



Technical Report No.: CW134 – 23 – TAC
 Regulation: UN Reg. No. 129.03
 Manufacturer: Cixi Babyhome Products Co., Ltd., China
 Type: Z-12RB

UN/ECE Technical Service No. E8/C and E27/J

TECHNICAL REPORT No. CW134 – 23 – TAC

Test according to UN Regulation No. 129.03

Uniform provisions concerning the approval of enhanced child restraint system use on board of motor vehicles (ECRS)

UN Regulation No. 129.00 – date of entry into force: 2013-07-09

including all amendments up to and including

UN Regulation No. 129.03, supplement 7 – date of entry into force: 2023-01-04

Objectives: Document for issue of approval certificate

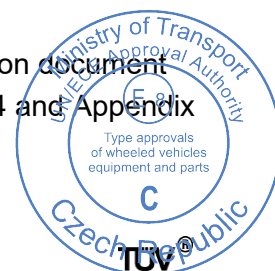
I. Technical data

- 0.1. Make (trade name of manufacturer): Bbqool, Mamakids, Kingbaby, Bene baby, Martinnor, Moni, Lorelli, Minebaby, Cangaroo, Kiddo, Lionelo, Kindersafety, KENGA, BELLA BABY, bebeglo, bebesit, BIUCO, Chipolino, Felcraft, kiddo, whoop, love, kidgo, prinsel, kiddy, bebglo, kenga, bellababy, bebeglo, SAFETY 1ST, INFANTI, Forsage kids, Beianbao, Kabihu, BBPRO, BBGO, baby kit's allobebe, TWIGY, Anakku, Action Baby, KidsJoy, Bambi, Mothercare, PRENATAL, Giordani, BABYMICHEL, Camera, BRITTON, GESSLEIN, LEAMAN, KRAFT, Baby&Plus, M amaLoes, SAFEWAY, MS, Infantia, LIKOBAB Y, CHELINO, HAPPY BABY, Lenox, BEBESIT, CUTEBABIES, BABY KIT'S KIT'S, Infanti, Galzerano, CotoBaby, LOOPING, KinderKraft, IO BIMBO, AVANTI, COALA, BABY DESIGN, ESPIRO, BOMIKO, PRENATAL, COCCOLLE, TWINGO, BORSINO BABY, Lorelli, Babyauto, More, Play Kikkaboo, Cabino, Xadventure, Huggy, Prego, Sunnybaby, bebestars, Asalvo, Apollo, Speli, 4Baby, infababy, Titaniumbaby, Nuovita, OTOMO, baby tilly, Kari kids, Kari, CozyNsafe, Infababy, My Child, farfello, bebe 2 luxe, Babyton, Olsson, Ninia, Migo, Disney



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0.2.	Type:	Z-12RB
0.2.1.	Commercial name:	n.a.
0.2.2.	Variants:	n.a.
0.3.	Means of identification of type:	Letters and digits
0.4.	Category of vehicle:	n.a.
0.5.	Name and address of manufacturer:	Cixi Babyhome Products Co., Ltd. No.48 Zongyi lu,Zonghan Jiedao,Cixi City, Zhejiang Province, China
0.8.	Address of assembly plant:	See 0.5.
0.9.	Location of the approval mark:	Sticker glued on the bottom of product
0.10.	ECRS	
0.10.1.	ECRS category:	i-Size booster seat
0.10.2.	ECRS class:	Non-integral
0.10.3.	Size Range:	100-150cm
0.10.4.	Maximum occupant mass for Integral ECRS:	n.a.
0.10.5.	ECRS orientation:	Forward-facing
0.10.6.	Anti-rotation device:	n.a.
0.10.7.	Child Restraint Mode:	Adult safety-belt
0.10.8.	Locking-off device type:	n.a.
0.10.9.	Type of retractor:	n.a.
0.10.10.	Belt type:	Adult safety-belt
0.10.11.	Other features:	Chair assembly
0.10.12.	Installation Methods:	100-150cm: Adult safety belt + ISOFIX attachments; 100-150cm: Adult safety belt
0.10.13.	Backrest positions:	Fixed
0.10.14.	Declaration on toxicity in accordance with par.6.3.1.1. of this regulation:	See Appendix 3 of information document
0.10.15.	Declaration on flammability in accordance with par.6.3.1.2. of this regulation:	See Appendix 3 of information document
0.10.16.	Instruction for use of ECRS in the vehicle:	See Appendix 2, Appendix 4 and Appendix 5 of information document



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II. Test report

1. Test conditions

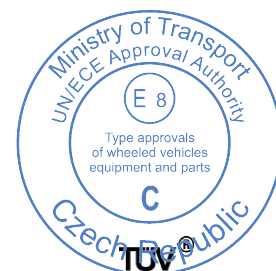
- 1.1. Test sample: ECRS of size range 100-150cm, type Z-12C. For type approval tests: Samples No. 1 to 13, and relative components; for production qualification tests: PQT-1 to 5
- 1.1.1 Technical data from the manufacturer: n.a.
- 1.2. Test procedures used: According to UN Regulation No. 129.03
- 1.3. Measuring and test equipment: Used equipment fulfill all requirements of the UN Regulation No. 129.03
- 1.4. Worst case evaluation: N/A, single case - no variant.
This paragraph is required by the Type Approval Authority.
- 1.5. Testing conditions: n.a.
- 1.6. Test track or site: Jiangsu EQO Testing Services Co., Ltd.
No. 28, Lufeng East Road, Lujia, Kunshan, Jiangsu, China

2. Test results

Following numbering is according to UN Regulation No. 129.03

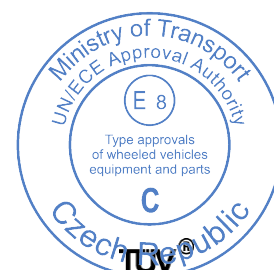
4. Markings

- 4.1. ECRS is marked of manufacturer's name, initials or trade mark: fulfilled
- 4.2. ECRS is clear and indelible marked with year of production: fulfilled
- 4.3. Orientation, size range, maximum occupant mass, webbing path, and visibility of these marking: fulfilled
- 4.4. ECRS is permanently attached the warning label of "Airbag": n.a.
- 4.5. ECRS is permanently attached the warning label of no forward-facing for child less than 15 months: n.a.



