

Proposal for amendments to Draft new Regulation on uniform provisions concerning the approval of enhanced Child Restraint Systems used onboard of motor vehicles

The text reproduced below was prepared by the expert from the Netherlands. It is based on Informal Document No. GRSP-49-39 including the modifications made during the 26th session of the informal group and the discussions of the group during that session. The modifications to the proposed text contained in that document are marked in underline or strikethrough characters.

I. Proposal

Paragraph 2.15.4., to be deleted:

~~"2.15.4. "Support leg adjustment capability" means the adjustment of the support leg foot in dimensions X, Y and Z that a Child Restraint System with support leg must have."~~

Paragraph 3.1., amend to read:

"3.1. The application for approval of a type of Child Restraint System shall be submitted by the holder of the trade mark or by his duly accredited representative, and follow the type approval scheme described in Annex ~~12~~ 11".

Paragraph 3.2.3., amend to read:

"3.2.3. For Child Restraint Systems tested on the test trolley in a vehicle body shell in conformity with paragraph 7.1.3.2. or in a complete vehicle in conformity with paragraph 7.1.3.2., the applicant shall submit documentation (drawings and/or pictures) regarding the combination of the CRS and the car or the ISOFIX seating position and the relevant car environment for which the manufacturer has requested a "Specific vehicle ISOFIX" approval. This documentation needs to indicate:

(a) the available area around the CRS when installed on the seating position. In particular it shall include parts which might interfere with the CRS during an impact,

(b) all relevant vehicle parts which might influence the (rotational) movement of the CRS during an impact, due to their strength or stiffness."

New paragraph 3.3.:

"3.3. Annex 20 lists all documents, as a minimum, required to accompany the application for approval as indicated in paragraph 3.2. and required elsewhere in this Regulation."

Former paragraph 3.3. renumber *paragraph 3.4.*

Paragraph 6.2.1.1., amend to read:

"6.2.1.1. The restraint of the child shall give the required protection in any position specified for ~~a~~ the Child Restraint System;"

Paragraph 6.3.5, amend to read:

"6.3.5. The geometrical requirements in paragraphs 6.3.5.1. to 6.3.5.4. are referenced to a coordinate system, whose origin is located centrally between the two ISOFIX attachments and on the centreline of the corresponding ISOFIX anchorage system. The centreline of the corresponding ISOFIX anchorage system here is located 70 mm behind the rearmost lower corner of the CRF as indicated in Annex 19, Figure 1."

Paragraph 6.5.1, amend to read:

"6.5.1. The Technical Service conducting the approval tests shall verify that the instructions on installation and the instructions for use conform to paragraph ~~13~~ 14."

Paragraph 6.6.2.1., amend to read:

"6.6.2.1. For all devices with backrests there shall be internal surfaces, defined in Annex ~~15~~ 14 to this Regulation, comprising material with a peak acceleration of less than 60g when measured in accordance with Annex ~~14~~ 13 to this Regulation. This requirement applies also to areas of impact shields which are in the head strike area."

Paragraph 6.6.2.2, amend to read:

"6.6.2.2. In the case of Child Restraint Systems with permanent mechanically attached adjustable head support devices, in which the height of the child harness is directly controlled by the adjustable head support, it is not necessary to demand energy absorbing material in areas as defined in Annex ~~15~~ 14, which are not contactable by the dummy's head, i.e. behind the head support"

Paragraph 10.2, amend to read:

"10.2. The minimum requirements for conformity of production control procedures set forth in Annex ~~13~~ 12 to this Regulation shall be complied with."

Annex 11 footnote 3, amend to read:

" tests in accordance with Annex ~~13~~ 12"

