicals. Its membership is restricted in order to reflect a proper geographical balance between all regions of the world and to ensure adequate participation of developing countries. Although the Committee is a subsidiary body of ECOSOC, the Secretary-General decided in 1963 that the secretariat services would be provided by the UNECE Transport Division.

ITC is a unique intergovernmental forum that was set up in 1947 to support the reconstruction of transport connections in post-war Europe. Over the years, it has specialized in facilitating the harmonized and sustainable development of inland modes of transport. The main results of this persevering and ongoing work are reflected, in among other things, (i) 58 United Nations conventions and many more technical regulations, which are updated on a regular basis and provide an international legal framework for the sustainable development of national and international road, rail, inland water and intermodal transport, including the transport of dangerous goods, as well as the construction and inspection of road motor vehicles; (ii) the Trans-European North-south Motorway, Trans-European Railway and the Euro-Asia Transport Links projects, that facilitate multi-country coordination of transport infrastructure investment programmes; (iii) the TIR system, which is a global customs transit facilitation solution; (iv) the tool called For Future Inland Transport Systems (ForFITS), which can assist national and local governments to monitor carbon dioxide (CO<sub>2</sub>) emissions coming from inland transport modes and to select and design climate change mitigation policies,

based on their impact and adapted to local conditions; (v) transport statistics – methods and data – that are internationally agreed on; (vi) studies and reports that help transport policy development by addressing timely issues, based on cutting-edge research and analysis. ITC also devotes special attention to Intelligent Transport Services (ITS), sustainable urban mobility and city logistics, as well as to increasing the resilience of transport networks and services in response to climate change adaptation and security challenges.

In addition, the UNECE Sustainable Transport and Environment Divisions, together with the World Health Organization (WHO) – Europe, co-service the Transport Health and Environment Pan-European Programme (THE PEP).

Finally, as of 2015, the UNECE Sustainable Transport Division is providing the secretariat services for the Secretary General's Special Envoy for Road Safety, Mr. Jean Todt.

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*Inland Transport Committee (ITC) –  
Centre of United Nations Transport Conventions*

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## Introduction

To reduce the risk of severe injuries in the case of accidents, it is important that babies and toddlers are transported opposite the driving direction for as long as possible. Compared to older children and adults, they have weaker neck muscles carrying a relatively large and heavy head. A premature change into a forward-facing Child Restraint System (CRS) increases the risk of severe injury to the cervical spine in case of accidents.

A rearward facing CRS is too small if the child's head is on the same height or above the upper edge of the shell, or if the child has exceeded the weight approved for the group. The use of a rearward facing CRS on a vehicle seat with activated passenger airbag is prohibited by law due to the danger to the child.

It is suggested that the vehicle manual is consulted in order to determine whether a CRS may be placed on the passenger seat and how the airbag can be deactivated, if necessary.

The new UN Regulation No. 129, also known as "i-Size Regulation", has been developed in order to better address issues such as the one described above. It has been developed by the Working Party on Passive Safety (GRSP), a subsidiary body of the World Forum for Harmonization of Vehicle Regulations (WP.29) of the United Nations Economic Commission for Europe (UNECE), with the aim of enhancing child safety in Europe. The development of the technical contents of the UN Regulation has been dealt with by an Informal Working Group of GRSP, led by France, gathering experts from ministries of transport, research institutions, technical services, consumer testing and industry.

After the adoption of the new UN Regulation No. 129 (i-Size) by UNECE/WP.29, annexed to the 1958 Agreement in November 2012, and coming into force on 9 July 2013, Contracting Parties of the 1958 Agreement and Non-Governmental Organizations (NGOs) addressed journalists, professionals, manufacturers of CRSs and consumers/parents to provide more information.

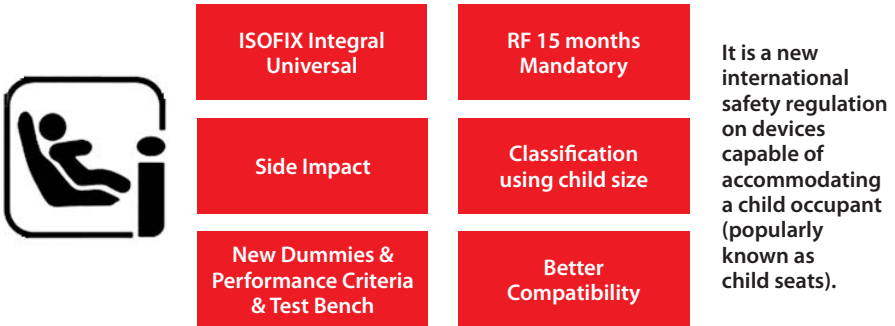
## The i-Size UN Regulation

The main aim of the new regulation is to create a “plug and play” universal ISOFIX CRS that matches a corresponding seating position in the vehicle. CRSs that are produced based on the new “i-Size” Regulation provide the following major improvements for the transport of children in cars:

- The Regulation provides for the rear-facing position of children up to a minimum of 15 months, instead of 9 months in the current regulation. This will offer better protection for the developing head and neck of babies and toddlers by requiring children to be transported rearward facing until 15 months of age.
- The introduction of a side impact test procedure which will lead to better protection of the child’s head especially for younger children. Until today, there was no dynamic test requirement for lateral impacts.
- New generation dummies which more closely represent the actual effects of a crash on the body of real children.
- Fewer installation options with ISOFIX only, which results in a lower risk of the seat being incorrectly fitted in the car. A simplified guide to choosing the right seat for the child, by using the height of the child as the only guideline.
- Better compatibility between the car and the CRS: “i-Size” CRS will fit in any “i-Size” ready seating position in a car (a vehicle fitting list will no longer be required). Both the CRS and the seating position can be recognised by the “i-Size” logo.



## The 6 pillars of UN Regulation No. 129 (i-Size)



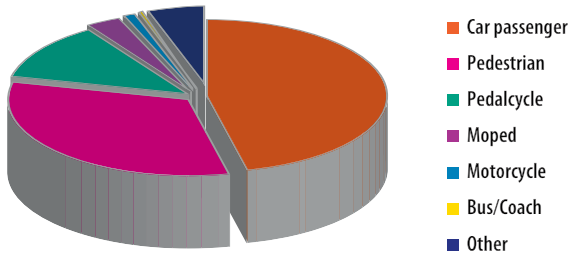
The phases, including the current state, of the “i-Size” UN Regulation are:

- **Phase 1 (i-Size):** Integral harness ISOFIX (CRS for younger children, ISOFIX attached) - Finalised and adopted by WP.29 in November 2012, came into force on 9 July 2013.
- **Phase 2:** Non-integral CRS (booster seats [and booster cushions]) (CRS for older children) - Under development.
- **Phase 3:** Belted integral harness CRS - is still an open cogitation and under discussion.

