

Test report No.:

15-00056-CP-PRG-01

Manufacturer:

INTAP ADVANCED TECHNOLOGY Sp. z o.o. Sp. k.,
Poland

Type:

TAXI



Auto Service

Test report

No.: 15-00056-CP-PRG-01

Test of seat

with regard to Directive / Regulation (EC/EU) / Regulation No. **ECE R17**
taking into consideration amendment No. 08, **Supplement 4**

Approval subject: **Seats, their anchorages and any head restraints**

Approval status		
<input type="checkbox"/>	Granting of a type approval	N/A
<input type="checkbox"/>	Extension/correction to type approval no.	N/A



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0. Reasons of extension

- Change of manufacturer name
- Addition of new Intap seats and legs
- Editorial changes

I. General

Make: INTAP

Type: TAXI

Commercial name(s) (if available): S1TAX01

S1TAX02

S1TAX03

S1TAX06

S1TAX08

S1TAX09

S1TAX10

S1TAX11

S1TAX12

Category of vehicle: M1, N1, N2, M2

Name and address of manufacturer: INTAP ADVANCED TECHNOLOGY Sp. z
o.o. Sp. k.

Rokicińska 1110/112

95-006 Bukowiec

Poland

Name and address of representative: N/A

Reference number of information folder: TAX/01/2019

Date of issue of information folder: 05.04.2019



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II. Test results

Refer to the Annex

III. Enclosures

Information Folder

IV. Statement of conformity

The mentioned information folder and the type described therein are in accordance with the test basis mentioned above. The worst-case was selected in accordance with document "Requirements for Test Reports (AS-PB-T-02)".

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TÜV SÜD Auto Service GmbH is designated as Technical Service by:

Genehmigungsbehörde Approval authority	Land Country	Registriernummer Registration number
Kraftfahrt-Bundesamt (KBA)	Deutschland Germany	KBA-P 00100-10
Vehicle Certification Agency (VCA)	Vereinigtes Königreich United Kingdom	VCA-TS-006
Approval Authority of the Netherlands (RDW)	Niederlande The Netherlands	RDWT-082-xx
National Standards Authority of Ireland (NSAI)	Irland Ireland	Technical Service Number: 49
Société Nationale de Certification et d'Homologation s.à r.l.	Luxemburg Luxembourg	B27180

Munich, 06.06.2019



Ing. Martin Hron
Authorized signatory

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Annex

Test report

1. Technical data of the test sample

Seat(s) designated for use only when the vehicle is stationary:

The Taxi Tip and Fold, Taxi Tip and Fold RT, Taxi Tip and Fold HB, Taxi Flip Up, Taxi Flip Up Adjust, Taxi Flip Up HB. All of seats mentioned above in ambulance mode

Dedicated for seat(s):

Taxi (S1TAX01),
Taxi Adjust (S1TAX02),
Taxi Tip and Fold (S1TAX03)
Taxi Tip and Fold RT (S1TAX06)
Taxi HB (S1TAX08)
Taxi Flip Up (S1TAX09)
Taxi Flip Up Adjust (S1TAX10)
Taxi Tip and Fold HB (S1TAX11)
Taxi Flip Up HB (S1TAX12)

Legs and consoles which can be used:

Legs:

N0AZM03, N0AZM06
N0AZM09, N0AZM34
N0AZM35, N0AZM36
N0AZM37, N0AZM38
N0AZM40, N0AZU10
N0BLS05, N0BLS09
N0BLS10, N0BLS11
N0BLS17

Locking systems:

UNWIN SL/STD
UNWIN HAL
AMF-Bruns Lockable
Qstraint QSF seat fixing
NMI W-fitting
NMI V-fitting
TMI-017
TMDS-007
TMI-012

Wheel arches:

P1NKL15
P1NKL16
P1NKL17
P1NKL18
P1NKL19
P2NKL05
P2NKL06

Mounting bases:

P1SBE01, P1SBE02,
P1SBE04, P1PPK01,
P1PPK04

Optional components:

P1OBR02, P1PSU16,
P1ADA10, P1ADA14,
P1ADA18



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2. Test conditions

2.1. Test sample

Taxi seats family (S1TAX01, S1TAX02, S1TAX03, S1TAX06, S1TAX08, S1TAX09, S1TAX10, S1TAX11, S1TAX12) mounted on different legs (dynamic tests) or on rigid fixture (static and energy dissipation tests).

