**1. Introduction.**

CRS approved according to UN Regulation 129 which can be installed in the vehicle seats using the belt type the CRS are approved for and/or ISOFIX attachments can be used.

The Requirements defined in this UN Regulation does not apply to the CRS approved according to UN Regulation 129.

**2. Scope**

This Regulation applies to Child Restraint Systems installed in vehicles of categories M2 and M3 class B and class III with regards to the securing of children from 40- 150 cm in forward facing vehicle seats.

**3. Definitions**

 Stand-alone

3.1. "Child Restraint System" (ECRS) 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.

3.2. "Child restraint type" means an Enhanced Child Restraint Systems which does not differ in such essential respects as:

The category in which the restraint is type approved.

The design, material and construction of the Child Restraint System.

Convertible or modular Child Restraint Systems shall be considered to not differ in their design, material and construction.

3.3. "Built in", is an Enhanced Child Restraint System made as an integral part or incorporated as an add-on part of a vehicle. The vehicle manufacturer shall be the applicant for approval.

3.4. "Integral" and "Non-Integral"

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

3.4.2. "Non-Integral" is a class of Enhanced Child Restraint System, meaning that the retention of the child within the Enhanced Child Restraint System is achieved by means connected directly to the vehicle (e.g. adult seat belt).

3.5. "Size" indicates the stature of the child.

3.5.1. "Size range" is a range for which the Enhanced Child Restraint System

has been designed and approved.

3.5.2. **[Built-in]** Child Restraint Systems may cover any size range provided
that all requirements of this Regulation are fulfilled

3.6. "Orientation" indicates a direction in which an Enhanced Child Restraint Systems has been approved for use. The following distinctions are made:

(a) Forward-facing means facing in the normal direction of travel of the vehicle.

(b) Rearward-facing means facing in the direction opposite to the normal direction of travel of the vehicle.

(c) Lateral-facing means facing perpendicular to the normal direction of travel of the vehicle.

3.7. "Special Needs Restraint" is an Enhanced Child Restraint Systems designed for children who have special needs as a result of either a physical or mental disability; this device may in particular permit additional restraining devices for any part of the child, but it shall contain as a minimum a primary means of restraint which complies with the requirements of this Regulation.

3.8. "Anti-rotation device"

Means a device intended to limit the rotation of the **[Built-in]** Enhanced Child Restraint System during a vehicle impact and consisting of:

(a) A top-tether strap; or

(b) A support-leg.

Meeting the requirements of this Regulation and fitted to an ISOFIX anchorage system and ISOFIX top tether anchorages or vehicle floor contact surface meeting the requirements of UN Regulation No. 14 or UN Regulation No. 145.

An "Anti-rotation device" for a "specific vehicle" Enhanced Child Restraint System may comprise a top tether, a support-leg or, any other means capable of limiting the rotation.

… definitions for top tether, ISOFIX and support leg to be included??

3.8. "Strap" means a flexible component designed to transmit forces.

3.9 "Lap strap" means a strap which, ~~either in the form of a complete ECRS belt or in the form of a component of such an ECRS belt passes across the front of, and~~ restrains, directly or not, the child's pelvis.

3.10 "Shoulder strap" means that part of an ECRS belt which restrains the child's upper torso.

3.11 "Crotch strap" means a strap (or divided straps, where two or more pieces of webbing make it) ~~attached to the Child Restraint System and the lap strap and~~ is so positioned as to pass between the child's thighs it is designed to prevent the child sliding under the lap strap in normal use and prevent the lap strap moving up off the pelvis in an impact.

3.12 "Child-restraining strap" means a strap which is a constituent part of the **[Built-in]** ECRS belt (harness) and restrains only the body of the child.

3.13 "Buckle" means a quick release device which enables the child to be held by the restraint or the restraint by the structure of the ~~car~~ **[vehicle]** and can be quickly opened. The buckle may incorporate the adjusting device.

3.14. "Enclosed buckle release button", a buckle release button such that it shall not be possible to release the buckle using a sphere having a diameter of 40 mm.

3.15. "Non-enclosed buckle release button", a buckle release button such that it shall be possible to release the buckle using a sphere having a diameter of 40 mm.

3.16. "Adjusting device" means a device enabling the **[Built-in]** ECRS belt or its attachments to be adjusted to the physique of the wearer. The adjusting device may either be part of the buckle or be a retractor or any other part of the **[Built-in]** ECRS belt.

3.17. "Quick adjuster" means an adjusting device which can be operated by one hand in one smooth movement.

3.18. "Adjuster mounted directly on Child Restraint System" means an adjuster for the harness belt which is directly mounted on the Child Restraint System, as opposed to being directly supported by the strap that it is designed to adjust.

3.19 "Energy absorber" means a device which is designed to dissipate energy independently of or jointly with the strap and forms part of an **[Built-in]** Enhanced Child Restraint Systems.

3.20. "Inclined position" means a special position of the chair which allows the child to recline.

3.21 "Lying down/supine/prone position" means a position where at least the child's head and body excluding its limbs are on a horizontal surface when at rest in the restraint.

3.22. "Vehicle seat" means a structure, which may or may not be integral with the vehicle structure, complete with trim and intended to seat one adult person. In this respect:

3.23. "Group of vehicle seats" means either a bench seat or a plurality of seats which are separate but side by side (i.e. so fixed that the front anchorages of one seat are in line with the front or rear anchorages of another seat or on a line passing between those anchorages), each seat accommodating one or more seated adult persons.