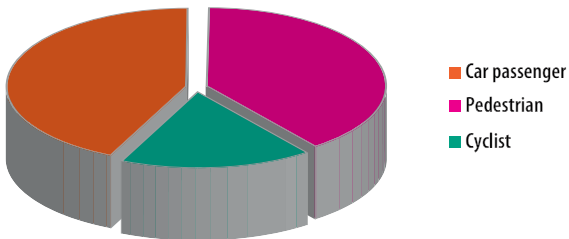
Since the new “i-Size” does not permit forward - facing transport before 15 months, if parents buy the new “i-Size” seat as of summer 2013, they will use it until their child is at least 15 months old in the rearward facing position.

## The scale of children safety in road traffic

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



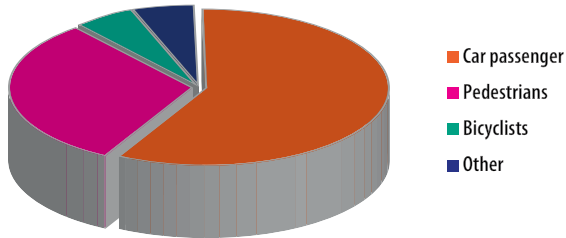
**Germany, 2013:** 4,406 children under the age of 15 were severely injured (KSI) in road traffic in Germany, 1,200 of which in passenger car accidents. Of the 58 child fatalities in road traffic accidents, 28, or 43 per cent, occurred in passenger car transport (see chart below)<sup>2</sup>.



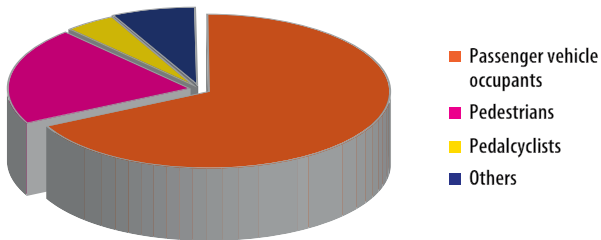
<sup>1</sup> European Commission - [http://ec.europa.eu/transport/road\\_safety/pdf/statistics/dacota/bfs2012\\_dacota-trl-children.pdf](http://ec.europa.eu/transport/road_safety/pdf/statistics/dacota/bfs2012_dacota-trl-children.pdf)

<sup>2</sup> German Federal Statistical Office

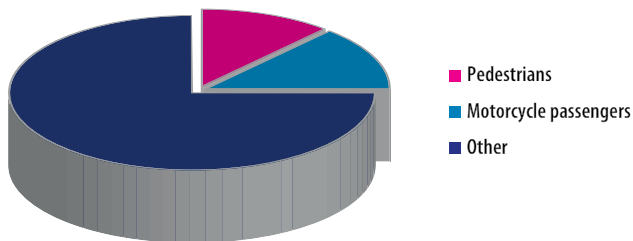
**Russian Federation, 2015 (January until December):** 19,219 children (under 16 years of age) were injured accidents. 8,992 of the injured were car passengers. Of the 686 road traffic fatalities (see chart below), 397 children were killed as car passengers, 214 as pedestrians and 39 as bicyclists<sup>3</sup>.



**United States, 2013:** 1,149 children aged 14 and younger died in road traffic accidents: 776 passenger vehicle occupants, 236 pedestrians and 52 pedalcyclists<sup>4</sup>.



**Uruguay, 2014:** 60 children (0-19 years old) were killed in road crashes and 5,951 were injured. 8 of the fatalities occurred as motorcycle passengers and 7 as pedestrians<sup>5</sup>.

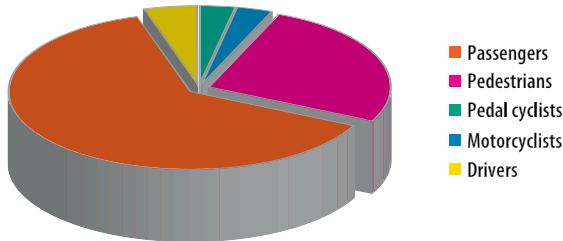


<sup>3</sup> Russian Federation Traffic Police - <http://www.gibdd.ru/stat/>

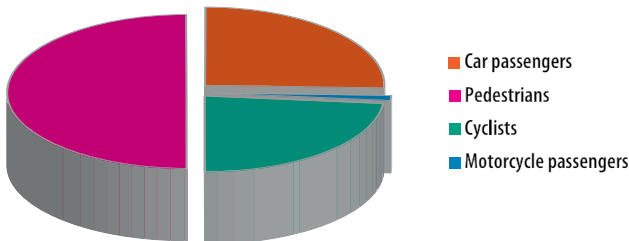
<sup>4</sup> U.S. Department of Transportation National Highway Traffic Safety Administration - <http://www-nrd.nhtsa.dot.gov/Pubs/812154.pdf>

<sup>5</sup> National Road Safety Unit of Uruguay (UNASEV)

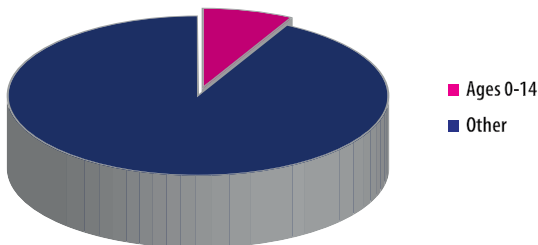
**Australia, 2014:** The road crash fatalities were 65 in the age group 0-16 years. Out of the 65 victims, 41 were car passengers, 17 were pedestrians, 3 were car drivers, 2 were motorcyclists, and 2 were pedal cyclists<sup>6</sup>.



**Japan, 2013:** 94 children under the age of 15 were killed in traffic accidents: 47 pedestrians, 24 car passengers, 22 cyclists and one motorcycle passenger<sup>7</sup>.