Tests of seats S1TAX02 and S1TAX03 are covered by tests of seats S1TSF02 and S1TSF03 due to the same construction of seat and seatback frame and meaning of attachment of seat to leg. Seats S1TSF02 and S1TSF03 are worst case for head restraint retention test due to the use of detachable head restraint.

The static tests were not necessary because backrests and headrests are the same on seats S1TSF02 and S1TSF03 as S1TAX01,02 and 03.

2.2. Test procedures used:

According to procedure of check of geometry, static strength and energy dissipation of seats and head restraints, par 5,6 and annexes 4,5 and 8 of ECE 17.08 and dynamic (sled) strength of seats and their anchorages, par 5,6 and annexes 7 of ECE 17.08

2.3. Measuring and test equipment:

- Test device for seat and head restraint performance with controller
- Torso angle: 3D H-point machine with height measurement fixture
- Testing pendulum with accelerometers
- Tape rule
- Deceleration sled test device
- High speed camera

2.4. Test track or site:

TÜV SÜD Czech s.r.o., Mladá Boleslav,
Czech Republic,
DEKRA laboratory, Klíčany, Czech Republic
PIMOT, Warszawa, Poland,
OKB laboratory, Bukowiec, Poland



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3. Test results

3.1. General

3.1.1. H point measuring:

H point positions and actual torso angles conform to the values of manufacturer's documentation

3.1.2. Head restraint/seat back performance

Definition and requirement	Paragraph		Measured values
	Requirement	Test procedure	Rear seats
No side facing seats in vehicles of the class M1, N1	5.1.	N/A	No side facing seats installed. Smartseat Easy Turny is possible used in ambulance mode only when the vehicle is stationary.
Adjusting and displacement automatic locking systems	5.2.1 – 5.2.2.	N/A	No displacement system provided, adjusting systems lock automatically
Energy absorption of the rear parts of the seats, the deceleration of the headform $\leq 80 \text{ g}$ continuously for more than 3 ms under the impact	5.2.3	6.8.1.1, Annex 6	According to 5.5.6 the requirements are deemed to be satisfied, because the seats are equipped with head restraints and requirements of par 5.5.2 are met
Roughness or sharp edges of the rear seat parts - radii 2,5 mm in area 1 - radii 5,0 mm in area 2 - radii 3,2 mm in area 3	5.2.4	6.8.1	Pass
No seat ruptures after tests	5.2.5	6.2 and 6.3	No ruptures occurred (see also 2.2)
No release of the locking systems during the test	5.2.6.	6.3 and 2.1. of Annex 9	No release occurred (see 2.2)
Requirements for vehicles of category N, M ₂ and M ₃	5.3.		Due to the results of tests provided for vehicles M1 category requirements for N and M2 category are deemed to be satisfied.



