

THE NETHERLANDS

TEST REPORT

Concerning ISOFIX anchorages systems, ISOFIX top tether anchorages and I-size seating positions
in accordance with ECE Regulation number 145.00 and
as specified by Regulation (EU) 2018/858, Annex II, Part III, Appendix 3

Test report number : RDW-145R-0116011

0.1. Make : CITROËN / PEUGEOT / OPEL / VAUXHALL / TOYOTA

0.2. Type : ETO / ETP / ETT

0.3. Category of vehicle : M1 (SH; Wheelchair accessible vehicle)

0.4. Name and address of the manufacturer : Tripod Mobility B.V.
Collseweg 10
5674 TR Nuenen
The Netherlands

General : The vehicle type as described in the document below has been inspected in accordance with the requirements laid down in the above-mentioned (UNECE / EU) regulation.
See documentation: ETP-2007/46-1347, dated: 21 March 2022 and
ETO-2007/46-1347, dated: 21 March 2022

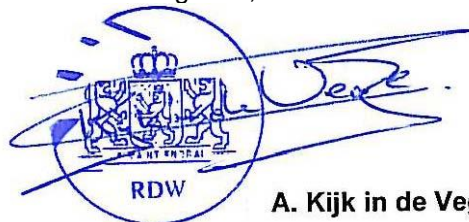
Tests : The tests have been carried out according to the above-mentioned regulation. The tested system/~~component/separate technical unit~~ is representative in terms of the type to be approved.

Conclusion : The type of vehicle does/~~does not~~ comply with the stated requirements of the above-mentioned regulation.

Tests conducted on : 21 March 2022

By : A. Kijk in de Vegte

Zoetermeer (NL), 21 March 2022
The test engineer,


RDW

A. Kijk in de Vegte



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Reason for testing

Update to UNECE Reg. 145 in combination with UNECE Reg. 14.09.

Reason for correction

Adding missing Make TOYOTA and Type ETT and correction of 1st stage approval number

Worst case description

No testing required, for detailed test information see 1st stage for 2nd row OEM seats and TÜV Nr. 135XS0116-06 for 3rd row TriflexAir seats

General information of the representative test object

Make and type of the vehicle : CITROËN / PEUGEOT / OPEL / VAUXHALL /
TOYOTA
ETO / ETP / ETT
Vehicle category : M1 (SH; Wheelchair accessible vehicle)
Body style : AF
Number of seating positions : max. 7

Seating position \ Equipped with		ISOFIX anchorages	ISOFIX top tether	i-Size seating
1 st seating row	Driver	--	--	--
	Centre	--	--	--
	Passenger	OEM, see 1 st stage	OEM, see 1 st stage	OEM, see 1 st stage
2 nd seating row (OEM)	Left hand side	OEM, see 1 st stage	OEM, see 1 st stage	OEM, see 1 st stage
	Centre	OEM, see 1 st stage	OEM, see 1 st stage	OEM, see 1 st stage
	Right hand side	OEM, see 1 st stage	OEM, see 1 st stage	OEM, see 1 st stage
2 nd seating row (TR04S seats)	Left hand side	N/A	--	--
	Centre	N/A	--	--
	Right hand side	N/A	--	--
3 rd seating row (TriflexAir seats)	Left hand side	yes/no in position/storable	yes/no	yes/no
	Centre	N/A	--	--
	Right hand side	yes/no in position/storable	yes/no	yes/no

General test information

Inspected by : A. Kijk in de Vegte
Place : Zoetermeer (NL)
Date : 21 March 2022



Used test equipment

Item	Required accuracy	Identification
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Remarks

For all not by the modification effected items see approval(s)/ test report(s) listed in stage 1 approval.

Relevant data and approval(s) valid for donor vehicle and completed vehicle if applicable:

<u>Make</u>	<u>Type</u>	<u>Approval</u>
OPEL/VAUXHALL	ETO	e2*2007/46*0624*??
CITROËN, PEUGEOT	ETP	e2*2007/46*0622*??
<u>TOYOTA</u>	<u>ETT</u>	<u>e2*2007/46*0685*??</u>

For detailed test information of 3rd row TriflexAir seats, see test report TÜV Nr. 135XS0116-06



5. Specifications

5.2. General specifications

5.2.1. Any ISOFIX anchorages system and any ISOFIX top tether anchorage, installed or intended to be installed, for ISOFIX child restraint systems, as well as the vehicle floor contact surface of any i-Size seating positions, shall be so designed, made and situated as to:

5.2.1.1. Any ISOFIX anchorages system and any top tether anchorage, as well as the vehicle floor contact surface of any i-Size seating positions, shall enable the vehicle, in normal use, to comply with the provisions of this Regulation.