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- 4.6. The webbing path markings shall be permanently and durably attached and visible: fulfilled
- 4.7. Marking for integral ECRS including ISOFIX connections attachments
- 4.7.1. for i-Size ECRS, the i-Size Logo shall permanently visible: n.a.
- 4.7.2. for Specific Vehicle ISOFIX ECRS, the ISO ISOFIX logo and user instruction label shall permanently visible: n.a.
- 4.7.3. If ECRS containing modules, approval mark shall be permanently attached on base: n.a.
- 4.7.4. If ECRS containing modules, module mark shall be permanently attached on the module: n.a.
- 4.8. Marking for non-integral ECRS
- 4.8.1. For i-Size booster seat ECRS, the i-Size booster seat user instruction label shall be permanently visible as prescribed in item 4.7.1.: fulfilled
- 4.8.2. for Specific vehicle booster seat ECRS, the Specific vehicle booster seat user instruction label shall permanently visible: n.a.
- 4.8.3. for Universal booster cushion ECRS, the Universal booster cushion ECRS user instruction label shall permanently visible: n.a.
- 4.8.4. for Specific vehicle booster cushion ECRS, the Specific vehicle booster cushion ECRS user instruction label shall permanently visible: n.a.
- 4.8.5. Marking for Booster cushion: n.a.
- 4.9. Marking for ECRS with an impact shield: n.a.
- 4.10. Any removable insert, shall have a permanently attached label to indicate the brand, model and size range of the Enhanced Child Restraint System to which it belongs: n.a.



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- 4.11 A Booster seat that converts to a Booster cushion by a removable backrest, shall have a permanently attached label on the backrest, to indicate the brand and model of the Enhanced Child Restraint System to which it belongs and the size range: n.a.
- 4.12. ECRS shall have a permanently attached label to inform the user of the appropriate method of restraint of the child over the entire stature range declared by the manufacturer: fulfilled
- 4.13. Marking for Integral Belted Enhanced Child Restraint System
- 4.13.1. for Universal Belted ECRS, the Universal Belted ECRS user instruction label shall permanently visible: n.a.
- 4.13.2. for Specific vehicle Belted ECRS, the Specific vehicle Belted user instruction label shall permanently visible: n.a.
- 4.14. Additional markings: fulfilled
6. General specifications
- 6.1. Positioning and securing on the vehicle
- 6.1.2.5.&
6.1.3.4. Measurement from Cr to load bearing point (Left & Right)

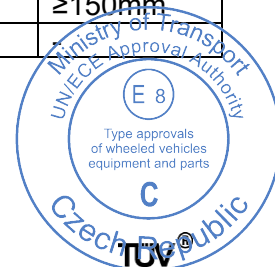
Item		Measured	Limit
Measurement from Cr to load bearing point	Left	165mm	≥150mm
	Right	170mm	≥150mm

Sample No. 1: meet the requirements

- 6.1.2.6.&
6.1.3.5. Belt remaining on spool

Item		Measured	Limit
Belt remaining on spool	Integral	-	-
	Non-integral	935mm	≥150mm
	Booster cushion	-	-

Sample No. 1: meet the requirements



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6.2. Configuration of the ECRS

6.2.1.4. Buckle position when smallest & largest dummies are installed: fulfilled

6.2.1.5. Angle α and β measured with smallest & largest dummies

Items	Measured	Limit
Angle α and β measured with smallest & largest dummies	$\alpha 1$	29.4°
	$\beta 1$	29.5°
	$\alpha 2$	35.8°
	$\beta 2$	35.4°

Sample No. 1: meet the requirements

6.3. ECRS specification

6.3.1. Material

Items	Signed Declaration Received?	Test Report Reference (If applicable)
6.3.1.1. Flammability	See Appendix 3 of information document	EQO22080310T
6.3.1.2. Toxicity	See Appendix 3 of information document	EQO22080310T

6.3.2. General characteristics

6.3.2.1 Internal geometric characteristics

	Unit	Measured	Limit
Declared stature range	100-150cm		
For Integral ECRS	-		
The minimum occupant size	Minimum Shoulder Height (E1)	cm	-
The maximum occupant size	Sitting Height (B)	cm	-
	Shoulder Breadth (C)	cm	-
	Hip Breadth (D)	cm	-
	Maximum Shoulder Height (E2)	cm	-
For Non-integral ECRS	100-150cm		
The minimum occupant size	Minimum Shoulder Height (E1)	cm	31.1
The maximum occupant size fit within the ISO/B2 size envelope(135cm)	Sitting Height (B)	cm	77.2
	Shoulder Breadth (C)	cm	37.6
	Hip Breadth (D)	cm	32.6
	Maximum Shoulder Height (E2)	cm	49.6
The maximum occupant size	Sitting Height (B)	cm	83.2
	Shoulder Breadth (C)	cm	37.6
	Hip Breadth (D)	cm	32.6
	Maximum Shoulder Height (E2)	cm	54.5

Sample No. 1: meet the requirements

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6.3.2.2. External dimensions

Configuration Measured	Forward facing, non-integral, 100-135cm
ISO volume	B2
ECRS adjustments that fit within volume	
Headrest position	Position 1-11
Reclined position	Fixed
Side wing position	n.a.
Verification photos of physical check	fulfilled
Verification image if checked using CAD drawing	n.a.

