

INTERPRETATION IN R129

Backrest angle R16 VSF vs R129 Seat bench

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Paragraph R129 related to VSF:

2.17. "*Vehicle Seat Fixture (VSF)*" means a fixture, according to ISOFIX size classes whose dimensions are given in Figures 1 to 7 of Appendix 2 to Annex 17 to Regulation No. 16, used by a Enhanced Child Restraint System manufacturer to determine the appropriate dimensions of an ISOFIX Enhanced Child Restraint System and the location of its ISOFIX attachments.

6.3.2.2.1. External dimensions Integral Class Enhanced Child Restraint Systems

The maximum dimensions for width, height and depth of the Enhanced Child Restraint System and the locations of the ISOFIX anchorages system with which its attachments shall engage, shall be defined by the ISOFIX Vehicle Seat Fixture (VSF1) as defined in paragraph 2.17.1 of this Regulation.

- (a) i-Size Forward facing Enhanced Child Restraint Systems shall fit within the ISO/F2x size envelope for a reduced-height forward-facing toddler CRS ISOFIX SIZE CLASS B1;
- (b) i-Size Rearward facing Enhanced Child Restraint Systems shall fit within the ISO/R2 size envelope for a reduced-size rearward-facing toddler CRS ISOFIX SIZE CLASS D;
- (c) "Specific vehicle ISOFIX" Enhanced Child Restraint Systems shall fit in vehicle(s) specified or shall fit at least in one of ISO (R1,R2,R3,F2,F2X,F3, L1, L2) size envelope.

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1. One of the most important aims of R129 is the installation of the ECRS in rearward facing position as long as possible. To avoid rotation in rebound and during rear-impact a ECRS need a anti-rotation bar/support directly supported by the test bench.
2. R129 test bench is more in line with current vehicle car seats. The R129 test bench is based on the NPACS test bench.

Background

- Geometric and stiffness properties derived from research
- 30 vehicles examined
- Vehicles selection based on:
 - Sales
 - Child safety performance in EuroNCAP
 - Known child restraint interaction problems



3. The backrest of the vehicle car seats are soft (foam and fabric). No conflict in vehicles.

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Agreement in Informal Group 37th meeting:

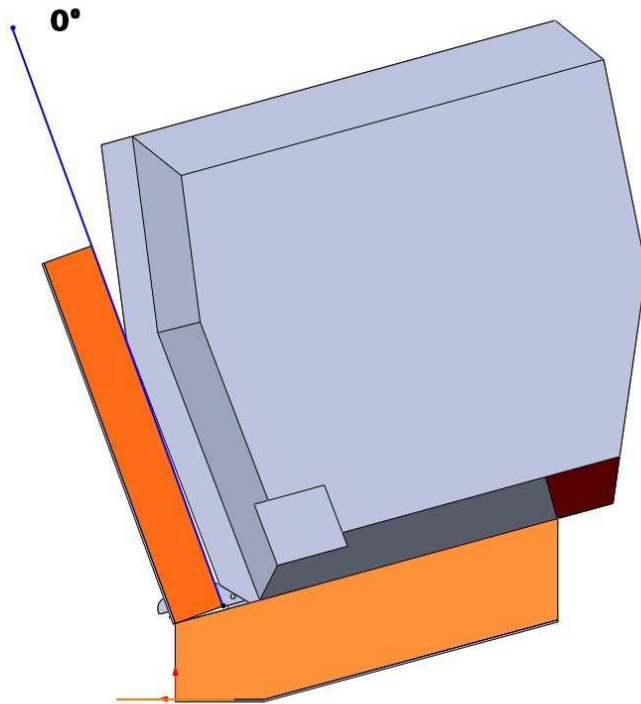
Use of iSize fixtures: The ECRS must fit into the iSize box for the declared height range stated on the ECRS. The check of the gabarit has to be done with the ECRS with the largest size of the declared range in at least one seating position. The lateral dynamic test will be performed in this configuration. For frontal impact the test shall be performed in extreme size position adjustment (worst case). The ECRS can be outside the iSize box for comfort adjustability, outside the stated range, i.e. width adjustment, headrest adjustment, recline positions.