: pass/fail

Any ISOFIX anchorages system and ISOFIX top tether anchorage which could be added on any vehicle shall also comply with the provisions of this Regulation⁽¹⁾

: pass/fail/N/A

5.2.1.2. ISOFIX anchorages system and ISOFIX top tether anchorage resistance are designed for any ISOFIX child restraint systems of group of mass 0; 0+; 1 as defined in UNECE R44

: pass/fail

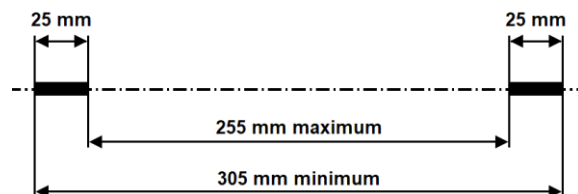
5.2.1.3. An ISOFIX anchorage system, ISOFIX top tether anchorage and vehicle floor contact surface of i-Size seating positions shall be designed for i-Size child restraint system of integral class as defined in UNECE R129

: pass/fail

5.2.2. ISOFIX anchorage systems, design and positioning:

5.2.2.1. Any ISOFIX anchorages system shall be 6 mm ± 0.1 mm diameter transverse horizontal rigid bar(s) which cover(s) two zones of 25 mm minimum effective length located on the same axis as defined below

: pass/fail/N/A



5.2.2.2. Any ISOFIX anchorages system installed on a vehicle seating position shall be located not less than 120 mm behind the design H-point measured horizontally and up to the centre of the bar:

- 2nd row OEM passenger seats
- 3rd row outboard passenger seats

: see 1st stage

: pass/fail

5.2.2.3. For any ISOFIX anchorages system installed in the vehicle, it shall be possible to attach either the ISOFIX child restraint fixture "ISO/F2" or "ISO/F2X"⁽²⁾

: pass/fail/N/A

i-Size positions shall accommodate ISOFIX child restraint fixtures "ISO/F2X", and "ISO/R2" together with the support leg installation assessment volume⁽³⁾

: pass/fail/N/A

In addition, i-Size positions shall accommodate the child restraint fixture of class ISO/B2⁽⁴⁾

: pass/fail/N/A

⁽¹⁾ Consequently, such anchorages shall be described on the application document for type approval.

⁽²⁾ "ISO/F2" or "ISO/F2X" are described in UNECE R16 Annex 17, Appendix 2.

⁽³⁾ "ISO/F2" or "ISO/F2X" together with the support leg installation assessment volume are described in UNECE R16 Annex 17, Appendix 2.

⁽⁴⁾ "ISO/B2" is described in UNECE R16 Annex 17, Appendix 5.



- 5.2.2.4. The bottom surface of the fixture mentioned in item 5.2.2.3. shall have attitude angles within the limits ⁽⁵⁾ : pass/fail/N/A
- For i-Size positions, providing the limits specified in item 5.2.2.4. are not exceeded, it is acceptable for the shortest support-leg length, according to the support-leg foot assessment volume, to result in a pitch angle greater than would otherwise be imposed by the vehicle seat or structure : applicable/N/A
- It shall be possible to install the ISOFIX child restraint fixture under the increased pitch angle : pass/fail/N/A
- This item does not apply to child restraint fixtures of size ISO/B2 : pass/fail/N/A
- 5.2.2.5. ISOFIX anchorage systems shall be permanently in position or storable ⁽⁶⁾ : see page 3
- 5.2.2.6. Each ISOFIX low anchorage bar (when deployed for use) or each permanently installed guidance device shall be visible, without the compression of the seat cushion or seat back ⁽⁷⁾ : pass/fail/N/A
- As an alternative to the above requirement, the vehicle shall be permanently marked adjacent to each bar or guidance device : pass/fail/N/A
- This marking shall consist in one of the following, at the choice of the manufacturer:
- 5.2.2.6.1. - Pictogram ⁽⁸⁾ with a diameter of minimum 13 mm ⁽⁹⁾ : used/not used
- 5.2.2.6.2. - The word "ISOFIX" in capital letters of at least 6 mm height : used/not used
- 5.2.2.7. The requirements of item 5.2.2.6. do not apply to the i-Size seating position. i-Size seating positions shall be marked according to item 5.2.4.1. : N/A/see below
- 5.2.3. ISOFIX top tether anchorages, design and positioning:
- At the request of the car manufacturer, methods described in item 5.2.3.1. and 5.2.3.2. can be used alternatively ⁽¹⁰⁾ : 5.2.3.1./5.2.3.2.
- 5.2.3.1. Subject to items 5.2.3.3. and 5.2.3.4., the portion of each ISOFIX top tether anchorage that is designed to bind with an ISOFIX top tether connector shall be located not further than 2000 mm far from the shoulder reference point and within the shaded zone, as described in the Regulation : pass/fail/N/A
- 5.2.3.2. The ISOFIX top tether anchorage zone may be alternatively located with the aid of the Fixture "ISO/F2" (B), in an ISOFIX position equipped with ISOFIX low anchorages : applicable/N/A
- 5.2.3.3. The portion of the ISOFIX top tether anchorage in a vehicle that is designed to bind with the ISOFIX top tether connector may be located outside the shaded zones referred to items 5.2.3.1. or 5.2.3.2. if a location within a zone is not appropriate and the vehicle is equipped with a routing device : pass/fail/N/A