Sample No. 1: meet the requirements

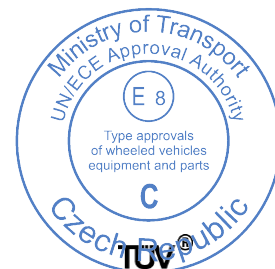
- 6.3.2.3. Mass n.a.
- 6.3.3. ISOFIX attachments: fulfilled
- 6.3.4. ISOFIX ECRS top tether strap specifications: n.a.
- 6.3.5. i-Size ECRS support-leg and support-leg foot requirements n.a.
- 6.4. Control of marking: fulfilled
- 6.5. Control of instructions on installation and the instructions for use: fulfilled
- 6.6. Provisions applicable to the assembled restraint
- 6.6.1. Resistance to corrosion
(only the corrosible parts were tested): fulfilled

6.6.2. Energy absorption

	Area of headform impact		Headform deceleration
Deceleration of headform [g] (limit 60g)	The middle of head backrest		10.1
	The sides of head backrest	left side wing	6.3
		right side wing	13.8
Depth of the side wings* ≥ 90 mm	n.a.		

*only apply for rearward-facing device

Sample No. 2: meet the requirements



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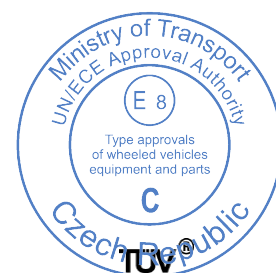
6.6.3. Overturning

	ECRS orientation	Installation Methods	Direction of rotation				Mass of the dummy [kg]
			Clock wise	Anti-clock wise	Roll ahead	Roll back	
Dummy's head vertical movement [mm] (limit 300 mm)	Forward-facing (100-150cm)	adult safety-belt+ISOFIX attachments	36	34	44	55	15.1
			56	50	85	90	36.1
	Forward-facing (100-150cm)	adult safety-belt	39	29	63	62	15.1
			52	45	73	76	36.1

Sample No. 3: meet the requirements

6.6.4. Dynamic test

Type of dynamic test device:	Deceleration
Dec. curves:	meet the requirements
Position of buckle during the test:	buckle for adult seat
Configuration of Test samples: (Sample No. 4 to No. 13)	i-Size booster seat ECRS, non-integral, forward-facing (100-150cm).
Remarks:	Detail results of dynamic test see below <i>Table 1 to Table 2</i>

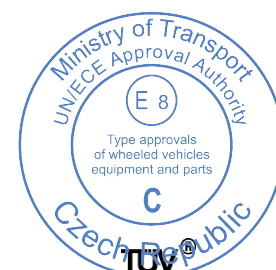


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Table 1

Testing parameter		Limit	Result			
ECRS Class		-	non-integral			
ECRS orientation		-	forward-facing			
Impact direction		-	frontal			
Backrest position		-	fixed			
ISOFIX attachments		-	with attachments		without attachments	
Sample No.		-	4	5	6	7
Used dummy		-	Q3	Q10	Q3	Q10
Mass of dummy [kg]		-	15.1	36.1	15.1	36.1
Trolley impact speed [km/h]		48-50	49.5	49.4	49.2	49.4
Trolley Stopping distance [mm]		600-700	670	672	672	671
Trolley max. dece. [g]		20-28	23.8	23.7	23.6	23.7
Head performance criterion		-	400	254	390	242
Head acceleration 3ms [g]		≤80	62.6	67.5	62.7	50.4
Chest acceleration 3ms [g]		≤55	40.6	32.6	36.4	29.4
Chest deflection [mm]		-	28.6	39.1	23.6	29.9
Upper neck tension force [N]		-	2352	2341	2226	2548
Upper neck flexion moment [Nm]		-	15.6	25.3	14.3	25.5
Abdominal pressure [bar]	L	≤1.0/1.2	0.46	0.35	0.41	0.33
	R	≤1.0/1.2	0.30	0.18	0.23	0.17
Maximum of head displacement	x [mm] (horizontal)	≤ 500/550	333	367	324	358
	at time [ms]	-	85	96	88	94
	z [mm] (vertical)	≤ 800/840	668	798	669	792
	at time [ms]	-	193	13	197	14
	no pass DE plane	no	no	no	no	no
Buckle open force after [N]		≤ 80	-	-	-	-
Failure or breakage		no	no	no	no	no
Belt Force [N]	Lap	45-55	51	50	51	50
	Shoulder	45-55	48	49	48	49

Samples No. 4 to No. 7 fulfilled the dynamic test requirements.