**India, 2013:** A total of 5,760 children younger than 15 years of age died in traffic accidents. This figure represents 7.1 per cent of the total 80,676 road accident fatalities (excluding drivers)<sup>8</sup>.

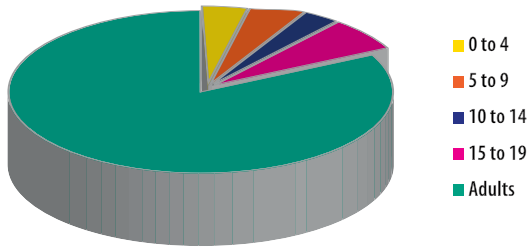


<sup>6</sup> Australian Government, Department of Infrastructure and Regional Development, Bureau of Infrastructure, Transport and Regional Economics [https://bitre.gov.au/publications/ongoing/files/Road\\_trauma\\_Australia\\_2014\\_statistical\\_summary\\_N\\_ISSN.pdf](https://bitre.gov.au/publications/ongoing/files/Road_trauma_Australia_2014_statistical_summary_N_ISSN.pdf)

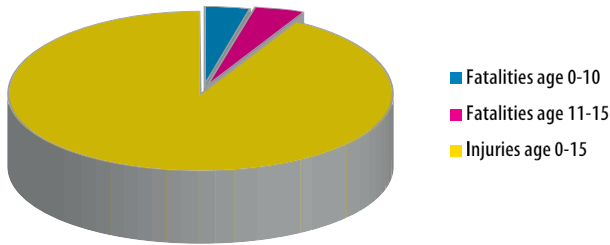
<sup>7</sup> National Police Agency of Japan - <https://www.npa.go.jp/toukei/koutuu48/toukeienglish.htm>

<sup>8</sup> Government of India - Ministry of Road Transport and Highways <http://morth.nic.in/writereaddata/mainlinkFile/File1465.pdf>

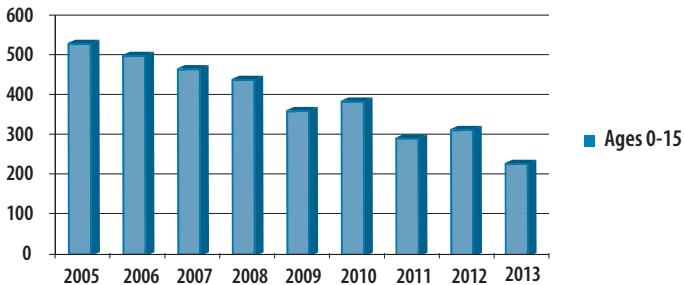
**South Africa, 2010-2011:** 17.5 per cent of the total traffic fatalities were children aged 19 and younger<sup>9</sup>.



**The Sultanate of Oman, 2012:** 122 children (age 0-15) lost their lives in road accidents and 1,510 were injured<sup>10</sup>.



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



<sup>9</sup> Republic of South Africa, Department of Transport Road Traffic Report March 2011 <https://www.arrivealive.co.za/documents/March%202011%20Road%20Traffic%20Report.pdf>

<sup>10</sup> Oman Royal Police, Directorate General of Traffic - [http://issuu.com/salimsalimah/docs/oman\\_road\\_traffic\\_accident\\_2012\\_rotated](http://issuu.com/salimsalimah/docs/oman_road_traffic_accident_2012_rotated)

## What is the legal situation in the world

**EU:** Council Directive 91/671/EEC related to the compulsory use of safety belts and child-restraint systems in vehicles, as amended by Directive 2014/37/EC, whereby children less than 135 cm or 150 cm in height (depending on the country) occupying M<sub>1</sub>, N<sub>1</sub>, N<sub>2</sub> and N<sub>3</sub> vehicles shall be restrained by an integral or non-integral child-restraint system, suitable for the child's physical features. Where a child-restraint system is used, it shall be approved to the standards of UN Regulation No. 44/03 or UN Regulation No. 129 or any subsequent adaptation thereto. EU Member States are allowed to decide the height limit of 135 cm or 150 cm, so this differs from country to country, and they can apply some other exceptions to the general rules, for example for children travelling in taxis.

**Germany:** All children younger than 12 years, who are shorter than 150 cm, must be transported in an appropriate CRS, approved in accordance with the UN Regulations Nos. 44/03 or 129 or any amendments to these UN Regulations.

**Japan:** CRSs must be used for child vehicle passengers under the age of 6.

**Russian Federation:** Children under 12 years old and shorter than 150 cm must be carried in a child restraint device, in conformity with UN Regulation No. 44 series 04. According to the prevailing national legislation of the Russian Federation<sup>11</sup>, the transport of children is allowed with the condition of ensuring their safety by taking into account features from the design of the vehicle.

The transport of children up to 12 years old in vehicles equipped with seat belts should be carried out with the use of child restraints corresponding to the weight and growth of the child, or other means allowing to restrain the child by means of the seat belts provided with the vehicle design. Placing children in the front seat is only allowed with the use of child restraints<sup>12</sup>. It is forbidden to transport children under 12 years old in the back seat of a motorcycle.

<sup>11</sup> Government Decree of 14.12.2005 N767

<sup>12</sup> Decree of the Government of the Russian Federation of 10.05.2010 N316

**United States:** In the U.S., State laws specify how children are to be transported in motor vehicles. Typically, children under a certain age are required to be restrained in a Federal Motor Vehicle Safety Standards (FMVSS) No. 213, “Child Restraint Systems” compliant CRS or booster seat. The age which the child is required to be restrained in a CRS or booster seat varies by State and it typically ranges from 4 to 8 years old. Most states require children that are no longer required to be transported in a CRS or booster seat, to use a seat belt. Some states require children under a certain age, which varies by state, to be restrained in the rear seat<sup>13</sup>.

**Uruguay:** The use of child restraint seats is mandatory according to the National Traffic and Road Safety Law (number 19,601) and its decree (number 81/014) for implementing the Law.

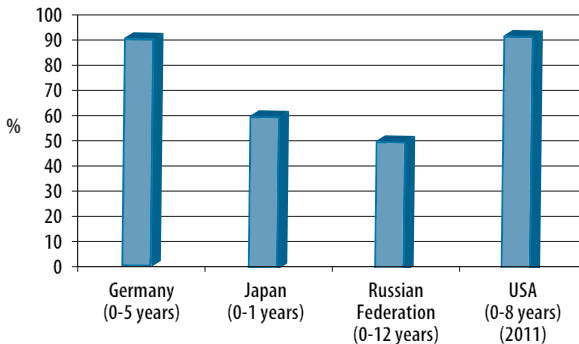


<sup>13</sup> For more specific information on State laws in the U.S. regarding child seat use, see the following summary provided by the Insurance Institute of Highway Safety: <http://www.iihs.org/iihs/topics/laws/safetybeltuse?topicName=Safety%20belts#tableData>.

