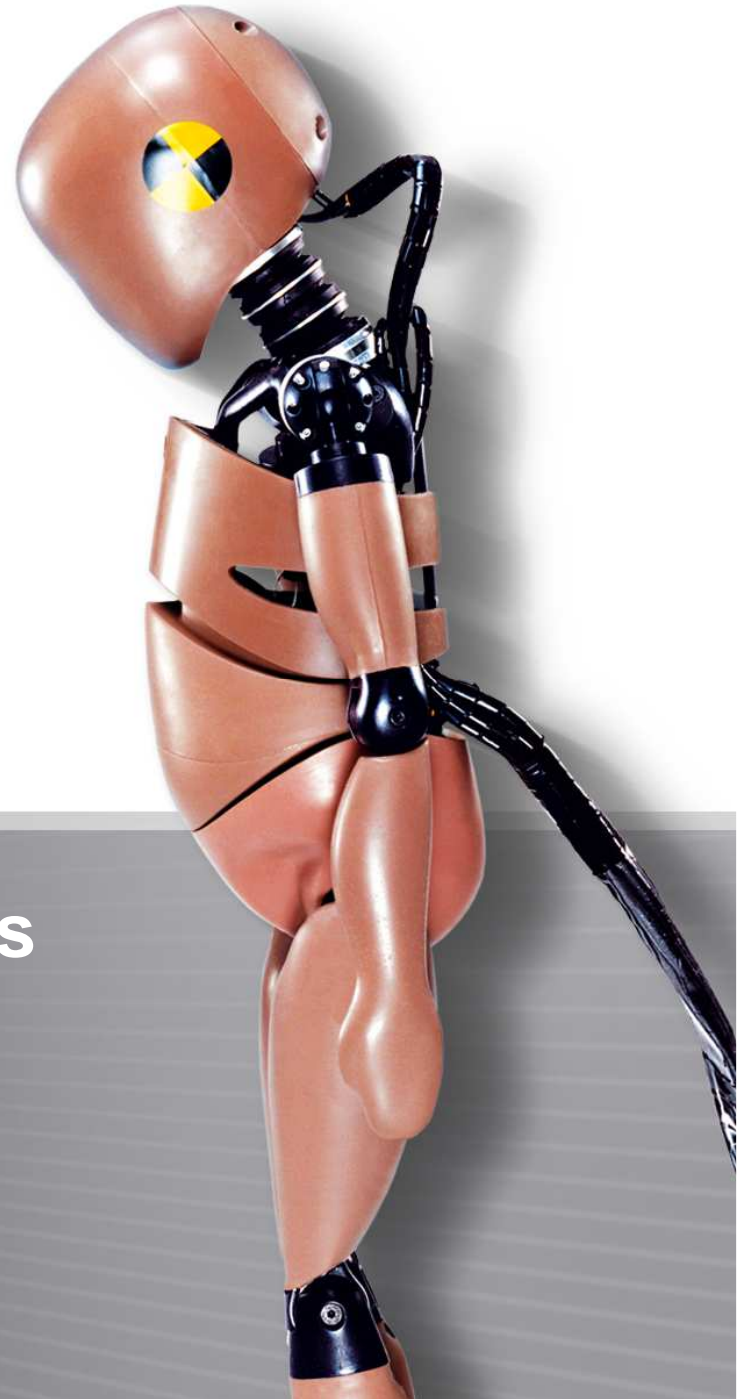




## UN R129 – Corrective proposals

Dr. R. Nett, March 2015

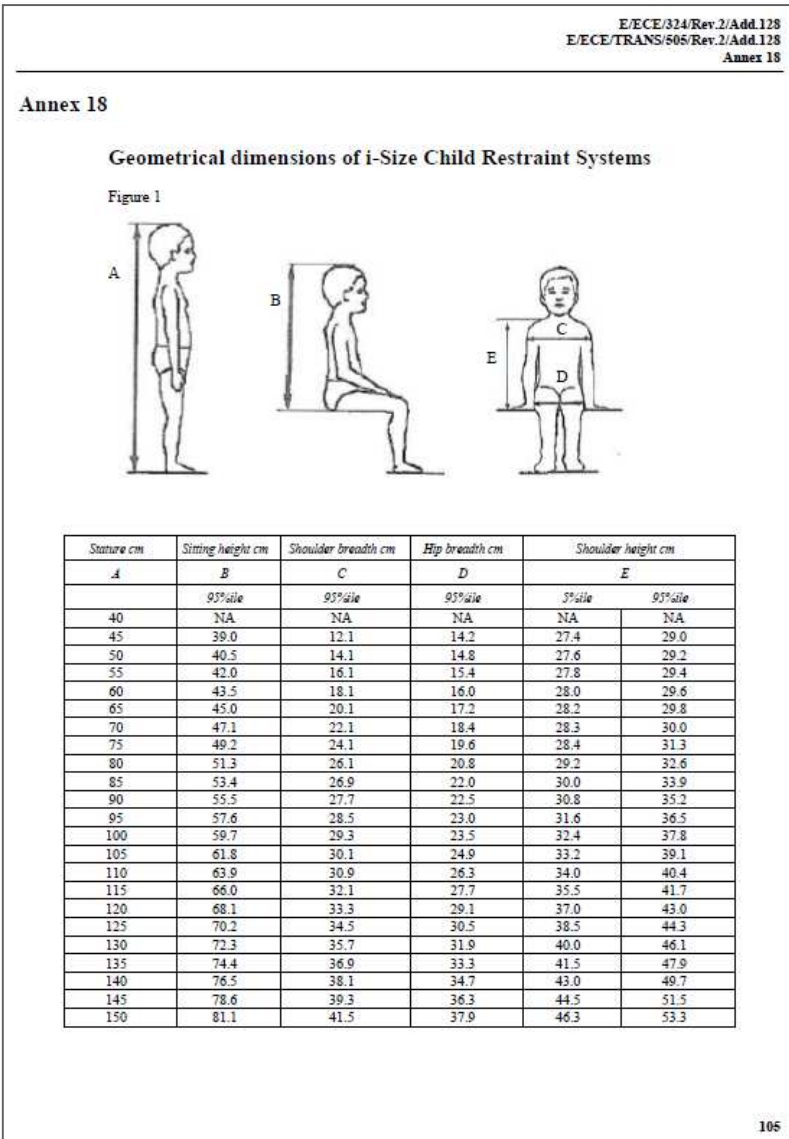


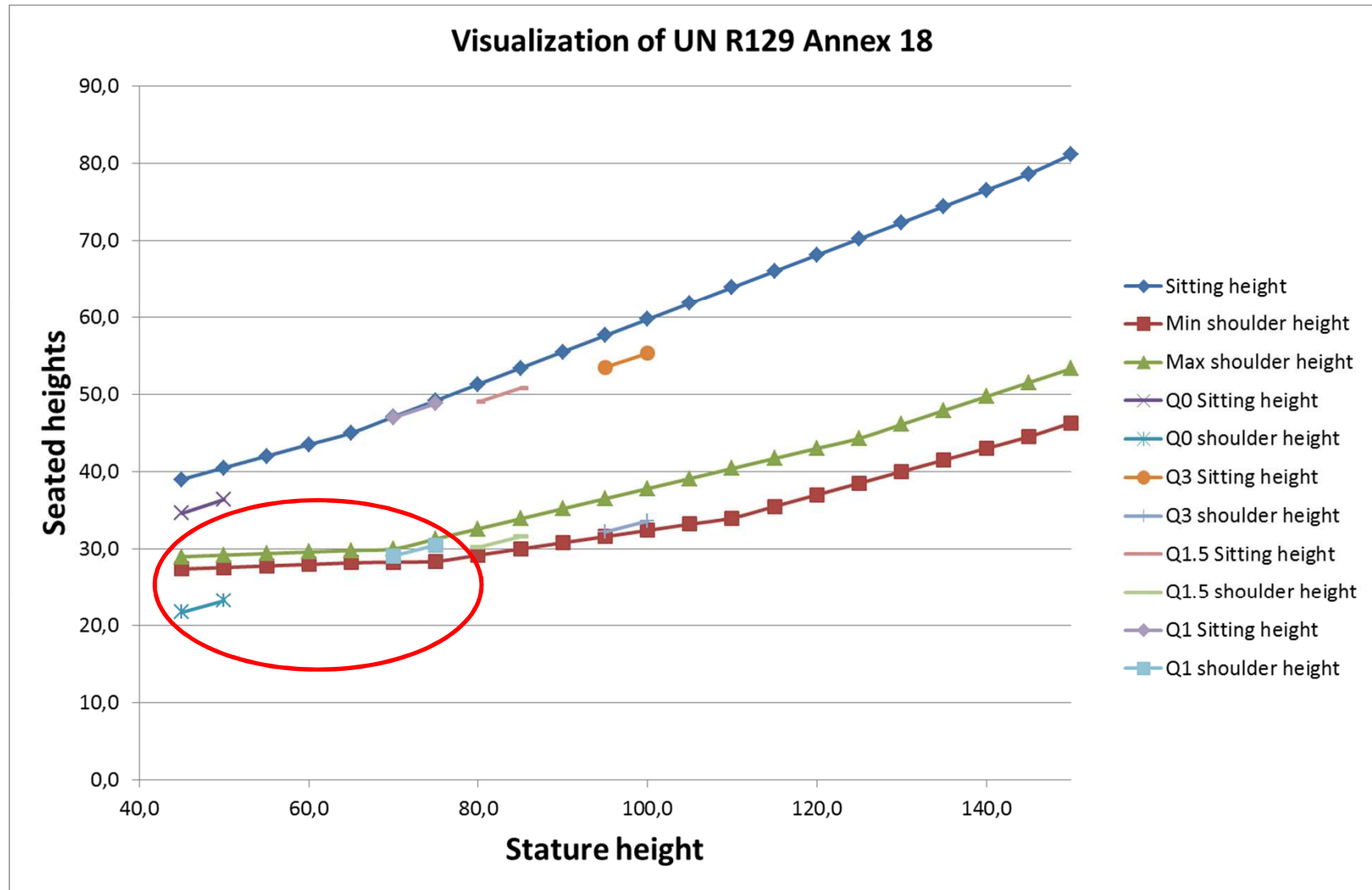