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Table 2

Testing parameter	Limit	Result					
ECRS Class	-	non-integral					
ECRS orientation	-	forward-facing					
Impact direction	-	lateral					
Backrest position	-	fixed					
ISOFIX attachments	-	with attachments			without attachments		
Sample No.	-	8	9	10	11	12	13
Used dummy	-	Q3	Q6	Q10	Q3	Q6	Q10
Mass of dummy [kg]	-	15.1	23.5	36.1	15.1	23.5	36.1
Door bench relative velocity [m/s]	6.375-7.25	6.63	6.78	6.86	6.65	6.74	6.84
Head performance criterion	≤800	382	318	175	407	334	137
Head acceleration 3ms [g]	≤80	69.0	60.0	50.3	71.1	61.1	44.8
Upper neck tension force [N]	-	1071	1722	1823	1318	1720	1744
Upper neck flexion moment [Nm]	-	9.8	20.5	29.9	8.3	17.1	30.8
Head containment (No head contact and not exceed vertical plane)		no	no	no	no	no	no
Buckle open force after [N]	≤80	-	-	-	-	-	-
Failure or breakage	no	no	no	no	no	no	no
Belt Force [N]	Lap	45-55	50	49	49	51	50
	Shoulder	45-55	48	49	49	52	48

Samples No. 8 to No. 13 fulfilled the dynamic test requirements.

6.6.5. Resistance to temperature
 (only the relevant parts were tested): fulfilled

6.7. Provisions applicable to individual components of the restraint

6.7.1. Buckle: n.a.

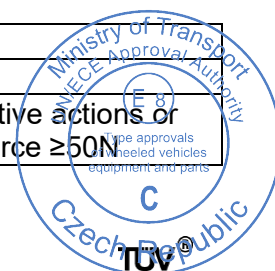
6.7.2. Adjusting device: n.a.

6.7.3. Retractors: n.a.

6.7.4. Straps: n.a.

6.7.5. ISOFIX attachment specifications: fulfilled

Item	Result	Limit
Repeated operations before dynamic test [cycles]	2000	2000 ± 5
Two consecutive actions	fulfilled	2 consecutive actions or opening force ≥ 50N
opening force [N]	-	



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6.7.6. Lock-off devices: n.a.

6.8. Classification: fulfilled

9. Production qualification

9.2. Production qualification test

Configuration of test samples: i-Size booster seat, non-integral, forward-facing (100-150cm). Backrest position: Fixed. Test with Q10 dummy (36.1kg), frontal impact, with attachments

(Sample No. PQT-1 to 5)

Remarks: n.a.

PQT No.	Maximum horizontal head excursion [mm] (L: 550)	Head acc. 3ms [g] (≤ 80)	Chest acc. 3ms [g] (≤ 55)	Head criterion - HPC (≤ 800)	Abdominal pressure [bar] (≤ 1.2)		Upper neck tension force [N]	Upper neck flexion moment [Nm]	Chest def. [mm]
1	351	46.0	30.0	186	0.32	0.21	2167	24.5	33.2
2	367	49.5	29.8	201	0.34	0.22	2358	26.8	32.5
3	359	52.2	31.7	244	0.38	0.20	2593	24.8	30.9
4	359	52.4	30.3	220	0.29	0.20	2443	27.2	35.1
5	362	46.1	30.6	205	0.33	0.20	2264	15.9	32.6
Calculation X	359.6	49.2	30.5	-	-	-	-	-	-
Calculation S	5.2	2.8	0.7	-	-	-	-	-	-
X + S	364.8	52.0	31.2	-	-	-	-	-	-

No value shall exceed 1.05 L, and X + S shall not exceed L:

Samples PQT-1 to 5 fulfilled the production qualification test requirements.

14. Information for users

14.1. ECRS is accompanied by instructions in the language of the country where the device is sold:

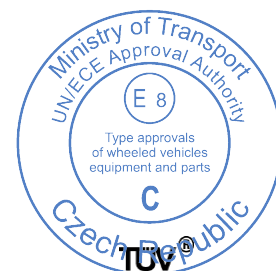
fulfilled

14.2. Instructions on installation:

fulfilled

14.3. Instructions for use:

fulfilled



3. Specimen submitted to test on: 2022-12-28
4. Date of test: 2022-12-28 to 2023-02-16
- III. Manufacturer's information folder No. 129-KBH306-00
21 pages total of 2022-12-28
- IV. Other documentation
Graphs
-Deceleration curves of sled test trolley: Pages 13 to 17
- V. Attachments
No attachments

The results presented above relate to the tested items only and to the sample as provided by the customer.

Measuring and test equipment and test site meet the requirements of the applicable legislation.
This report shall never be reproduced incomplete and without a written permission of the testing laboratory. TÜV SÜD CZECH confidentiality degree: confidential

VI. Final assessment

The described sample in tested items
complies
with the requirements of UN Regulation No. 129.03
for issue of approval certificate

This technical report consists of pages No. 1 to 17.