## Use and misuse of Child Restraint Systems

### Use of Child Restraint Systems (2013):

**European Union:** Example of Germany.



The figures of the German Federal Highway Research Institute (BASt) from 2013 show a use of CRS in vehicles in built-up areas at 82 per cent. When looking at children up to an age of five years, this figure is 90 per cent<sup>14</sup>.

**Japan:** The survey from April 2013 of the National Police Agency/JAF, showed that CRS use in Japan is at approximately 60 per cent of respondents<sup>15</sup>.

**Russian Federation:** According to the survey of the All-Russian Public Opinion Research Center (April 2013), only 51 per cent of respondents use child restraints when transporting children.

**United States:** According to the National Child Restraint Use Special Study (NCRUSS) - a national survey conducted by NHTSA in 2011- observing the use of CRSs and booster seats for child passengers (ages 0-8 years) in 4,167 vehicles, 94 per cent of children were restrained in a CRS or booster seats, 4 per cent were restrained in a seat belt, and 2 per cent were unrestrained<sup>16</sup>.

<sup>14</sup> Source: BASt; Forschung kompakt 11/14

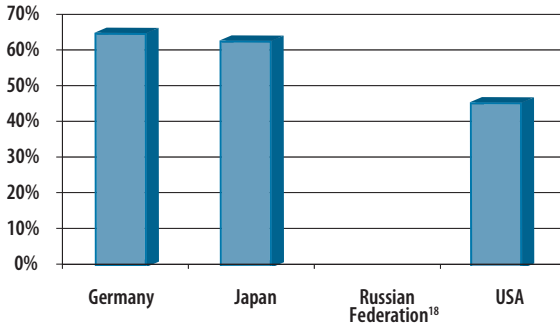
<sup>15</sup> 2013 survey by the National Police Agency of Japan/JAF

<sup>16</sup> Link to NCRUSS report: <http://www-nrd.nhtsa.dot.gov/Pubs/812142.pdf>



## Misuse of Child Restraint Systems (CRS not correctly fitted) (2013):

**European Union:** Example of Germany.



Studies on misuse, however, showed that only 35 per cent of these children are secured correctly in the CRS. Incorrect use of the CRS can drastically reduce the protective capability<sup>17</sup>.

**United States:** According to the National Child Restraint Use Special Study (NCRUSS), the overall CRS and booster seat misuse was 46 per cent. The misuse rate was 61 per cent for forward-facing CRSs, 49 per cent for rear-facing infant CRSs, 44 per cent for rear-facing convertible CRSs (CRSs that can be used rear facing and forward facing), 24 per cent for backless booster seats, and 16 per cent for high back booster seats.

### How to overcome this unsatisfactory situation?

A step towards the reduction of misuse is the introduction of the ISOFIX anchorages. ISOFIX is a rigid connection of the CRS and the car via two standardized attachment points. This system facilitates the installation of child seats into the car and reduces potential misuse. In addition, the ISOFIX protective system could have a further anchoring point in the vehicle to prevent the CRS from rotating. In this case, a support leg or a top tether can be used.

<sup>17</sup> Source: BAST; Report M178; 2006

<sup>18</sup> No information available

## Child Restraint Systems according to UN Regulation No. 44

CRSs approved according to UN Regulation No. 44 are divided into five mass groups:

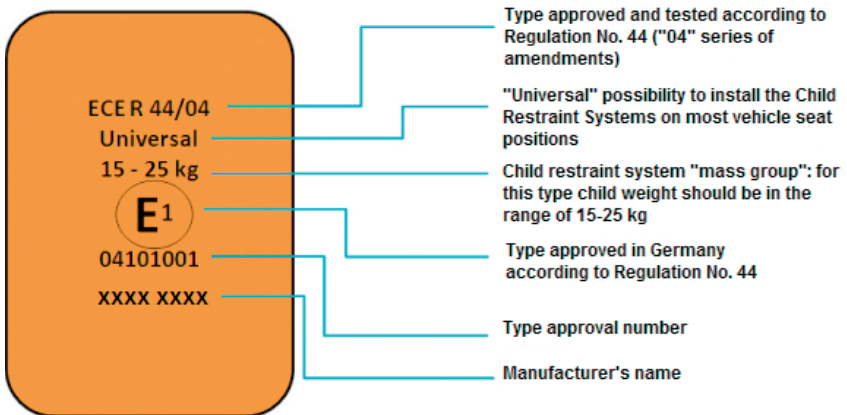
Group	Weight
Group 0	up to 10 kg
Group 0+	up to 13 kg
Group 1	9 to 18 kg
Group 2	15 to 25 kg
Group 3	22 to 36 kg

The CRSs of the groups 0 and 0+ must be rearward facing (or lateral as a carry-cot). The groups 0, 0+ and 1 have an integral harness system or (only for group 1) an impact shield, which holds back the child. In the groups 2 and 3, the child is restrained by the safety belt of the vehicle. ISOFIX for the connection of CRSs to the vehicle is approved for groups 0 to 1.

Weight of child [kg]	9	10	11	12	13	14	15	16	17	18	22	25	36
Age of child	9 months						3 years					6 years	12 years
Group 0	Group 0												
Group 0+	Group 0+												
Group I		Group I											
Group II								Group II					
Group III												Group III	
Integrated restraint system	Integrated restraint system												
Approved for ISOFIX	Approved for ISOFIX												
Rearward facing, sideward facing mandatory	Rearward facing, sideward facing mandatory												

A CRS approved according to UN Regulation No. 44 has a relevant marking. The marking shows the version of the Regulation under which the system was approved (also part of the test number, see the first two digits). Furthermore, it must be indicated for which body weight the CRS is suitable for, the suitability with regard to the vehicle, the country in which the seat was approved as well as the seat manufacturer.