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Installation of the head restraints (min. front outboard seats)	5.4.	N/A	All seats are equipped with integrated head restrain		
			S1TAX01	S1TAX02 (S1TSF02)	S1TAX03 (S1TSF03)
No additional cause of danger to occupants of the vehicle by the head restraint; energy absorption - the deceleration of the headform ≤ 80 g continuously for more than 3 ms under the impact*	5.5.	6.8.1.1.3, Annex 6	Rear head restraint surface:		
			max. 40,9 g at 24,1 km/h		
			Front head restraint surface:		
			max. 42,6 g at 24,1 km/h		
Highest distance of the head restraint top from R point! $H \geq 750$ mm for <u>rear</u> seats	5.6.3.1	6.5	762 mm	762 mm	804 mm
Min. height in any position for use $H \geq 750$ mm for <u>rear outboard</u> seat $H \geq 700$ mm for <u>rear middle</u> seats	5.6.3.2 (5.6.5.)	6.5	762 mm	762 mm	804 mm
Height of the head restraint effective area $h \geq 100$ mm	5.7.1	6.5	> 100 mm	> 100 mm	> 100 mm
Gap between head restraint and seat-back $m \leq 25$ mm	5.8	6.7	N/A	N/A	N/A
Integral head restraints	5.9	6.7 6.4.3.3.2	N/A (not installed)	N/A (not installed)	N/A (not installed)
Head restraints with gaps	5.10	6.7	N/A (no gaps)	N/A (no gaps)	N/A (no gaps)
Width of head restraint 65 mm below its top $L \geq 170$ mm	5.11	6.6	190 mm	190 mm	190 mm
Head rearward displacement $X < 102$ mm when loaded to moment 373 Nm around R point	5.12	6.4	68 mm	64 mm	35 mm
Loading force for head restraint $F \geq 890$ N	5.13	6.4.3.6.	890 N without rupture	890 N without rupture	890 N without rupture
Raise the head restraint beyond the operational height	5.14	N/A	Not possible	Not possible	Not possible
Strength of the seat back under the load of 530 Nm per seating position	5.2.7, 5.15	6.2	Passed without ruptures	Passed without ruptures	Passed without ruptures
Luggage displacement retention requirements	5.16	Annex 9	N/A		

*For energy dissipation tests was used seat (S1TAX01) as a worst case representative.

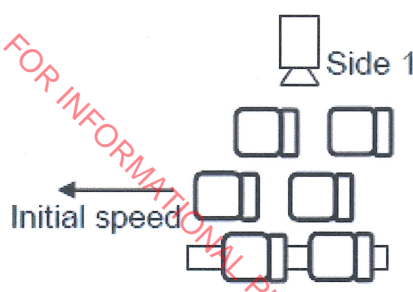
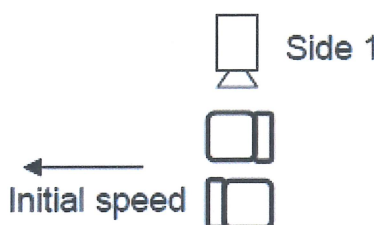


3.2. Dynamic test

Details of the test according to 6.3

3.2.1. Frontal impact

Requirement acc. to 5.2.5., 5.2.6.

Test A – seats S1TAX02 and S1TAX03 (S1TSF02, S1TSF03)		Test B – seat S1TAX01 (valid for rear impact too)	
			
Torso angle	19°	Torso angle	19°
Longitudinal adjustment	N/A	Longitudinal adjustment	N/A
Vertical adj.	N/A	Vertical adj.	N/A

3.2.1.1. Test speed and achieved deceleration

	Test A		Test B	
	Requirement	Measured	Requirement	Measured
Impact speed v_0	50^{+0}_{-2} km/h	Achieved	50^{+0}_{-2} km/h	Achieved
Deceleration	20g for 30ms	Achieved	20g for 30ms	Achieved

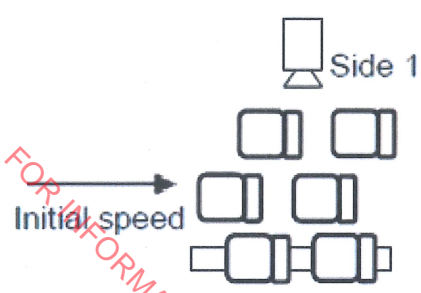
3.2.1.2. Results

Paragraph of the regulation ECE 17.08 marked in *italics*

5.2.5	There was no failure of the seat frame or seat anchorage, adjustment and displacement systems or their locking devices during the test.
5.2.6.	There was no release of the locking systems during the tests.