Václav Baloun

Report author



Vit Bursik

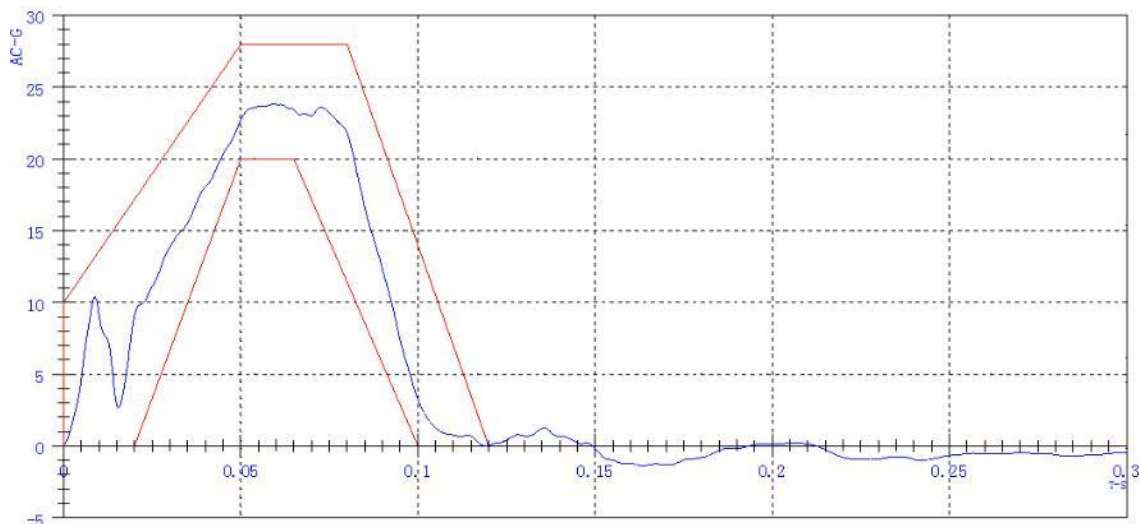
Officially recognized expert

Prague, 2023-02-23

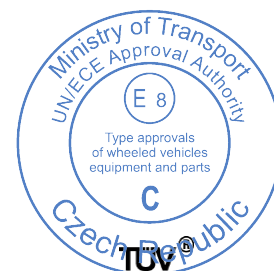
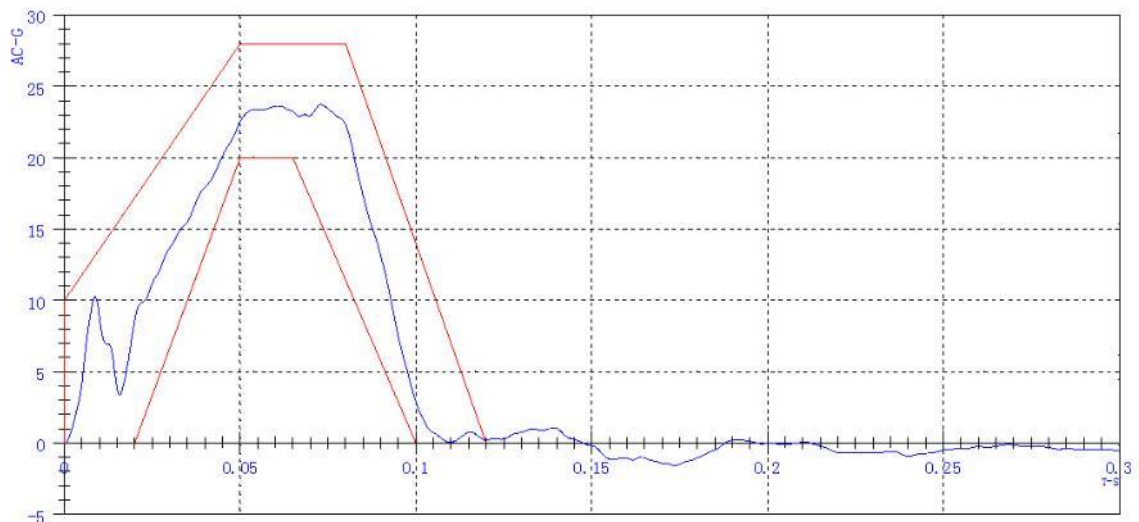


Graphs: Deceleration curves of sled test trolley

- a) Tested sample No. 4, dummy Q3, frontal impact; i-Size booster seat, non-integral, forward facing, fixed.

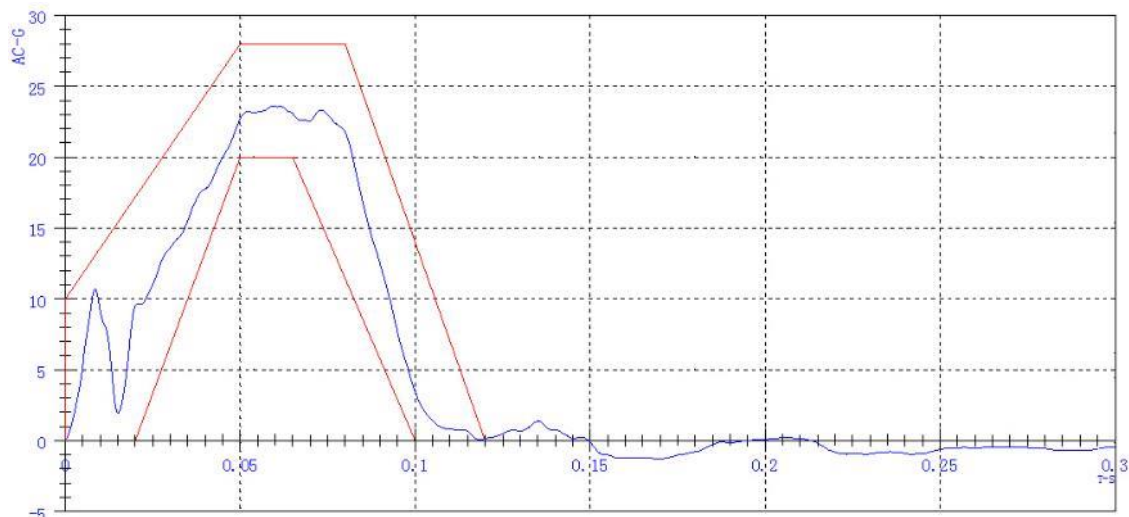


- b) Tested sample No. 5, dummy Q10, frontal impact; i-Size booster seat, non-integral, forward facing, fixed.