CRSs can be approved universally, i.e. they are suitable for almost all vehicle seats which are approved in accordance with UN Regulations Nos. 14 and 16 (vehicle manual). Semi-universal approved CRSs use (safety) equipment which cannot be used on all vehicle seats. Vehicle-specific CRSs are approved specifically for each vehicle model. For semi-universal and vehicle-specific CRSs, the usability for each seat must be checked by means of the vehicle type list associated with the CRS.



## Child Restraint Systems according to UN Regulation No. 129

Since 09 July 2013, CRSs can be approved in accordance with the new UN Regulation No. 129 for CRSs. The UN Regulation No. 129 simplifies the use of CRSs to minimize the risk of misuse, introducing “i-Size” systems. An “i-Size” CRS is a universal ISOFIX system which is attached in the vehicle using the ISOFIX anchorage points. All “i-Size” CRSs can be used on any vehicle seats suitable for “i-Size”, which are approved according to UN Regulations Nos. 14 and 16. Either a top tether or a support leg can be used as the third anchoring point. Both systems can be used universally on “i-Size” seats. “i-Size” CRSs and vehicle seats with “i-Size” approval are marked with the new symbol.



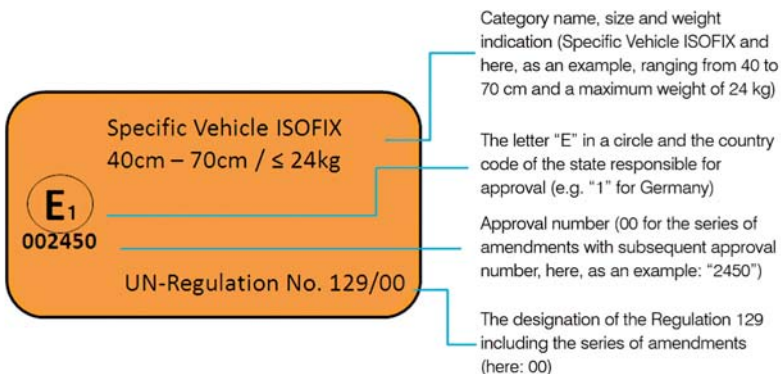
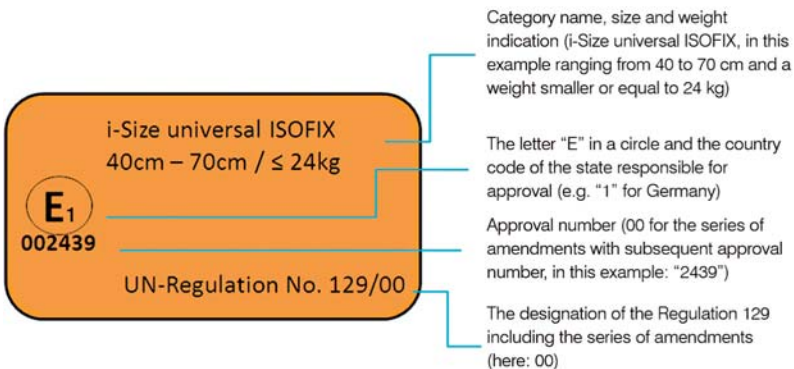
The CRSs are categorized based on size. This means, that the appropriate CRS is chosen according to the body size of the child. The manufacturer determines the sizes approved for the relevant systems and indicates this on the CRS. The inner dimensions of the CRS are checked within the framework of the approval according to UN Regulation No. 129, ensuring usability across the entire designated size range. In addition to the size range, a maximum weight is indicated, up to which the CRS can be used. This way, it is ensured that all safety-relevant components, also vehicle components, are dimensioned for the total weight of the child and CRS.

Children under the age of 15 months must be transported facing rearwards or lateral in seats that are approved according to UN Regulation No. 129. This takes into account the special required protection of the head and neck of babies and toddlers and a too soon change to forward-facing systems is restricted. In addition, the passive safety was improved in UN Regulation No. 129. A dynamic test for side impact is now required for the approval of CRSs.

In addition to the approval as an “i-Size” universal ISOFIX CRS, the UN Regulation No. 129 also offers the option of a vehicle-specific approval. Here, the usability for each seat must be checked by means of the vehicle type list associated with the CRS, or vehicle handbook. This approval is specifically required for CRSs that do not fit in the prescribed space for universal CRSs, for example, larger rearward facing systems.

Size of child [cm]	40	45	50	55	60	65	70	75	80	83	85	90	95	105
From birth to 15 months old, rearward facing, lateral mandatory														
							From 15 months to 105 cm, forward facing possible (observe maximum permitted weight)							
Integrated restraint system														
Universal ISOFIX with top tether or support-leg														

A CRS approved according to UN Regulation No. 129 has a respective marking. In addition to the “i-Size” symbol, universal ISOFIX CRSs have a marking attached on the CRS, which must contain at least the following information:



## Usability of Child Restraint Systems

CRSs can be approved according to UN Regulation No. 44 or UN Regulation No. 129.

- Phase 1 of the UN Regulation No. 129, which has come into force by now, only applies to the integral ISOFIX CRSs, meaning those equipped with its own harness system or an impact shield for restraining the child. CRSs which are installed with vehicle safety belts or where the child is restrained by means of the vehicle safety belts are currently not included in the UN Regulation No. 129.
- “i-Size” CRSs can always be used on “i-Size” vehicle seats.
- To use an “i-Size” CRS on an ISOFIX vehicle seat, information from the vehicle manufacturer is required.
- If necessary, the current vehicle list of the CRS must be considered, as is the case for semi-universal CRSs, according to UN Regulation No. 44. The vehicle list contains the vehicle makes in which the CRS can be used and specifies which ISOFIX vehicle seats the CRS can be used on.

ISOFIX CRSs may be used, in accordance with the information in the vehicle manual, on seats that are marked with “i-Size”. For CRS with semi-universal or vehicle-specific approval, the current vehicle list of the CRS must be considered.

## Entry into force of UN Regulation No. 129

On 9 July 2013 the new UN Regulation No. 129 (i-Size) entered into force. Since this date, 50 countries worldwide, including all EU countries, Japan, Russian Federation and South Africa, have transposed this new regulation into their national legislations. The complete list of countries applying UN Regulation No. 129 can be found in document ECE/TRANS/WP.29/343/Rev.24, showing the status of the 1958 UN Agreement and countries applying the annexed UN Regulations (amongst other UN Regulation No. 129).