Agreement in Informal Group 38th meeting:

Add mention in the Use of iSize fixtures: "The check of the gabarit has to be done with the ECRS adjusted to the largest size of the declared range in at least one seating position. The lateral dynamic test will be performed in this configuration. For frontal impact, the tests shall be performed with the CRS adjusted to the size of the dummy selected to represent the size range.

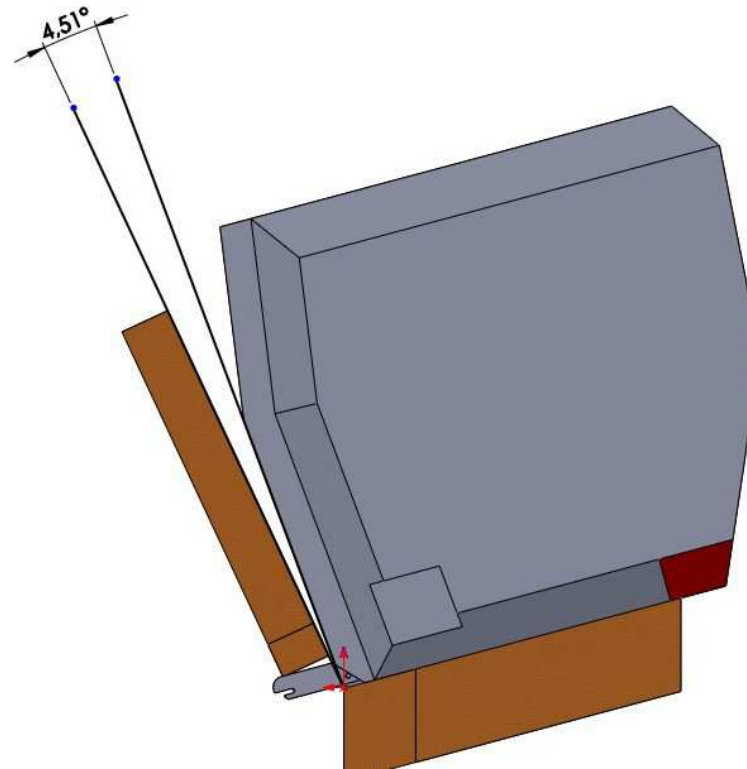
ISOFIX CLASS D (R2)

R44 backrest Angle Differences



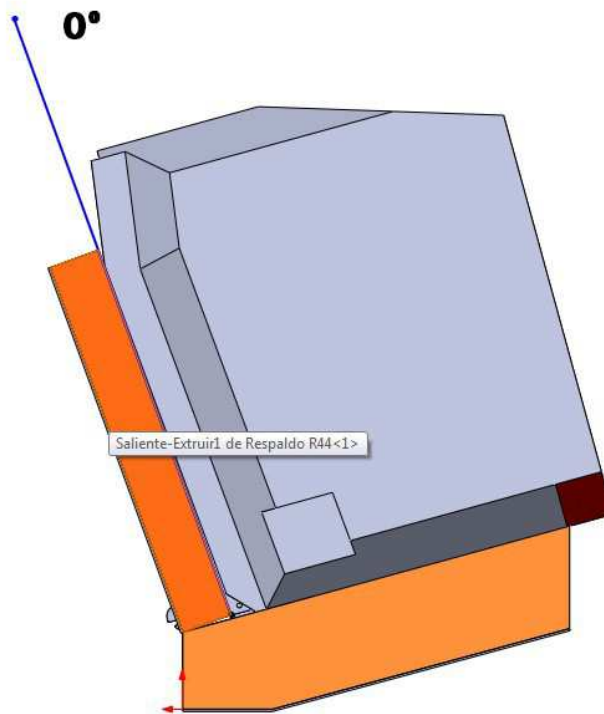
ISOFIX CLASS D (R2)