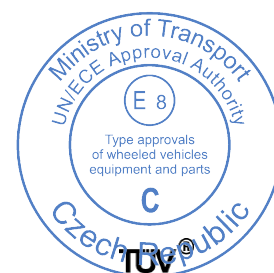
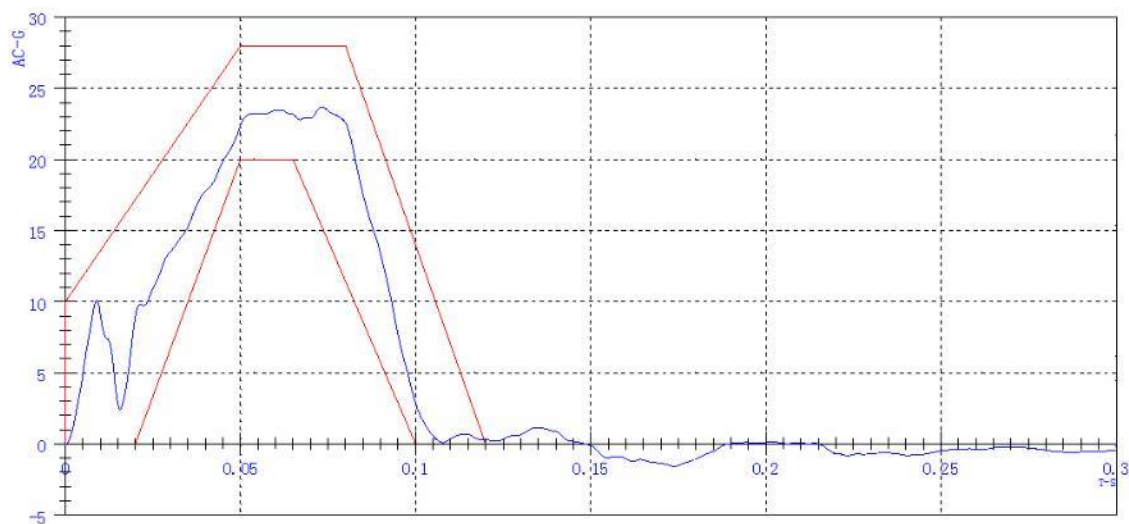


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- c) Tested sample No.6, dummy Q3, frontal impact; i-Size booster seat, non-integral, forward facing, fixed, without ISOFIX attachments.



- d) Tested sample No. 7, dummy Q10, frontal impact; i-Size booster seat, non-integral, forward facing, fixed, without ISOFIX attachments.