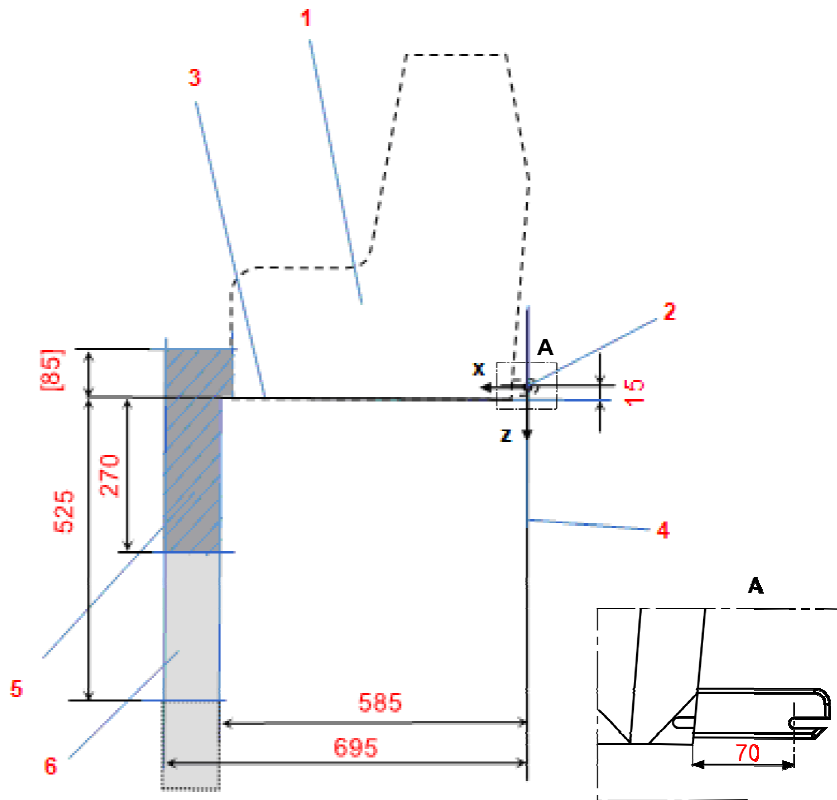
Annex 14, amend to read:

"1. Place the device on the test bench described in Annex 6. Reclinable devices shall be set in the most upright position. Place the smallest dummy in the device in accordance with the manufacturer's instructions. Mark a point "A" on the backrest on the same horizontal level as the shoulder of the smallest dummy at a point 2 cm inside the outer edge of the arm. All internal surfaces above the horizontal plane passing through point A shall comprise special energy-absorbing material tested in accordance with Annex 14. This material shall cover the internal surfaces of the backrest and side wings, including the inner edges (zone of radius) of the side wings. The energy absorbing material may be an integral part of the Child Restraint System. In the case of carry cot devices where a symmetrical installation of the dummy is not possible according to the device and manufacturer instructions, the lower limit of area at which material complying with Annex ~~14~~ 13 shall be used, shall be all areas beyond dummy's shoulder in the head direction, when measured with this dummy in the carry cot in its worst position consistent with the manufactures instructions and the carry cot positioned on the test bench.

If a symmetrical installation of the dummy in the carry-cot may be possible, the whole inner surfaces shall be covered with material

complying with Annex 44 13; this material has to fulfill its purpose together with the inner side structure; the Technical Service may assess this aspect with further tests.

ASSESSMENT VOLUMES FOR [I-SIZE] SUPPORT-LEGS AND SUPPORT-LEG FEET



Key:

- 1 Child Restraint Fixture (CRF)
- 2 ISOFIX low anchorages bar
- 3 Plane formed by the bottom surface of the CRF, which is parallel to and 15mm below the X-Y plane of the coordinate system
- 4 Z-Y plane of the coordinate system
- 5 Upper part of the support-leg dimension assessment volume, which shows the dimensional limitations in X and Y direction, the upper height limit in Z direction, as well as the lower height limitation in Z direction for rigid, not in Z direction adjustable support leg components
- 6 Lower part of the support-leg dimension assessment volume, which shows dimensional limitations in X and Y direction of the support-leg and support leg foot

Notes:

1. Drawing not to scale.
2. Volumes (5 and 6) are defining the maximum limits of the support-leg and its foot. No parts of the CRS shall exceed these limits in any position of adjustment when in use configuration.

Figure 1: Side view of the support leg dimension assessment volume"