The document is available under section “Status of the 1958 Agreement” on: <http://www.unece.org/trans/main/welcwp29.html>

The content of the UN Regulations No. 129 (i-Size) is freely available at the UNECE/WP.29 website: <http://www.unece.org/trans/main/wp29/wp29regs121-140.html>

## Frequently asked questions on the UN Regulation on Child Restraint Systems

### 1. What is “i-Size”?

The new UN Regulation simplifies the application of CRSs, in order to minimise the risk of danger due to incorrect use. So-called universal ISOFIX systems (named: “i-Size”) are being introduced. All “i-Size” CRSs can be used on any vehicle seats suitable for “i-Size”. “i-Size” CRSs with support legs can also be used universally on all “i-Size” seats.

“i-Size” CRS and vehicle seats approved for “i-Size” are marked with the new symbol.



In addition to the simplified use of the CRSs, the passive safety has also been improved. Furthermore, a new size-based categorisation of the CRSs was performed, which simplifies the choice of an appropriate CRS.

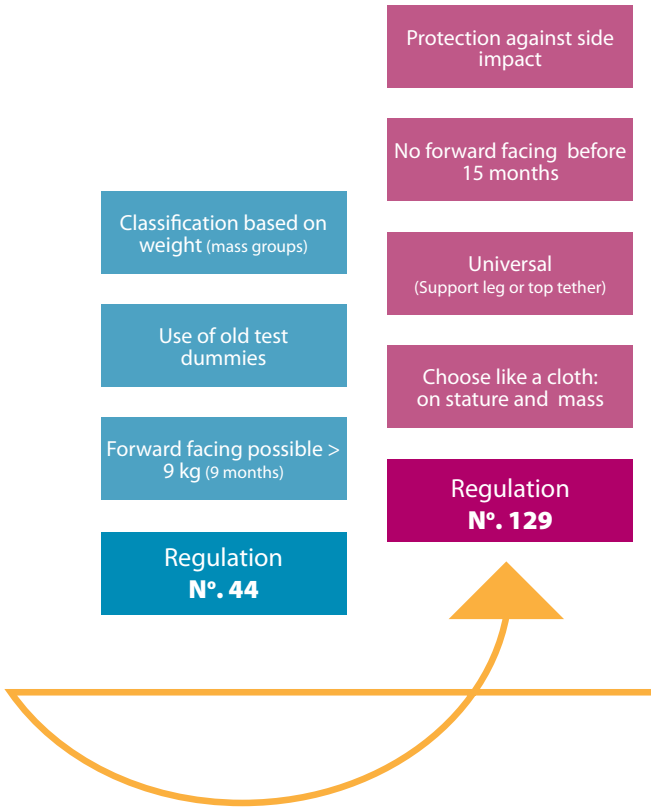
### 2. What is the difference between the UN Regulation No. 44 and the new UN Regulation No. 129?

CRS are no longer categorised by weight groups, as is the case under UN Regulation No. 44. The weight group categorisation partially overlapped and experience showed that this resulted in CRSs being changed to the next group too early and children being put in wrong seat. This information is displayed by the manufacturer on the seat of the vehicle.

When using CRSs according to the new regulation, children under the age of 15 months must in future be transported in rearward facing systems. This is also to prevent a too early change to forward-facing systems and in particular, to increase the protection of the head and neck.

In addition UN Regulation No. 129 requires a dynamic test for side impact. Under UN Regulation No. 44, the side impact is not tested.





## Overview of the main differences between UN Regulation No. 129 and UN Regulation No. 44

Regulation No. 129 i-Size Check List	Regulation No. 44 Technical provisions	Regulation No. 129 Technical provisions
<ul style="list-style-type: none"> <li>• Improved protection for side &amp; front impact and a much better protection of head &amp; neck</li> <li>• Rearward facing travelling mandatory up to 15 months old</li> <li>• Promotes ISOFIX, which has less chance of being incorrectly used than belted car seats</li> <li>• All i-Size CRS and some ISOFIX CRS will fit in new cars with i-Size seating positions</li> <li>• Classification of CRSs</li> <li>• Human like test dummies</li> </ul>	<ul style="list-style-type: none"> <li>• Front impact 50 km/h – 21-28 G</li> <li>• Rear impact 30km/h 14-21 G</li> <li>• No side impact</li> <li>• Forward facing possible from 9kg (approx. 9 months)</li> <li>• ISOFIX, belt or combination</li> <li>• All age classes</li> <li>• Universal (top tether)</li> <li>• Semi Universal (support leg)</li> <li>• Car specific</li> <li>• Classification based on weight (mass groups)</li> <li>• Use of old child dummies</li> </ul>	<ul style="list-style-type: none"> <li>• Front impact 50 km/h – 21-28 G, more demanding criteria</li> <li>• Rear impact 30 km/h 14-21 G</li> <li>• Side impact: 24 km/h start 13-15 G with an intruding door</li> <li>• Label on forward facing (FF) product: no FF before 15 months</li> <li>• Phase 1: i-Size: ISOFIX only &amp; birth to 105cm (can go above 105cm as well)</li> <li>• Universal (Support leg or top tether)</li> <li>• Car specific</li> <li>• No groups: Classification based on stature and max. occupant mass</li> <li>• Use of new child dummies</li> </ul>

### 3. Are Child Restraint Systems that conform to the new regulation, safer?

ECRSs in accordance with UN Regulation No. 129 are tested for side impacts, where the UN Regulation No. 44 are not.

### 4. How do I recognize a CRS that is approved according to UN Regulation No. 129?

Type approved CRS are labelled with the type approval marking. Detailed information is provided in the marking images on page 19.

### 5. Is a double “E” marking of a seat according to UN Regulation Nos. 44 and 129 allowed?

A double marking is not allowed. A CRS must be approved either in accordance with UN Regulations Nos. 44 or 129 and be marked respectively.

## **6. In future, are Child Restraint Systems manufacturers bound to the “i-Size” regulation of UN Regulation No. 129?**

This depends on the manufacturer’s strategy. It is assumed that vehicle-specific seats will come onto the market also in future, as not every vehicle seat is suitable for “i-Size” and therefore, no “i-Size” marking can be used.

## **7. Can “i-Size” Child Restraint Systems only be used on “i-Size” vehicle seats?**

If, in the future, the vehicle is equipped with “i-Size” seats, then the CRS is suitable for use on the “i-Size” seats in the vehicle. Generally, CRSs marked with the “i-Size” symbol may only be used on vehicle seats if these are also marked with the “i-Size” symbol.

