TECHNICAL REPORT
No. 120871 – 20 – TAC

Test according to
Test according to Regulation ECE No. 14.07

Uniform provisions concerning the approval of vehicles with regard to safety-belt anchorages, ISOFIX anchorages systems and ISOFIX top tether anchorages

Test method: ECE No. 14.00 – date of entry into force: 1970-04-01
including all amendments up to and including:
ECE No. 14.07, supplement 8 – date of entry into force: 2018-02-10

Objectives: Document for the manufacturer

I. Technical data

0.1.1.	Order party:	OKB Sp. z o.o. ul. Rokicińska 108/110 95-006 Bukowiec Poland
0.1.2.	Manufacturer:	OKB Sp. z o.o. ul. Rokicińska 108/110 95-006 Bukowiec Poland
0.2.	Product under test:	OKBeeSAFE 04T (SAF04T)
0.3.	Test required:	According to test procedure of checking of number, geometry and strength of safety belt anchorages according to ECE R No. 14.07, par. 5,6,7 and Annexes 3-6 and 9.
0.4	Category of vehicle:	M1, N1

II. Test report

1. Test conditions

1.1. Test sample: Frames SAF04T mounted in vehicle body or on rigid test rig.

1.1.1. Technical data from the manufacturer:

Make (trade name of manufacturer): OKBee

Type: SAF04T

Commercial name(s) (if available): OKBeeSAFE 04T

1.1.2. Dedicated to the vehicle(s):

Manufacturer	Commercial description / Type	Wheelbase
Daimler	Sprinter (906, 907)	3250, 3665, 4325
	Sprinter (910)	3259, 3924
	Vito/Viano/V-klasse (639, 639/2, 639/4)	3200, 3430
VW	Crafter (2E__)	3250, 3665, 4325
	Crafter (SYN__ e.g. SYN1E, SYM1E, SYN2E, SYN2Z, SYM2Z)	3640, 4490
	T5 (7H_, 7E_, 7J_)	3000, 3400
	T6 (7H_, 7E_, 7J_)	3000, 3400
Citroen	Jumper (Y)	3000, 3450, 4035
	Jumpy (X)	3000, 3122
	Jumpy (2016)	2925, 3275
	SpaceTourer	2925, 3275
Peugeot	Boxer (Y)	3000, 3450, 4035
	Expert (VF3__)	3000, 3122
	Expert (2016)	2925, 3275
	Traveller	2925, 3275
Fiat	Ducato (250)	3000, 3450, 4035
	Scudo (270)	3000, 3122
	Talento (FJL, FFL)	3098, 3498
Opel	Movano (MR, MS, MW)	3182, 3682, 4332
	Vivaro (F7)	3098, 3498
Renault	Master (FV, MA, VA)	3182, 3682, 4332
	Trafic (FL, L)	3098, 3498
	Trafic 2014 (JL, L)	3098, 3498
Renault Truck	Master (MF)	3182, 3682, 4332

Manufacturer	Commercial description / Type	Wheelbase
Ford	Transit (FA_, FD_)	2933, 3300, 3750
	Transit (FC_)	3300, 3750, 3954
	Transit Custom (FA_, FC_)	2933, 3300
	Transit Connect (PU2)	2662, 3062
Iveco	Daily (IS_)	3000, 3300, 3520, 3595, 3950, 4100, 4175, 4750
Nissan	NV200	2725
	NV300	3098, 3498
	NV400	3182, 3682, 4332
Toyota	Pro Ace, Pro Ace Verso (2016)	2925, 3275
MAN	TGE (SYN__ e.g. SYN1E, SYM1E, SYN2E, SYN2Z, SYM2Z)	3640, 4490
LDV	V80, Maxus (SV6C)	3100, 3850
Hyundai	H350 (EU(V))	3435, 3670

1.2.	Test procedures used:	According to test procedure of checking of number, geometry and strength of safety belt anchorages according to ECE R No. 14.07, par. 5,6,7 and Annexes 3-6 and 9.
1.3.	Measuring and test equipment:	Electro-hydraulic test equipment and control unit Force measuring chain Data acquisition unit Traction devices 3D H-point measurement device Tape measure
1.5.	Test track or site:	PIMOT, Warszawa, Poland, OKB Laboratory, Bukowiec, Poland.

2. Test results

The below mentioned test results cover all the variants including the maximum mass stated in the enclosed information documents.
Geometrical requirements are fulfilled; all the seat belts are provided on seat frame.

2.1. First row of seats: See approval of the base vehicle

2.2. Other rows of seats:

2.2.1. Safety belt anchorages strength:

Test results:

Frame bench type OKBeeSAFE 04T
(Camper double seat frame) with adapters 120 mm + OKBeeRAIL01S + v-bolt mounted on the representative vehicle body.

Mass of the heaviest possible configuration covered by the test m_s = 69 kg.
Additional force applied to seat base:

$F_z = 20 \times m_s \times g$ (N) as relevant for M1, N1 vehicle category.

Seat	Left	Right
Safety belt	Ar	Ar
Upper belt anchorage	Seat structure	Seat structure
Lower belt anchorages	Seat structure	Seat structure
Required force in shoulder belt portion	13 500 ± 200 N	13 500 ± 200 N
Required force lab belt portion	13 500 ± 200 N	13 500 ± 200 N
Required force inertia	13 800 N	
Force in the shoulder belt	13 600 N / > 0,2 s	13 600 N / > 0,2 s
Force in the lap belt	14 300 N / > 0,2 s	14 100 N / > 0,2 s
Inertia force in the seat base	14 100 N / > 0,2 s	
Displacement of upper anchorage point	211 mm	211 mm
Remark: No ruptures occurred. Additional force is added to seat base. Upper anchorage points were in tolerance.		