R129 backrest Angle Differences



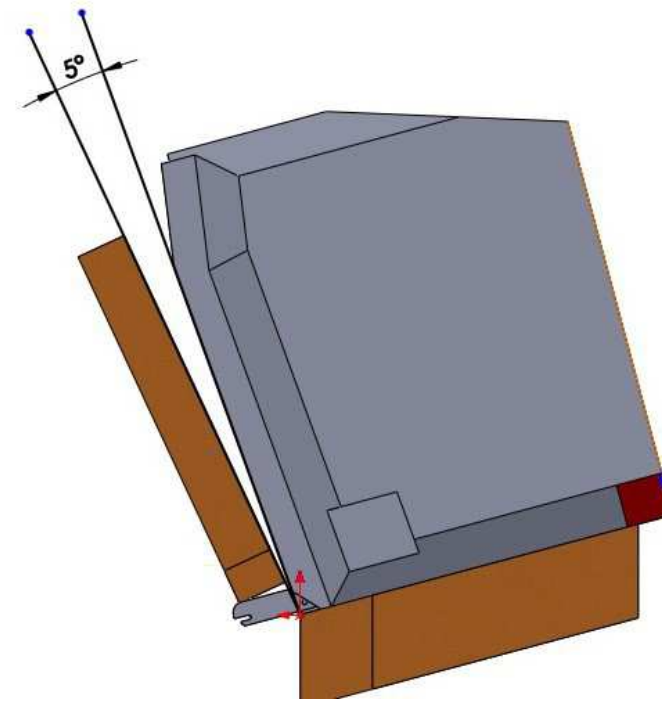
ISOFIX CLASS B1 (F2X)

R44 backrest Angle Differences



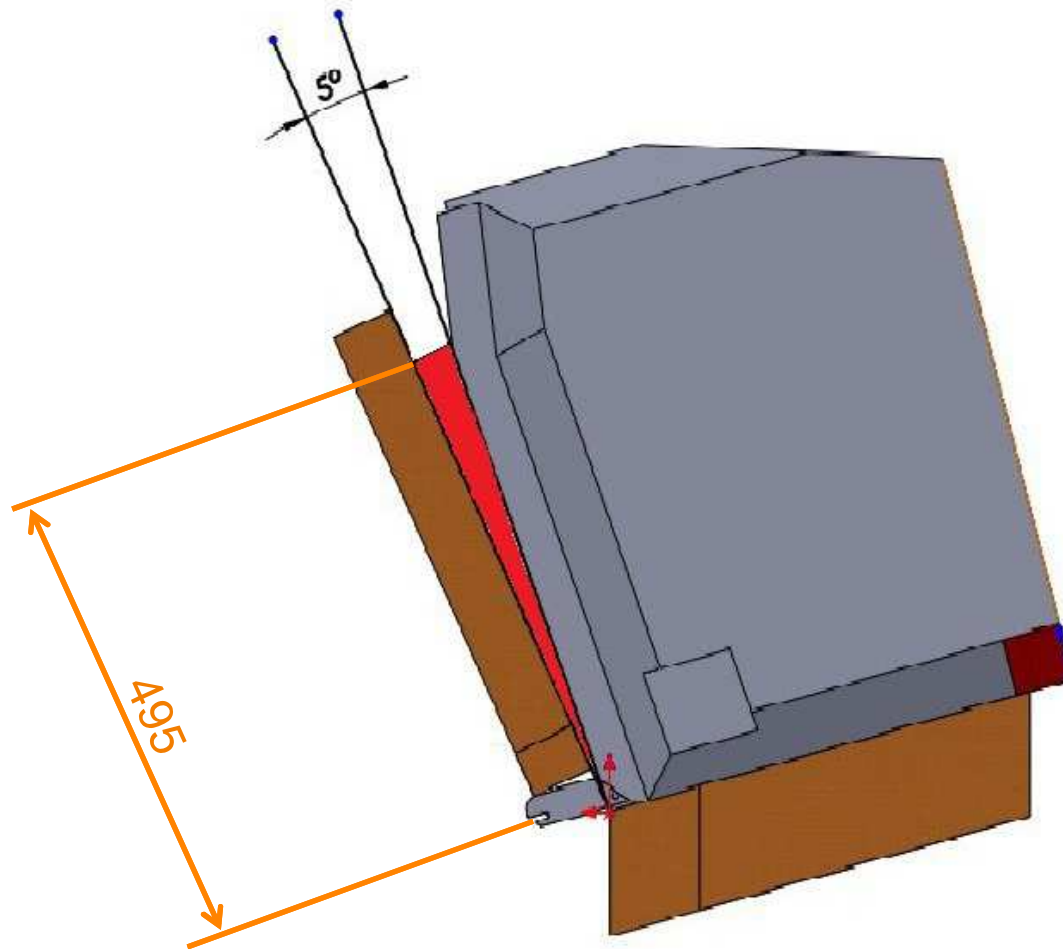
ISOFIX CLASS B1 (F2X)