## **8. Can an ISOFIX Child Restraint System be used on an “i-Size” seat?**

ISOFIX CRSs may be used, in accordance with the information in the vehicle manual, on seats that are marked with “i-Size”. For semi-universal seats please adhere to the manufacturer’s vehicle type list.

## **9. What must I take into account when purchasing the correct “i-Size” CRS?**

Manufacturers indicate, in centimetres, the child height range on the CRS for which the seat is suitable. In addition, the maximum weight for use of the seat is also indicated there. In a vehicle with “i-Size” seats, any type of “i-Size” CRS can be used. If the CRS manufacturer has approved the use of the “i-Size” seat for certain vehicle seats with ISOFIX marking, then the CRS can be used like an approved system under UN Regulation No. 44, i.e. according to the specifications in the vehicle manual.

## **10. Why are Child Restraint Systems categorized by size and weight?**

CRSs are categorized by height of the child to make it easier for parents to choose the correct CRS. Parents often prefer to know the height of the child than the weight. A review of the inner dimensions and the belt adjustment options in the new UN Regulation No. 129 ensures that the product can be used for the specified size range. The maximum weight of the child, up to which the CRS can be used, ensures that all safety-relevant components, including vehicle safety-relevant components are dimensioned according to the total weight of the child and CRS. The categorization also reduces the number of too early changes to a new system.

### **11. Why do children under the age of 15 months have to be transported rearward facing?**

Special protection for the head and the neck of toddlers is required due to the combination of weak muscles in the neck and the proportion between the head and body size. For this reason, the new regulation establishes an age limit of 15 months for children to be transported at least rearward facing or side-facing.

### **12. When did the new Regulation come into force and when will the “i-Size” seats be available in vehicles?**

The new UN Regulation No .129 for CRSs came into force on 09 July 2013. Since mid-2013, vehicle manufacturers can also approve vehicle seats as “i-Size” seat positions. The first vehicles with seats marked as “i-Size” already entered the market in 2014.

### **13. Is it possible to mark different seats with ISOFIX and “i-Size” in one vehicle?**

Yes, this is up to the vehicle manufacturer.

### **14. Is a vehicle-specific approval for Child Restraint Systems still possible?**

Yes, particularly in smaller vehicles where it is not always possible to offer the “i-Size”.

### **15. Can I continue using Child Restraint Systems that are approved according to UN Regulation No. 44/03 or 04?**

The previous CRS regulation (UN Regulation No. 44) remains in force and CRSs approved in accordance with UN Regulation No. 44 (series of amendments 03 and subsequent amendments) may still be used. Purchasing and using new CRSs in accordance with UN Regulation No. 44 is permitted.

### **16. In the future, will both regulations (UN Regulations Nos. 44 and 129) be valid in parallel?**

Both regulations are currently valid in parallel. At the moment, UN Regulation No. 129 only includes integral ISOFIX CRSs, meaning those which are equipped with their own harness systems or an impact shield for restraining the child. Following a transition phase, in which the UN Regulation No. 44 will be revised, ISOFIX CRSs will only be approved in accordance with the new UN Regulation

No. 129. CRSs that are fixed with vehicle safety belts or where the restraint of the child takes place with the vehicle safety belts are not yet included in the UN Regulation No. 129. Requirements for these non-integral CRSs, where the child is restrained by the vehicle safety belt, are currently being developed by the UN Economic Commission for Europe (UNECE) for the new regulation. The procedure for CRSs with integral restraint systems, which are not fixed by ISOFIX, but with the vehicle seatbelt, will be determined at a later point in time.

**17. Is there a uniform communication strategy with regard to the approval of Child Restraint Systems in accordance with UN Regulations Nos. 44 and 129? How are insecurities among consumers being avoided with different instructions in the relevant manuals?**

The communication strategy is set by the individual manufacturers. The operating instructions also provide information for consumers. Clear information should be available in the relevant vehicle and CRS manuals. This of course requires communication between car manufacturers and child seat manufacturers.

**EU:** Each individual Member State decides on the methods for providing the necessary information.

**United States:** Does not apply as only the Federal Motor Vehicle Safety Standard No. 213, "Child Restraint Systems", compliant systems can be sold and used in the United States.

**Russian Federation:** The use and installation of child restraints is allowed only in strict accordance with the operating manual for the vehicle and the operating instructions for the child restraint.

**18. Are "i-Size" Child Restraint Systems available for all age groups?**

Currently, only CRSs with integral belt systems can be approved on the basis of UN Regulation No. 129. The use of "i-Size" CRSs is restricted by prescribed maximum dimensions and compliance with the total weight of the child and the CRS. The approval as a "Specific Vehicle ISOFIX" seat allows exceeding the maximum dimensions e.g. for large rearward facing CRSs, whereby the requirements for passive safety of UN Regulation No. 129 remain binding. The requirements for CRSs without own integral harness system for older children are currently being reworked within the framework of the UN Regulation No. 129.