"Annex 20

MINIMUM LIST OF DOCUMENTS REQUIRED FOR APPROVAL

	<u>i-size CRS Universal Approval</u>	<u>Specific Vehicle Isofix CRS</u> <u>Specific car approval</u>	paragraph:
General documents	Application letter/request	Application letter/request	3.1.
	Technical description of the CRS	Technical description of the CRS	3.2.1.
	Installation instruction for retractors	Installation instruction for retractors	3.2.1.
	Declaration on toxicity	Declaration on toxicity	3.2.1.
	Declaration on flammability	Declaration on flammability	3.2.1.
	Instructions and details of packaging	Instructions and details of packaging	3.2.6.
	Material specifications of the parts	Material specifications of the parts	2.46. and Annex 12 2.2.1.1.
	Assembly instructions for removable parts	Assembly instructions for removable parts	6.2.3.
	Documentation on Information for Users	Documentation on Information for Users, including reference to the applicable vehicle(s)	14
		List of vehicle model(s)	Annex 1
	CoP clearance documents including company organisation chart, Chamber of Commerce registry, production plant declaration, quality system certificate, CoP procedure declaration	CoP clearance documents including company organisation chart, Chamber of Commerce registry, production plant declaration, quality system certificate, CoP procedure declaration and declaration on procedures for sampling per product type	3.1. and Annex 11
Drawings/pictures	Exploded view drawing of CRS and drawings of all its relevant parts	Exploded view drawing of CRS and drawings of all its relevant parts	3.2.1. and Annex 1
	Position of approval mark	Position of approval mark	3.2.1.
		Drawings or pictures regarding the combination of the CRS and the car or the ISOFIX seating position and the relevant car environment ¹⁾	3.2.3.
		Drawings of vehicle and seat structure, adjustment system and attachments ¹⁾	Annex 1
	Photographs of CRS	Photographs of CRS and/or vehicle and seat structure	Annex 1
	In case not marked on the sample(s) at the time of submission for approval: example of marking of manufacturer's name, initials or trade mark, the year of production, orientation, warning labels, i-size logo, size range, occupant mass and additional markings.	In case not marked on the sample(s) at the time of submission for approval: example of marking of manufacturer's name, initials or trade mark, the year of production, orientation, warning labels, i-size logo, size range, occupant mass, specific vehicle isofix marking and additional markings.	4."

¹⁾ in case tested on the test trolley in a vehicle body shell in conformity with paragraph 7.1.3.2. or in a complete vehicle in conformity with paragraph 7.1.3.2.

II. Justification

Paragraph 2.15.4.:

This definition is not used anymore anywhere in this Regulation.

Paragraph 3.1.:

Reference to Annex number corrected.

Paragraph 3.2.3.:

When a CRS is tested on the test trolley in a vehicle body shell or in a complete vehicle, information is required on all parts that might influence the CRS during an impact. This influence is related to (a) the available space due to interference with vehicle parts and (b) the movement as influenced by the strength, stiffness and energy absorption of the parts the CRS is contacting. In this respect it is necessary to receive, where relevant, respectively:

- (a) pictures or drawings showing the complete environment around the CRS when installed on the seating position especially including parts that might hinder the movement of the CRS during an impact (door panels, window winders, B-pillars, other seats, head restraint, dash panel, etc.),
- (b) pictures or drawings showing parts being of influence on the (rotational) movement of the CRS during an impact (seating position, dash panel (when part of an anti-rotation device), head restraint, etc.).

Paragraph 3.3. and Annex 20:

As discussed during the 26th meeting of the GRSP INF CRS, a list has been compiled to show the minimum required documentation necessary for type approval of a CRS. This list includes all documents described throughout the text of the Regulation, required to be supplied to the Type Approval Authority.

The list has been added to the new Regulation in a new Annex 20 and reference is made to it by paragraph 3.3.

Paragraph 6.2.1.1.:

"The" refers better to this specific case instead of "a" being general.

Paragraph 6.3.5.:

The "corresponding ISOFIX anchorage system" means the ISOFIX brackets mounted on the vehicle. Since this Regulation is about the approval of the CRS itself, there is no corresponding vehicle and therefore no corresponding ISOFIX anchorage system available. In other words we do not know the location of the "corresponding ISOFIX anchorage system" in relation to the CRS. Since normally the ISOFIX attachments are adjustable we need to know how much these attachments must be adjusted before determining support-leg and -foot volumes.

If we assume the "corresponding ISOFIX anchorage system" to be located 70 mm behind the rearmost lower corner of the CRF we have a fixed relation between the CRF and the origin of the coordinate system.

The dimension of 70 mm is taken from Figure 0(b) which is based on the description from ISO 13216-1 (Note 2 and Figure 2).

It is expected that all CRS available on the market are able to meet this 70 mm dimension.

Paragraph 6.5.1.:

Reference to Annex number corrected.

Paragraph 6.6.2.1.:

Reference to Annex number corrected.

Paragraph 6.6.2.2.:

Reference to Annex number corrected.

Paragraph 10.2.:

Reference to Annex number corrected.

Annex 11 footnote 3:

Reference to Annex number corrected.

Annex 14:

Reference to Annex number corrected.