⁽⁵⁾ (a) Pitch: $15^\circ \pm 10^\circ$,
(b) Roll: $0^\circ \pm 5^\circ$,
(c) Yaw: $0^\circ \pm 10^\circ$

⁽⁶⁾ In case of storable anchorages, the requirements relating to ISOFIX anchorages system shall be fulfilled in the deployed position.

⁽⁷⁾ The bar or the guidance device is viewed, in a vertical longitudinal plane passing through the centre of the bar or of the guidance device, along a line making an upward angle of 30 degrees with a horizontal plane.

⁽⁸⁾ 

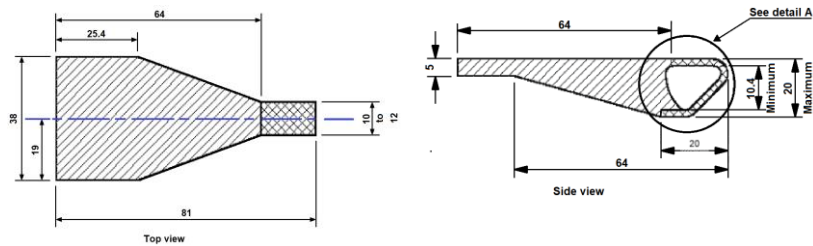
⁽⁹⁾ The pictogram shall contrast with the background of the circle and the pictogram shall be located close to each bar of the system.

⁽¹⁰⁾ Method described in paragraph 5.2.3.1. can only be used if the ISOFIX position is located on a vehicle seat.



5.2.3.4. A tether anchorage may be recessed in the seat back, provided that it is not in the strap wrap-around area at the top of the vehicle seat back : pass/fail/N/A

5.2.3.5. The ISOFIX top tether anchorage shall have dimensions to permit the attachment of an ISOFIX top tether hook as specified below



Clearance shall be provided around each ISOFIX top tether anchorage to allow latching and unlatching to it

: pass/fail/N/A

All anchorages located rearward of any ISOFIX anchorages system and which could be used to attach an ISOFIX top tether hook or ISOFIX top tether connector shall be designed to prevent misuse by one or more of the following measures:

(a) Designing all such anchorages in the ISOFIX top tether anchorage zone as ISOFIX top tether anchorages

: pass/fail/N/A

(b) Marking only the ISOFIX top tether anchorages using one of the symbols, or its mirror image⁽¹¹⁾

: pass/fail/N/A

(c) Marking such anchorages not in accordance with (a) or (b) above with a clear indication that these anchorages should not be used in combination with any ISOFIX anchorages system

: pass/fail/N/A

For each ISOFIX top tether anchorages under a cover, the cover shall be identified by one of the symbols or the mirror image of one of the symbols⁽¹⁰⁾

: pass/fail/N/A

The cover shall be removable without the use of tools

: pass/fail/N/A

5.2.4. i-Size seating position requirements

Each i-Size seating position, as defined by the vehicle manufacturer, shall conform to the requirements defined in items 5.2.1. to 5.2.4.3.