## UN R129 – Annex 18

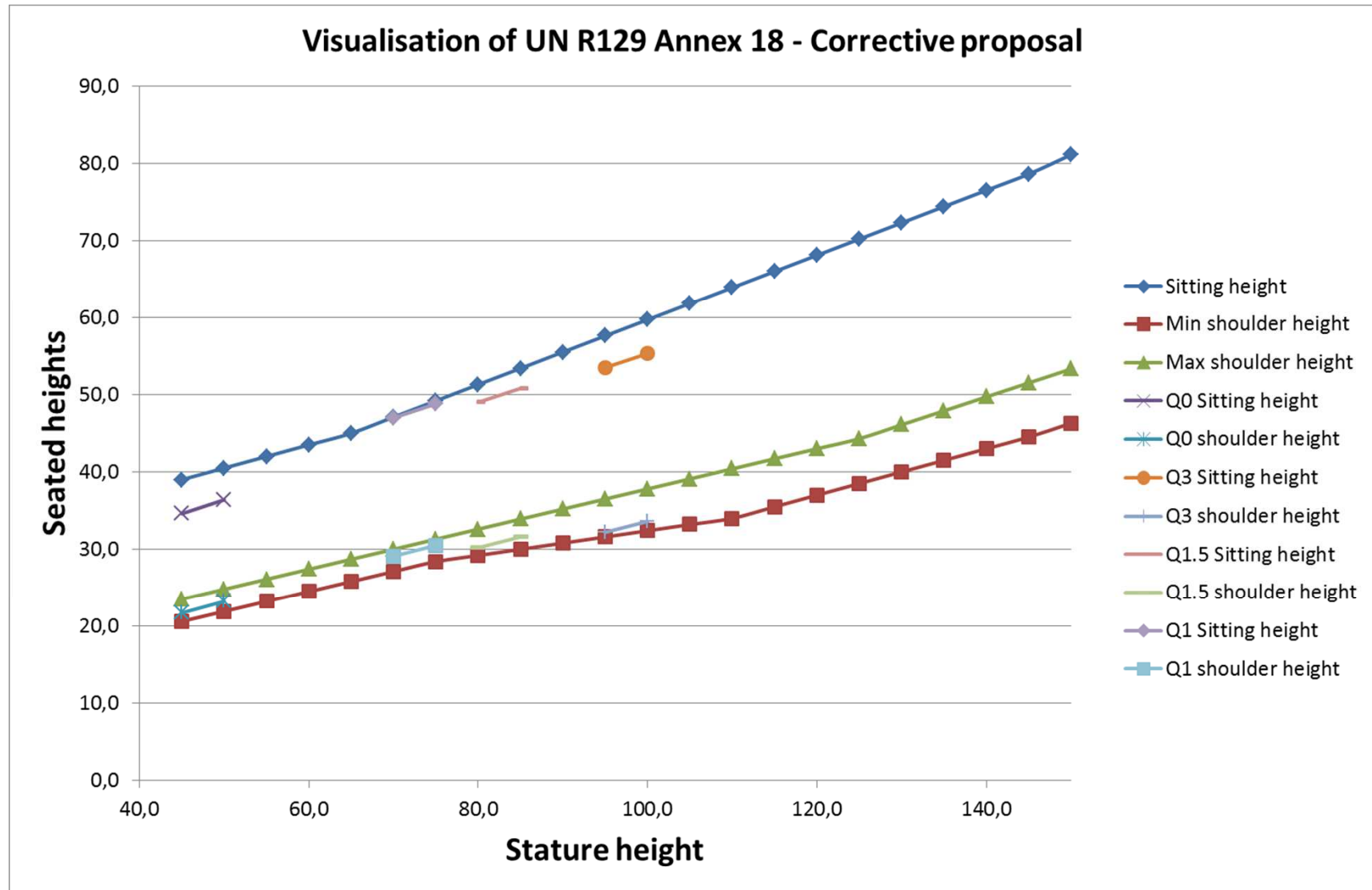
- Shoulder height dimensions (5% & 95%) do not correspond to:
  - current ECE R44 Infant seat harness adjustment devices
  - Q0-dummy dimensions
- Given shoulder height dimensions would not require **any** harness adjustment device for Infants, though the growth rate is at maximum level for Newborn babies
- Example:
 