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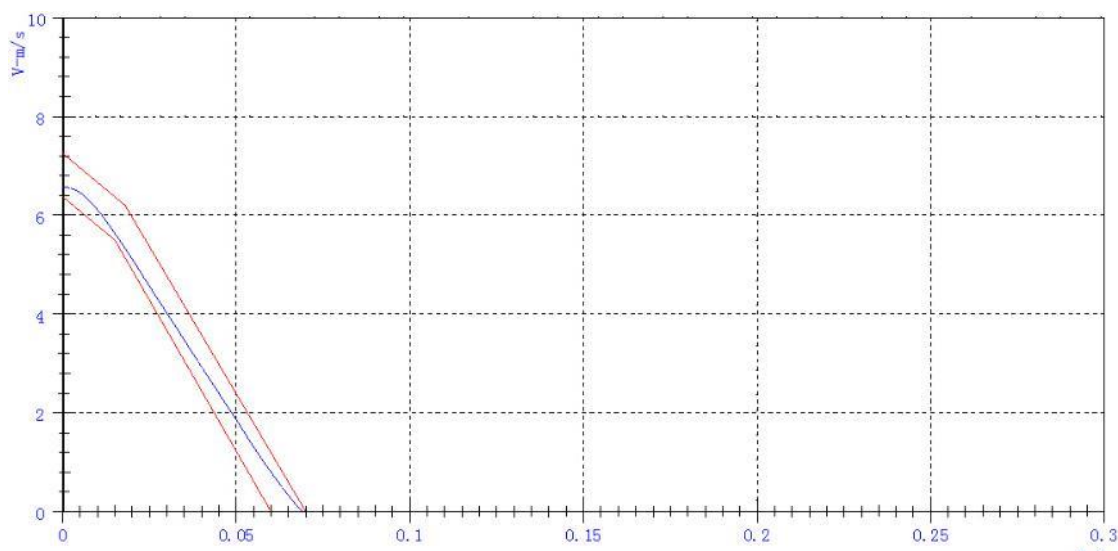
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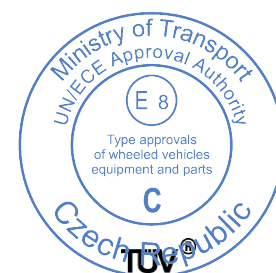
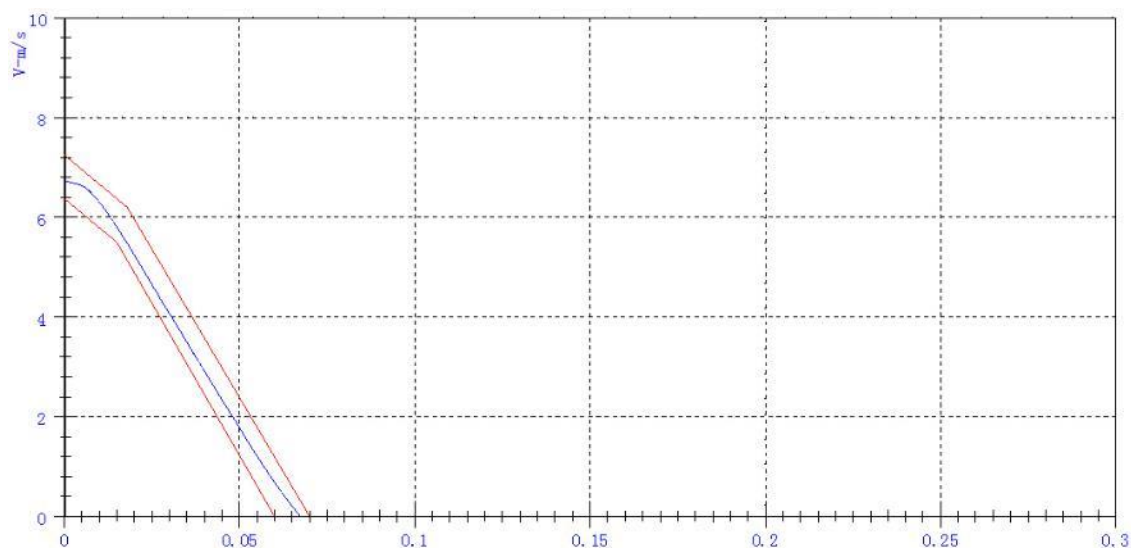
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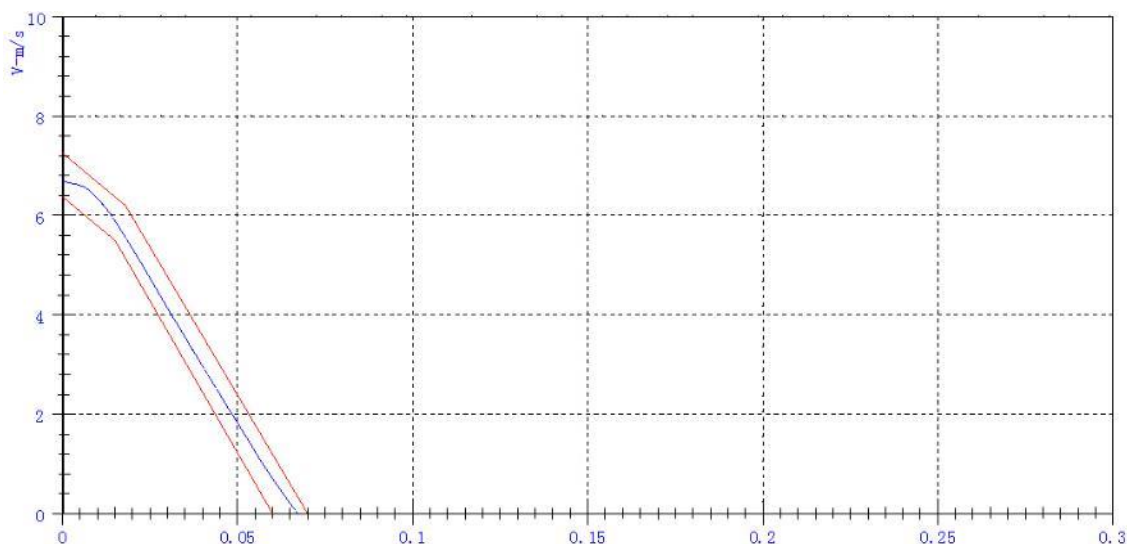
- e) Tested sample No. 8, dummy Q3, lateral impact; i-Size booster seat, non-integral, forward facing, fixed.



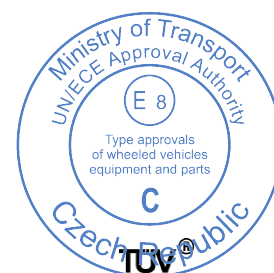
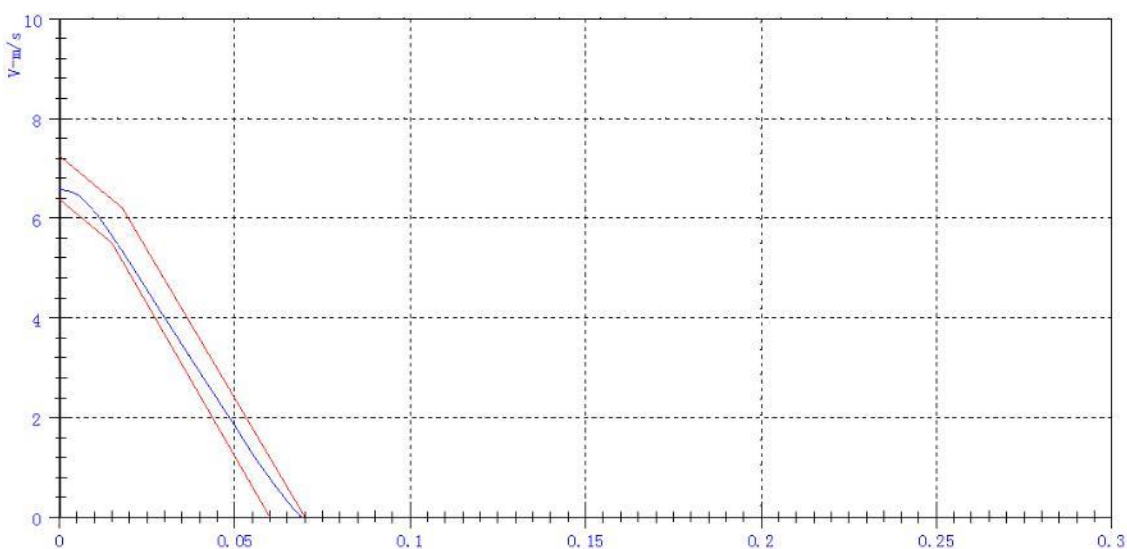
- f) Tested sample No. 9, dummy Q6, lateral impact; i-Size booster seat, non-integral, forward facing, fixed.