## **19. Are the new Child Restraint Systems permitted for use worldwide?**

**EU:** Yes according to Council Directive 91/671/EEC of 16 December 1991.

**Japan:** Yes, CRSs according to the UN Regulation No. 44 and the new UN Regulation No. 129 are permitted.

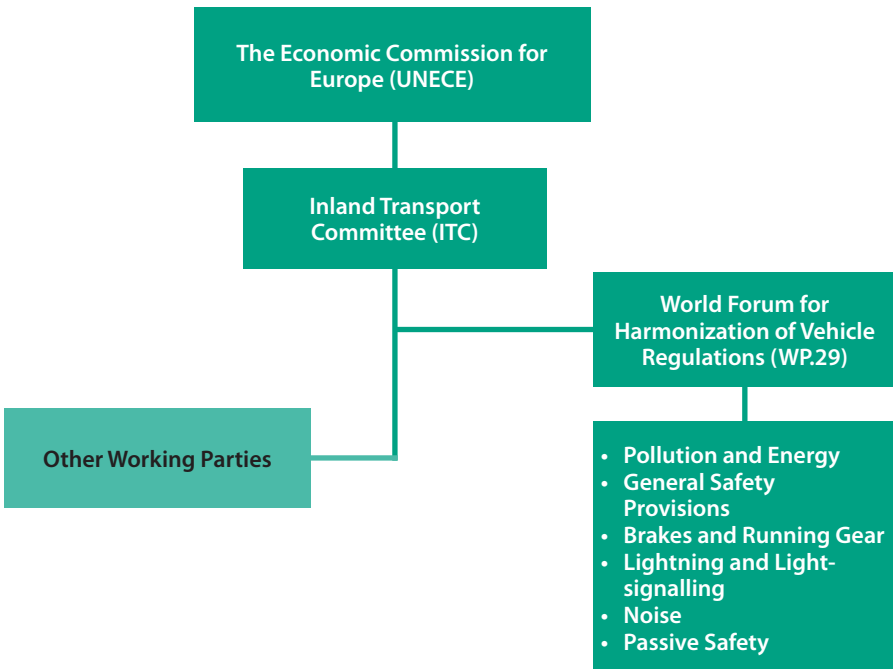
**United States:** All CRSs sold in the United States must be compliant to FMVSS No. 213. UN Regulation No. 44 and/or No. 129 compliant CRSs that are not compliant to FMVSS No. 213 are not permitted for sale and use in the United States.

**Russian Federation:** Currently, in accordance with the Technical Regulations of the Customs Union (TR CU 018/2011) child restraints must meet the requirements of the UN Regulations No. 44-04.

**“Child Restraint System”** (CRS) means a device capable of accommodating a child occupant in a sitting or supine position. It is so designed as to diminish the risk of injury to the wearer, in the event of a collision or of abrupt deceleration of the vehicle, by limiting the mobility of the child’s body. It is popularly known as vehicle child seat.

**“World Forum for Harmonization of Vehicle Regulations (WP.29)”** was established on 6 June 1952 as the Working Party on the Construction of Vehicles, a subsidiary body of the Inland Transport Committee (ITC) of the United Nations Economic Commission for Europe (UNECE). In March 2000, WP.29 became the “World Forum for Harmonization of Vehicle Regulations (WP.29)”. The objective of the WP.29 is to initiate and pursue actions aimed at the worldwide harmonization or development of technical regulations for vehicles. Providing uniform conditions for periodical technical inspections and strengthening economic relations worldwide, these regulations are aimed at:

- Improving vehicle safety;
- Protecting the environment;
- Promoting energy efficiency, and
- Increasing anti-theft performance.



- **“Working Party on Passive Safety (GRSP)”** Subsidiary body of the World Forum, which is responsible for the up-date of the existing requirements with regard of passive safety, and among others, those of Regulations No. 44 and 129 (see also the reports and working documents at the homepage address: <http://www.unece.org/trans/main/wp29/wp29wgs/wp29grsp/grsprep.html>)



**“UN 1958 Agreement”** concerning the Adoption of Uniform Technical Prescriptions for Wheeled Vehicles, Equipment and Parts which can be Fitted and/or be Used on Wheeled Vehicles and the Conditions for Reciprocal Recognition of Approvals Granted on the Basis of these Prescriptions; the Agreement counts 53 Contracting Parties (UN Countries) world wide and 136 annexed UN Regulations. Whenever a company designs a prototype of an automotive component, accessory or vehicle they must prove that it meets the performance requirements of the 1958 Agreement’s Regulations. Once that is done, the manufacturer can follow the motto “certified once, sold everywhere”. That company engraves the E on their parts, and a car maker in any country can buy it with the confidence that it meets the Regulations. Companies can trade across borders and to different regions without a costly re-verification process which would be passed on to the consumer. UN Regulations, can be consulted on-line at or downloaded free of charge from the following website: <http://www.unece.org/trans/main/welcwp29.html>

**“i-Size”** (Integral Universal ISOFIX Child Restraint Systems) is a category of Child Restraint System for use in all i-Size seating position of a vehicle, as defined and approved according to Regulation Nos. 14 (Safety-belt anchorages) and 16 (Safety-belts).

**“Integral”** is a class of Child Restraint System, meaning that the child is restrained only by components which comprise the Child Restraint System (e.g. strap harness, shield, etc.), and not by means connected directly to the vehicle (e.g; seat belt).

**“ISOFIX”** is a system that provides a method of connecting a Child Restraint System to a vehicle. It is based on two vehicle anchorages and two corresponding attachments on the Child Restraint System in conjunction with a means to limit the pitch rotation of the Child Restraint System. All three vehicle anchorages are to be approved according to UN Regulation No. 14.

**“ISOFIX Universal”** is an ISOFIX comprising either a top-tether or a support-leg, to limit the pitch rotation of the Child Restraint System, attached to, or supported by, the corresponding vehicle.

“**ISOFIX anchorage system**” means a system made up of two ISOFIX low anchorages fulfilling the requirements of UN Regulation No. 14 which is designed for attaching an ISOFIX Child Restraint System in conjunction with an anti-rotation device.

“**ISOFIX low anchorage**” means one 6 mm diameter rigid round horizontal bar, extending from vehicle or seat structure to accept and restrain an ISOFIX Child Restraint System with ISOFIX attachments.

“**Support-leg**” means an anti-rotation device permanently attached to a Child Restraint System creating a load path between the Child Restraint System and the vehicle structure. A support-leg shall be adjustable in length (Z direction) and may be additionally adjustable in other directions.

“**UN Regulation No. 44**” lists technical testing provisions to ensure the high safety performance of components used for child restraints. These provisions regulate factors such as flammability, the tensile strength of materials, straps, fixing points and markings and most importantly provide specifications for the positioning of the child’s body in the car seat. This is essential for preventing the child’s head from coming into contact with the car’s interior during a crash.

“**ECE/TRANS/WP.29/343/Rev.xx**” currently updated by UNECE/WP.29 secretariat at its Revision No. 3, is the complete **status** of the 1958 Agreement providing full information concerning the **list of Contracting Parties applying a Regulation** and its amendments, listing the titles of all 136 UNECE Regulations, amongst other UN Regulations No. 44 and No. 129, as well as the date of entering into force of each amendment adopted, the Contracting Parties (C.P.) to the Agreement and for each individual Regulations **a list of C.P. applying that Regulation, giving the addresses of their Type Approval Authorities that grant the approvals and the Technical Services** that carry out the testing and issue the test reports. It’s available free of charge at the following website: <http://www.unece.org/trans/main/wp29/wp29wgs/wp29gen/wp29fdocstts.html>

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