3.2.2. Rear impact

Requirement acc. to 5.2.5, 5.2.6. tests according to paragraph 6.3

Test C – seats S1TAX02 and S1TAX03 (S1TSF02, S1TSF03)	
	
Torso angle	19°
Longitudinal adjustment	N/A
Vertical adj.	N/A

3.2.2.1. Test speed and achieved deceleration

	Requirement	Measured
Impact speed v_0	50^{+0}_{-2} km/h	Achieved
Deceleration	20g for 30ms	Achieved

3.2.2.2. Results

Paragraph of the regulation ECE 17.08 marked in *italics*

5.2.5	There was no failure of the seat frame or seat anchorage, adjustment and displacement systems or their locking devices during the test.
5.2.6.	There was no release of the locking systems during the tests.

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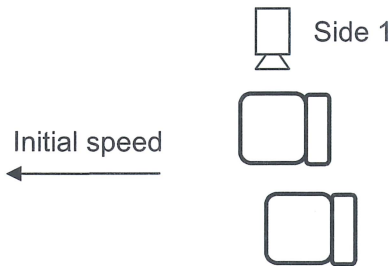


3.2.3. Frontal impact

Requirement acc. to 5.2.5, 5.2.6. tests according to paragraph 6.3.

Test D:

- Taxi seat with revolving system mounted on interleg with V-fittings
- Taxi seat with revolving system on slide base



Torso angle	11,5°
Longitudinal adjustment	N/A
Vertical adj.	N/A
Head restraint	Integral

3.2.3.1. Test speed and achieved deceleration

	Requirement	Measured
Impact speed v_0	50 ⁺⁰ ₋₂ km/h	48.9 km/h
Deceleration	20g for 30ms	Achieved

3.2.3.2. Results

Paragraph of the regulation ECE 17.08 marked in *italics*

5.2.5.	There was no failure of the seat frame or seat anchorage, adjustment and displacement systems or their locking devices during the test.
5.2.6.	There was no release of the locking systems during the tests.



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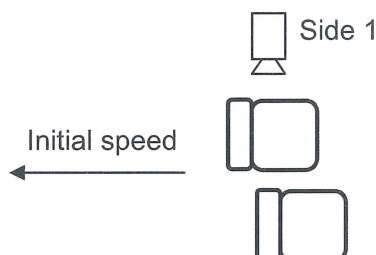


3.2.4. Rear impact

Requirement acc. to 5.2.5, 5.2.6. tests according to paragraph 6.3.

Test E:

- Taxi seat with revolving system mounted on interleg with V-fittings
- Taxi seat with revolving system on slide base



Torso angle	11,5°
Longitudinal adjustment	N/A
Vertical adj.	N/A
Head restraint	Integral

3.2.4.1. Test speed and achieved deceleration

	Requirement	Measured
Impact speed v_0	50 ⁺⁰ ₋₂ km/h	48,8 km/h
Deceleration	20g for 30ms	Achieved

The seats S1TAX11 and S1TAX12 have the same construction of backrest and seat cushion as seat S1TSF06 and the test results of S1TSF06 can be used as representative to S1TAX11 and S1TAX12.

3.2.4.1. Results

Paragraph of the regulation ECE 17.08 marked in *italics*

5.2.5.	There was no failure of the seat frame or seat anchorage, adjustment and displacement systems or their locking devices during the test.
5.2.6.	There was no release of the locking systems during the tests.

4. Place and date of testing

As before and 03.01.2019

TÜV SÜD Czech s.r.o., Mladá Boleslav,
Czech Republic,
DEKRA laboratory, Klíčany, Czech Republic
PIMOT, Warszawa, Poland,
OKB laboratory, Bukowiec, Poland



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Photos:

Dynamic test

Forward direction Test D

Before test



After test



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Rearward direction Test E

Before test



After test



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Graphs:

Dynamic tests

Test D, E - taxi seat

Forward and rearward direction