- g) Tested sample No. 10, dummy Q10, lateral impact; i-Size booster seat, non-integral, forward facing, fixed.

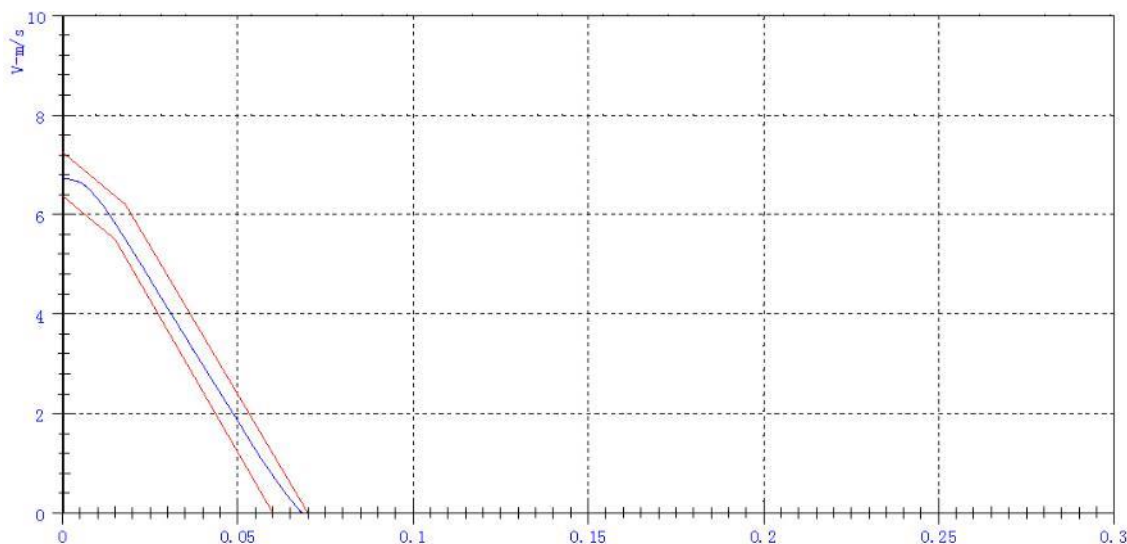


- h) Tested sample No. 11, dummy Q3, lateral impact; i-Size booster seat, non-integral, forward facing, fixed, without ISOFIX attachments.

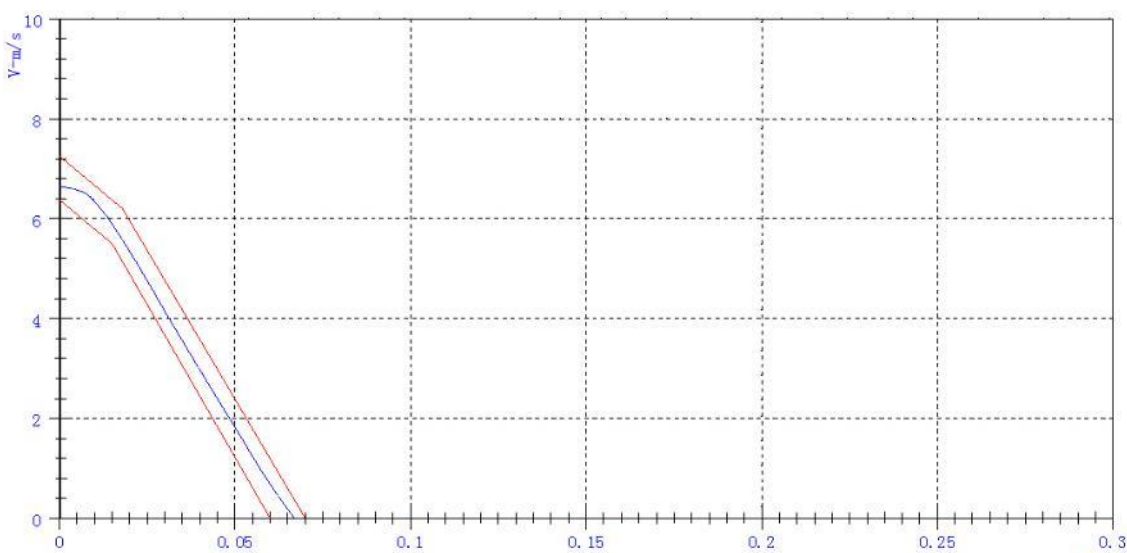


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 Manufacturer: Cixi Babyhome Products Co., Ltd., China
 Type: Z-12RB

- i) Tested sample No. 12, dummy Q6, lateral impact; i-Size booster seat, non-integral, forward facing, fixed, without ISOFIX attachments.



- j) Tested sample No. 13, dummy Q10, lateral impact; i-Size booster seat, non-integral, forward facing, fixed, without ISOFIX attachments.



End of the technical report