A new I-size Infant Seat product (45-75cm) requires a slot range of 4cm only!

**Note:** No detailed instructions are given how to use the measuring device (Annex 18).







## UN R129 – Annex 18

- Dimensional corrections

Annex 18: current table

Stature	Sitting height	Min shoulder height	Max shoulder height
45,0	39,0	27,4	29,0
50,0	40,5	27,6	29,2
55,0	42,0	27,8	29,4
60,0	43,5	28,0	29,6
65,0	45,0	28,2	29,8
70,0	47,1	28,3	30,0
75,0	49,2	28,4	31,3
80,0	51,3	29,2	32,6
85,0	53,4	30,0	33,9
90,0	55,5	30,8	35,2
95,0	57,6	31,6	36,5
100,0	59,7	32,4	37,8
105,0	61,8	33,2	39,1
110,0	63,9	34,0	40,4
115,0	66,0	35,5	41,7
120,0	68,1	37,0	43,0
125,0	70,2	38,5	44,3
130,0	72,3	40,0	46,1
135,0	74,4	41,5	47,9
140,0	76,5	43,0	49,7
145,0	78,6	44,5	51,5
150,0	81,1	46,3	53,3

Annex 18: new table

Stature	Sitting height	Min shoulder height	Max shoulder height
45,0	39,0	20,6	23,5
50,0	40,5	21,9	24,8
55,0	42,0	23,2	26,1
60,0	43,5	24,5	27,4
65,0	45,0	25,8	28,7
70,0	47,1	27,1	30,0
75,0	49,2	28,4	31,3
80,0	51,3	29,2	32,6
85,0	53,4	30,0	33,9
90,0	55,5	30,8	35,2
95,0	57,6	31,6	36,5
100,0	59,7	32,4	37,8
105,0	61,8	33,2	39,1
110,0	63,9	34,0	40,4
115,0	66,0	35,5	41,7
120,0	68,1	37,0	43,0
125,0	70,2	38,5	44,3
130,0	72,3	40,0	46,1
135,0	74,4	41,5	47,9
140,0	76,5	43,0	49,7
145,0	78,6	44,5	51,5
150,0	81,1	46,3	53,3

## UN R129 – Annex 18

### Justifications:

- Q0-dummy has got a shoulder height of 225mm and represents a 50%-ile Newborn child
- The minimum Harness slot height of common ECE R44 approved Infant Seats corresponds to a minimum sitting height of 180-220mm.
- The Australian regulation prescribes a minimum slot height of 180mm.