3.24. "Vehicle bench seat" means a structure complete with trim and intended to seat more than one adult person.

3.25. "Seat type" means a category of adult seats which do not differ in such essential respects as the shape, dimensions and materials of the seat structure, the types and dimensions of the seat-lock adjustment and locking systems, and the type and dimensions of the adult safety-belt anchorage on the seat, of the seat anchorage, and of the affected parts of the vehicle structure.

3.26. "Adjustment system" means the complete device by which the vehicle seat or its parts can be adjusted to suit the physique of the seat's adult occupant; this device may, in particular, permit longitudinal displacement, and/or vertical displacement, and/or angular displacement.

3.27. "Vehicle seat anchorage" means the system, including the affected parts of the vehicle structure, by which the adult seat as a whole is secured to the vehicle structure.

3.28. "Locking system" means a device ensuring that the adult seat and its parts are maintained in the position of use.

3.29. "Seat bight" means the area close to the intersection of the surfaces of the vehicle seat cushion and the seat-back.

3.30. "Type approval test", means a test to determine the extent to which an Enhanced Child Restraint Systems type submitted for approval is capable of satisfying the requirements.

3.31. "Production qualification test (qualification of production test)", means a test to determine whether the manufacturer is able to produce an Enhanced Child Restraint Systems in conformity with the Child Restraint Systems submitted for type approval.

3.32. "Routine testing" (or conformity of production testing), means the testing of a number of restraint systems selected from a single batch to verify the extent to which they satisfy the requirements.

3.33. "Shoulder strap positioner" means a device intended to maintain, the appropriate shoulder strap position on the child’s torso, during normal transit conditions by connecting the shoulder straps to one another.

3.34. "Lock-off device" locks and prevents movement of one section of the webbing of an adult safety-belt relative to another section of the webbing of the same belt. Such devices may act upon either the diagonal or the lap sections or secure together both lap and diagonal sections of the adult belt. The term covers the following classes:

3.34.1. "Class A device" prevents the child from pulling the webbing of the retractor through to the lap part of the belt, when the adult belt is used to restrain the child directly (Non-Integral **[Built-in]** Enhanced Child Restraint System).

3.34.2. Class B device" allows the retention of an applied tension in the lap part of an adult safety-belt, when the adult belt is used to restrain Integral **[Built-in]** Enhanced Child Restraint System. The device intends to prevent the webbing from slipping from the retractor through the device, which would release the tension and place the restraint in a non-optimal position.

3.35. "Insert" means a part of an ECRS that provides additional support to a child and is an essential means to comply with all requirements for the entire or a part of the declared stature range.

Definitions of retractors, belted systems etc removed, as they are already covered by the UN R-16 and the UN R-129.

**4. Application for approval**

**5. Markings**

**6. Approval**

**7. General specifications**

7.1 Requirements for built-in CRS

7.2.1 The CRS shall fulfill with the tests defined in items: 8.1, 8.2, 8.3 and 8.4.

7.2 Requirements for stand-alone CRS (included in phase 2)

**8. Tests**

8.1 Corrosion

8.2 Overturning 🡪 Conditions? Same as R-129? Same as buses and coaches? To check requirements on buses.

8.3 Dynamic testing

8.3.1 🡪 Distance between seats 🡪 to be defined. Minimum distance R-107?

8.3.2 🡪 Pulse R80🡪 agreed

8.3.3 🡪Installation of dummies

8.3.4 🡪 Installation of the CRS, loads on the seat belt, installation of the spacer etc… (Phase 2)

8.4 Testing of individual components

8.4.1 Buckle

8.4.2 Adjusting device

8.4.3 Microslip test

8.4.4 Retractor

8.4.5 Static test for straps

8.4.6 Conditioning tests for adjusters

8.4.7 Temperature test

~~8.4.8. ISOFIX. Not needed as built in system will not have ISOFIX, and CRS will be covered by UN R-129.~~

~~7.4.9 Lock-off devices. Not needed as built in system will not have ISOFIX, and CRS will be covered by UN R-129.~~

8.5 Definition of the Test bench.

Test bench to be defined which will be representative of a bus seat. (Phase 2)

8.6 Registration of dynamic behavior

🡪 Filming and recording conditions

🡪 Estimation of uncertainty

8.7 The measuring procedures

 🡪 Specification of the equipment used.

**9. Test reports of type approval and of production qualification** (to be checked for the next meeting)

 🡪 Information on the test report

* Built in systems not subjected to PQT
* CRS covered by R-129

**9. Production qualification** (to be checked for the next meeting)

Definition of the PQT

🡪Built in systems not subjected to PQT

* CRS covered by R-129

**10. Conformity of production and routine tests**

 Just a requirement that makes the manufacturer responsible to conduct the COP tests.

**11. Modification and extension of approval of a Child Restraint System**

**12. Penalties for non-conformity of production**

**13. Production definitively discontinued**

**14. Information for users**

**15. Names and addresses of Technical Services responsible for conducting approval tests and of Type Approval Authorities**

**16. Transitional provisions**

**Annex 1. Communication**

**Annex…**