: pass/fail/N/A

5.2.4.1. Markings

Each i-Size seating position shall be permanently marked⁽¹²⁾⁽¹³⁾ adjacent to the ISOFIX low anchorages system (bar or guidance device) of the respective seating position

: pass/fail/N/A

5.2.4.2. Geometrical requirements for i-Size seating positions connected to i-Size support legs

In addition to the requirements defined in 5.2.2. and 5.2.3. it shall be verified that the upper surface of the vehicle floor (incl. trim, carpet, foam, etc.) intersects with both of the limiting surfaces in the x- and y-directions of the support leg foot assessment volume

: pass/fail/N/A

5.2.4.3. Vehicle floor strength requirements for i-Size seating positions

The entire vehicle floor contact surface shall be of sufficient strength to withstand the loads imposed when tested

: pass/fail/N/A

(11)  or 

(12) 

(13) The pictogram shall contrast with the background of the circle and the pictogram shall be located close to each bar of the system.



5.3. Minimum number of ISOFIX positions to be provided

- 5.3.1. Any vehicle of category M₁ must be equipped at least with two ISOFIX positions : pass/fail *
- At least two of the ISOFIX positions shall be equipped both with an ISOFIX anchorages system and an ISOFIX top tether anchorage : pass/fail *
- Location of the ISOFIX positions and top tether(s) : see page 3 *
- 5.3.2. If a vehicle is only equipped with one seat row, no ISOFIX position is required : applicable/N/A
- 5.3.3. At least one of the two ISOFIX positions systems shall be installed at the second seat row : see page 3 *
- 5.3.4. Vehicles of category M₁ need to have only one ISOFIX position system for vehicles with ⁽¹⁴⁾:
- (a) Not more than two passenger doors; and : pass/fail/N/A
- (b) A rear designated seating position for which interference with transmission and/or suspension components prevents the installation of ISOFIX anchorages according to the requirements of item 5.2.2.; and : pass/fail/N/A
- (c) Having a Power to mass ratio index (PMR) exceeding 140 ⁽¹⁵⁾ : pass/fail/N/A
- (d) Having an engine developing a maximum (rated) engine power greater than 200 kW : pass/fail/N/A
- Such a vehicle needs to have only one ISOFIX anchorages system and an ISOFIX top tether anchorage at a front passenger designated seating position combined with an airbag deactivation device (if that seating position is fitted with an airbag) and a caution label indicating that there is no ISOFIX position system available at the second seat row : pass/fail/N/A
- 5.3.5. If an ISOFIX anchorages system is installed at a front seating position protected with a frontal airbag, a de-activation device for this airbag shall be fitted : see 1st stage
- 5.3.6. In case of integrated "built in" child restraint system(s) the number of ISOFIX positions to be provided shall be at least two minus the number of the integrated "built in" child restraint system(s) of mass groups 0, or 0+, or 1 : pass/fail/N/A
- 5.3.8.7. Convertible vehicles with more than one seat row shall be fitted with at least two ISOFIX low anchorages : pass/fail/N/A
- In case where an ISOFIX top tether anchorage is provided on such vehicles, it shall comply with the suitable provisions of this Regulation : --

⁽¹⁴⁾ This in combination with an airbag deactivation device (if that seating position is fitted with an airbag)

⁽¹⁵⁾ according to the definitions within UNECE R51, and with the definition of the Power Mass Ratio (PMR): $PMR = (P_n / m_t) * 1000 \text{ kg/kW}$

- 5.3.8. If a vehicle is only equipped with one seat position per row, only one ISOFIX position is required in the passenger position : ~~pass~~/fail/N/A
- In case where an ISOFIX top tether anchorage is provided on such vehicles, it shall comply with the suitable provisions of this Regulation ⁽¹⁶⁾ : --
- However where it is not possible to install even the smallest forward-facing ISOFIX fixture ⁽¹⁷⁾ in the passenger seating position, then no ISOFIX position shall be required, provided that a child restraint system is specified for that vehicle. : --
- 5.3.9. ISOFIX positions are not required in ambulances or hearses as well as vehicles intended for use by the armed services, civil defence, fire services and forces responsible for maintaining public order : ~~applicable~~/N/A
- 5.3.10. One or more of the mandatory ISOFIX positions may be replaced by i-Size seating positions : ~~applicable~~/N/A

* The minimum number of ISOFIX child seat anchorages need not to be provided in case of a wheel chair accessible vehicle. In the case of a multi-stage type-approval where an ISOFIX anchorage system has been affected by the conversion, either the system shall be re-tested or the anchorages shall be rendered unusable. In the latter case the ISOFIX labels shall be removed and appropriate information shall be given to the vehicle purchaser.



⁽¹⁶⁾ However, where it is not possible to install even the smallest forward-facing ISOFIX fixture in the passenger seating position, then no ISOFIX position shall be required, provided that a child restraint system is specified for that vehicle

⁽¹⁷⁾ as defined in UN Regulation No. 16, Appendix 2, of Annex 17