Annex 18: corrected table

Stature	Sitting height	Min shoulder height	Max shoulder height
45,0	39,0	20,6	23,5
50,0	40,5	21,9	24,8
55,0	42,0	23,2	26,1
60,0	43,5	24,5	27,4
65,0	45,0	25,8	28,7
70,0	47,1	27,1	30,0
75,0	49,2	28,4	31,3
80,0	51,3	29,2	32,6
85,0	53,4	30,0	33,9
90,0	55,5	30,8	35,2
95,0	57,6	31,6	36,5
100,0	59,7	32,4	37,8
105,0	61,8	33,2	39,1
110,0	63,9	34,0	40,4
115,0	66,0	35,5	41,7
120,0	68,1	37,0	43,0
125,0	70,2	38,5	44,3
130,0	72,3	40,0	46,1
135,0	74,4	41,5	47,9
140,0	76,5	43,0	49,7
145,0	78,6	44,5	51,5
150,0	81,1	46,3	53,3

## UN R129 – General specifications

### Paragraph 6.1.3

6.1.3. For children under the age of 15 months only lateral facing or rearward facing Child Restraint System shall be used.

That means:

- (a) A Child Restraint System designed for children up to 15 months of age shall be rearward facing and accommodate at least a child with a stature of 83 cm;
- (b) A forward facing Child Restraint System shall not be designed to

### Contradiction:

first sentence: (...lateral facing or rearward facing

versus

Second sentence: (...rearward facing....)

### Corrective proposal:

6.1.3 That means:

a)

A **rearward facing** Child Restraint System designed for children up to 15 months shall accommodate at least a child with a stature of 83cm;

E/CE/324/Rev.2/Add.128  
E/CE/TRANS/505/Rev.2/Add.128

## 6. General specifications

### 6.1. Positioning and securing on the vehicle

#### 6.1.1. Child Restraint Systems in the i-Size category are for use in i-Size seating positions, when the Child Restraint Systems are fitted in conformity with the vehicle manufacturer's instructions.

Child Restraint Systems in the "Specific vehicle ISOFIX" category are for use in all ISOFIX positions and also in the luggage area, if the restraints are fitted in conformity with the vehicle manufacturer's instructions.

#### 6.1.2. According to the category in which it belongs to, see Table 1, the Child Restraint System shall be secured to the vehicle structure or to the vehicle seat structure:

##### 6.1.2.1. For i-Size category, this shall be by means of two ISOFIX attachments with the addition of an anti-rotation device for both forward and rearward-facing Child Restraint System;

##### 6.1.2.2. For "Specific Vehicle ISOFIX" category: this shall be by means of the ISOFIX attachments designed by the manufacturer of the Child Restraint System, secured to ISOFIX anchorage system as designed by the vehicle manufacturer.

Table 1

Possible configurations for type approval

	Orientation	Category	
		i-Size CRS	Integral Specific Vehicle ISOFIX CRS
INTEGRAL	Lateral facing (carry-cot)	NA	A
	Rearward facing	A	A
	Forward facing (integral)	A	A

With:

CRS: Child Restraint System

A: Applicable

NA: Non-Applicable

#### 6.1.3. For children under the age of 15 months only lateral facing or rearward facing Child Restraint System shall be used.

That means:

- (a) A Child Restraint System designed for children up to 15 months of age shall be rearward facing and accommodate at least a child with a stature of 83 cm;
- (b) A forward facing Child Restraint System shall not be designed to accommodate a stature below 71 cm;
- (c) A convertible seat in its rearward facing configuration shall be able to accommodate a child with a stature up to 83 cm. This shall not preclude a child stature greater than 83 cm.

