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**Economic Commission for Europe**

Inland Transport Committee

**World Forum for Harmonization of Vehicle Regulations**

**Working Party on Passive Safety**

**Sixty-first session**

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Item 17 of the provisional agenda

**Regulation No. 129 (Enhanced Child Restraint Systems)**

 Proposal for the 03 series of amendments as Phase 3 of Regulation No. 129 (Enhanced Child Restraint Systems)

Submitted by the expert from CLEPA[[1]](#footnote-2)\*

 The text reproduced below was prepared by the expert from France. It introduces the 03 series of amendments to Regulation No. 129 (Enhanced Child Restraint Systems (ECRS)) that were agreed upon by the experts of the Informal Working Group on Child Restraint Systems (IWG CRS). The modifications to the existing text of the UN Regulation, including ECE/TRANS/WP.29/GRSP/2016/19, ECE/TRANS/WP.29/GRSP/2016/22, ECE/TRANS/WP.29/GRSP/2016/23 and Annex V to the report of the sixtieth session of the Working Party on Passive Safety (GRSP) (see ECE/TRANS/WP.29/GRSP/60, paras. 35 and 36), are marked in bold for new or strikethrough for deleted characters.

 I. Proposal

*Paragraph 6.3.2.2.* amend to read:

" 6.3.2.2. External dimensions

The Technical Service conducting the approval tests shall verify that the external dimensions of the Enhanced Child Restraint System conform to the requirements of paragraphs 6.3.2.2.1. and 6.3.2.2.2., as applicable **following the procedure defined in 6.3.2.2.3.**

*Insert a new paragraph 6.3.2.2.3 :*

"**6.3.2.2.3. Procedure**

**The maximum external dimensions for the width, height and depth of the Enhanced Child Restraint System and the locations of the ISOFIX anchorages system, if any, will be assessed using a fixture as described below.**

**Fixture description**

**• The fixture is constructed in elements assembled together to represent the corresponding size class for the ECRS using the child restraint envelopes as defined in Annex 17 Appendix 2 of Regulation No. 16.). The top of the fixture may be removable to allow the ECRS to enter the fixture. One side of the CRF fixture is fixed in position. The front element and one side element of the fixtures are designed to horizontally slide away from their natural CRF position to allow the introduction of the ECRS into the fixture.**

**• The fixture is equipped with a 6 \*400 mm round steel round bar, fixed with its axis at the position of the axis of the vehicle anchorages, allowing the ECRS to be latched to the achorages, but still slide laterally over the 6mm round bar.**

**• The fixture is equipped with a top tether anchorage location G1 according Annex 6.**

**• The front element of the fixture is slideable in X direction toward its natural CRF position. The front element is defined as follows (ref to R16, Annex 17, App 2):**

**F3: single plane of 320\*635 mm**

**F2: single plane of 320\*565 mm**

**F2X: single plane of 320\*565 mm**

**R3: triple plane of a total of 320\*695 mm**

**R2: triple plane of a total of 320\*665 mm**

**R1: triple plane of a total of 320\*615 mm**

**L1 / L2: double plane of a total of 615\*815 mm**

**[TBC; expended with SL front plane of 200\*525 mm]**

**• One side element is fixed relative to the bottom surface. One side element of the fixture, including it’s chamfers, is slideable in Y direction towards it’s natural CRF position.**

**• [TBC: Do we need to describe the chamfers individually per Gabarit?]**

**• [TBC: The fixture is equipped with a support leg volume as defined per 6.3.5.2. ]**

**Figure [x] Example of ISO R2 fixture with highlighted in green the side element, and highlighted in grey the front element. It can be seen that the front element is constructed from 3 individual surfaces.**

665 mm

320 mm

**Measurement procedure.**

**• The maximum force needed to overcome the friction of sliding the front and side elements from their most outward to their natural CRF position is measured, without the ECRS in place. It is measured in Newtons and documented. (further refered to as “Sliding Friction Force” in this paragraph)**

**• The front and side elements are replaced to their most outward position, or removed to allow placement of the ECRS,**

**• The ECRS is placed in the fixture with its side adjacent to the fixed side element,**

**• A force of 135 +/- 15N shall be applied in a plane parallel to the bottom surface of the CRF. The force shall be applied along the X-Z centre line of the Enhanced Child Restraint System and at a height no more than 100 mm above the cushion.**

**• If present, the top tether shall be adjusted to achieve a tension load of 50 +/- 5N. The top tether anchorage point G1** **shall be used.**

**• If present, the support-leg shall be adjusted according to the Enhanced Child Restraint System manufacturer's instructions.**

**• The front and side planes are pushed towards their natural CRF position, and it’s required pushing force is measured.**

**Requirement**

**• The maximum allowable pushing force is the Sliding Friction Force + [250] N, parallel to the horizontal plane and applied in the centre of the sliding element**

II. Justification

There is currently no procedure defined to assess the external dimensions.

Some ECRS have parts (lateral wings for example ) which are very flexible. OICA has shown that it is possible to install these CRSes using this flexibility in vehicles (OICA presentation CRS 53-08). Therefor some deflection seems acceptable, but a limit, a test and a method is needed.

The procedure is tailored to insure a repeatable and reproducible assessment.

1. \* In accordance with the programme of work of the Inland Transport Committee for 2016–2017 (ECE/TRANS/254, para. 159 and ECE/TRANS/2016/28/Add.1, cluster 3.1), the World Forum will develop, harmonize and update Regulations in order to enhance the performance of vehicles. The present document is submitted in conformity with that mandate. [↑](#footnote-ref-2)