R129 backrest Angle Differences



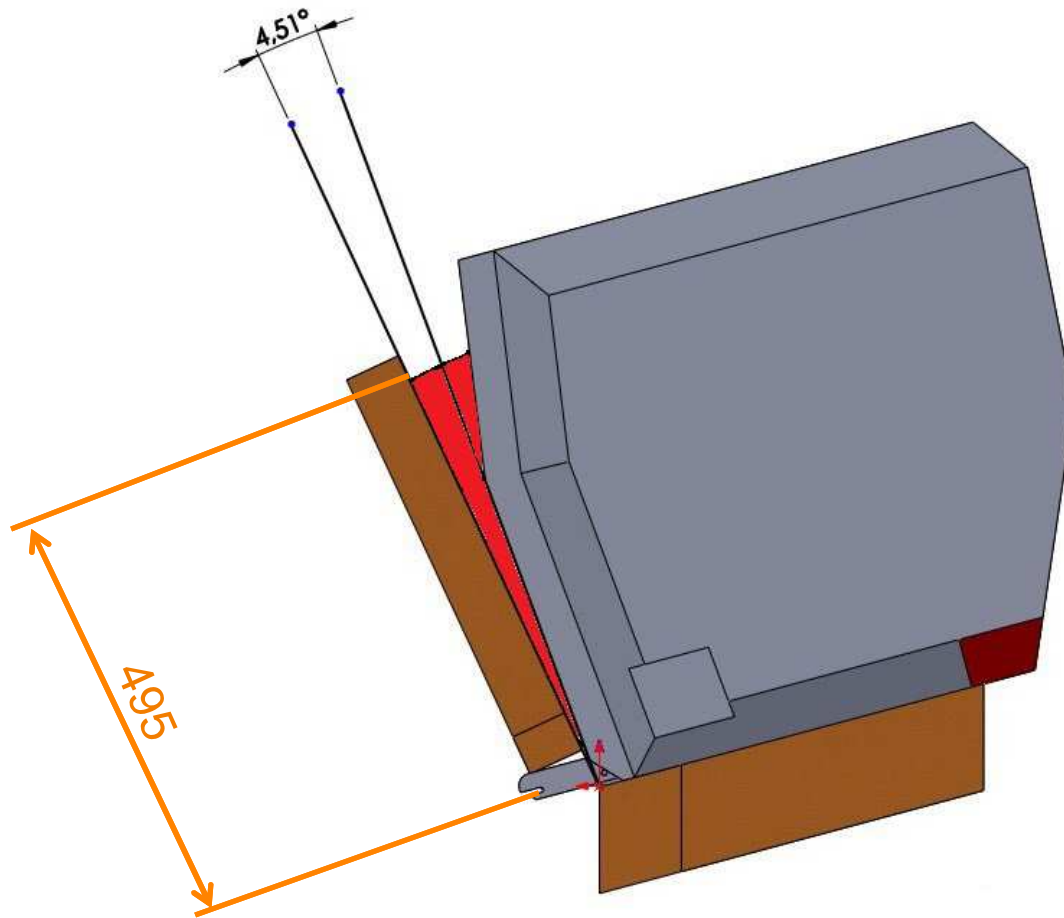
ISOFIX CLASS B1 (F2X)

R129 backrest Angle Interpretation



ISOFIX CLASS D (R2)

R129 backrest Angle Interpretation



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TASS International Homologations interpretation:

1. It's allowed to design an anti rotation bar or support to avoid rotation in the red area (see sheet 7 and 8).
2. The ECRS must fit within the VSF envelope (according to 6.3.2.2.1) for Enhanced Child Restraint Systems adjusted for the largest size of the declared range, adjusted in accordance to the owners manual, in both forward and rearward orientation (when applicable).
TASS accepts if the ECRS exceeds the VSF envelope for additional positions, like used for comfort adjustment (reclined positions, additional head rest adjustment, etc.), based on the interpretation of the IWG 37th and 38th meeting.
According to TASS, all other adjustments, like required e.g. for safety must fit within the VSF envelope.
Dynamic testing is to be done according to worst case position(s).
3. Compliance with these requirements may be verified by computer simulation (see also par. 6.3.5. for support-leg dimension check).

For information

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