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## UN R129 – General specifications

### Paragraph 6.6.4.1, table 2:

.....Lateral impact, test on trolley, for forward facing, rearward- and lateral facing Child Restraint Systems

### Contradiction to Paragraph 6.6.4.5

....Dummy criteria for lateral impact for forward and rearward facing Child Restraint Systems

### Corrective proposal:

6.6.4.5. Dummy criteria for lateral impact for forward and rearward **and lateral** facing Child Restraint Systems

6.6.4.	Dynamic test
6.6.4.1.	General: the Child Restraint System shall be subjected to dynamic tests, in accordance with Table 2, in conformity with paragraph 7.1.3. below:

Table 2 Application of different criteria depending of test set up							
Frontal impact				Rear impact		Lateral impact	
Test on trolley+ standard seat		Test in car body		Test on trolley+ standard seat	Test in car body	Test on trolley+ standard seat	
Forward facing	Rearward and lateral facing	Forward facing	Rearward and lateral facing	Rearward and lateral facing	Rearward and lateral facing	Forward facing	Rearward and lateral facing

Note 1: Standard seat means test seat or test bench  
Note 2: For lateral facing child restraint systems in lateral impact, if two positions are possible, then the dummy's head shall be situated near the side door.

6.6.4.5.	Dummy criteria for lateral impact for forward and rearward facing Child Restraint System.
6.6.4.5.1.	Main injury assessment criterion — Head containment  During the loading phase of lateral impact testing, up to 80 ms, side protection shall always be positioned at the level at the dummy's-head centre of gravity perpendicular to the direction of the door intrusion. Head containment will be assessed by the following criteria:  (a) No head contact with the door panel;  (b) Head shall not exceed a vertical plane identified by a red line on top of the door (top view camera). This vertical plane is identified by a line on the impacted door as defined in Annex 6, Appendix 3, Figure 1.



## UN R129 – Information for users

### Paragraph 14.1.

....in the language of the country where the device is sold.....

14.2.1. ....the following label shall be clearly visible on the exterior of the packing.....

### Mismatch to common practice:

- Usually CRS are displayed at point of Sales w/o any packing and are sold w/o any packing.
- In consequence, end consumer will not receive such info

### Corrective proposal:

14.2.1. .... **the following information shall be provided with each Child Restraint System at point of sale:.....**

#### 14. Information for users

14.1. Each Child Restraint System shall be accompanied by instructions in the language of the country where the device is sold with the following content:

14.2. Instructions on installation shall include the following points:

ev.2/Add.128

S/505/Rev.2/Add.128

14.2.1. For "i-Size" category Child Restraint Systems the following label shall be clearly visible on the exterior of the packing:

#### Notice

This is an "i-Size" Child Restraint System. It is approved to Regulation No.129, for use in, "i-Size compatible" vehicle seating positions as indicated by vehicle manufacturers in the vehicle users' manual.

If in doubt, consult either the child restraint manufacturer or the retailer.

## UN R129 – General specifications

### Corrective Proposal:

#### 6.3.2.2. External dimensions

The Enhanced Child Restraint System shall be adjusted to accommodate the largest Q- dummy used as prescribed in paragraph 7.1.3.6. and as tested according to paragraph 6.6.4..

In this state it must fit within each of its declared Vehicle Seat Fixtures in at least one adjustable position.

The Enhanced Child Restraint System may be adjusted to other positions that are outside the Vehicle Seat Fixture's height; in this case, the child restraint manufacturer's user manual shall give a clear indication that when used in one of these configurations, the Enhanced Child Restraint System may not fit in all vehicles approved for a Universal fixture. A vehicle list shall be provided.

#### 6.3.2.2. External dimensions

[The maximum dimensions for width, height and depth of the Child Restraint System and the locations of the ISOFIX anchorages system with which its attachments shall engage, shall be defined by the Vehicle Seat Fixture (VSF) as defined in paragraph 2.17. of this Regulation.

- (a) i-Size Forward facing Child Restraint Systems shall fit within the ISO/F2x size envelope for a reduced-height forward-facing toddler CRS (height 650 mm) ISOFIX SIZE CLASS B1;
- (b) i-Size Rearward facing Child Restraint Systems shall fit within the ISO/R2 size envelope for a reduced-size rearward-facing toddler CRS ISOFIX SIZE CLASS D;



**Thank you for your attention!**

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