2.2.2. ISOFIX and Top Tether anchorages strength (if provided) - OKBeeSAFE 04T:

Seat manufacturer	Point - graph	Name/graph	Direction of test forces	Fulfilling of requirements
OKB	2.2.2.a	SAF04T with TOP TETHER	Forward	See graph 2019_10_24_01
	2.2.2.b	SAF04T without TOP TETHER	Forward	See graph 2019_10_24_02
	2.2.2.c	SAF04T without TOP TETHER	Oblique	See graph 2019_10_24_03

For M1 category minimum 2 seats with ISOFIX anchorage systems and their ISOFIX top tether anchorages shall be mounted. At least one of them shall be in 2nd row of seats.

2.3. Floor system strength including seat to vehicle attachment and legs strength:

2.3.1. Strength of OKBeeRAIL:

See test report No. 121109-14-TAC as amended and 121878-18-TAC

2.4. Final assessment:

Frame(s) SAF04T are intended for use in vehicles - list see point 1.1.2. due to the results mentioned in point 2.2.1. of this report. Attachment of any frame type to vehicle is possible via OKBeeRAIL01S or directly to vehicle floor with floor reinforcement (for details see enclosed information documents).

3.	Specimen submitted to test on:	2020-04-06
4.	Date of test:	2020-04-06

III. Manufacturer's information folder — No. OKB/02/2020-00

36 pages total of 2020-04-06

IV. Other documentation

Photos: page 7 - 8
Graphs: page 9 - 12

V. Attachments

No attachments

Measuring and test equipment and test site meet the requirements of the applicable legislation. This report must never be reproduced incomplete and without a written permission of the testing laboratory.

VI. Final assessment

The described sample:

complies

with the requirements of ECE Regulation No. 14.07
for issue the document for manufacturer

This technical report consists of pages No. 1 to 12.

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Photos:

2.2.1. Camper double seat frame type OKBeeSAFE 04T installed on representative vehicle body

Before test

After test

2.2.2.a ISOFIX (2019_10_24_01) - OKBeeSAFE 04T:

Before test

After test

2.2.2.b ISOFIX (2019_10_24_02) - OKBeeSAFE 04T:

Before test

After test

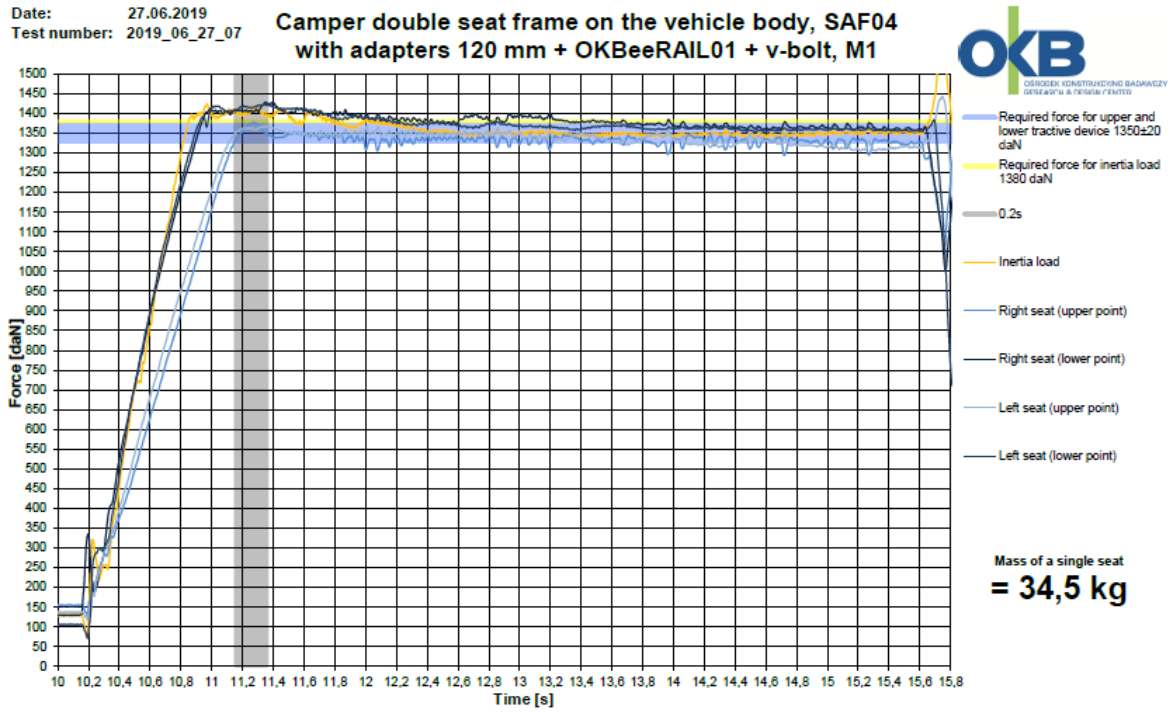
2.2.2.c ISOFIX (2019_10_24_03) - OKBeeSAFE 04T:

Before test

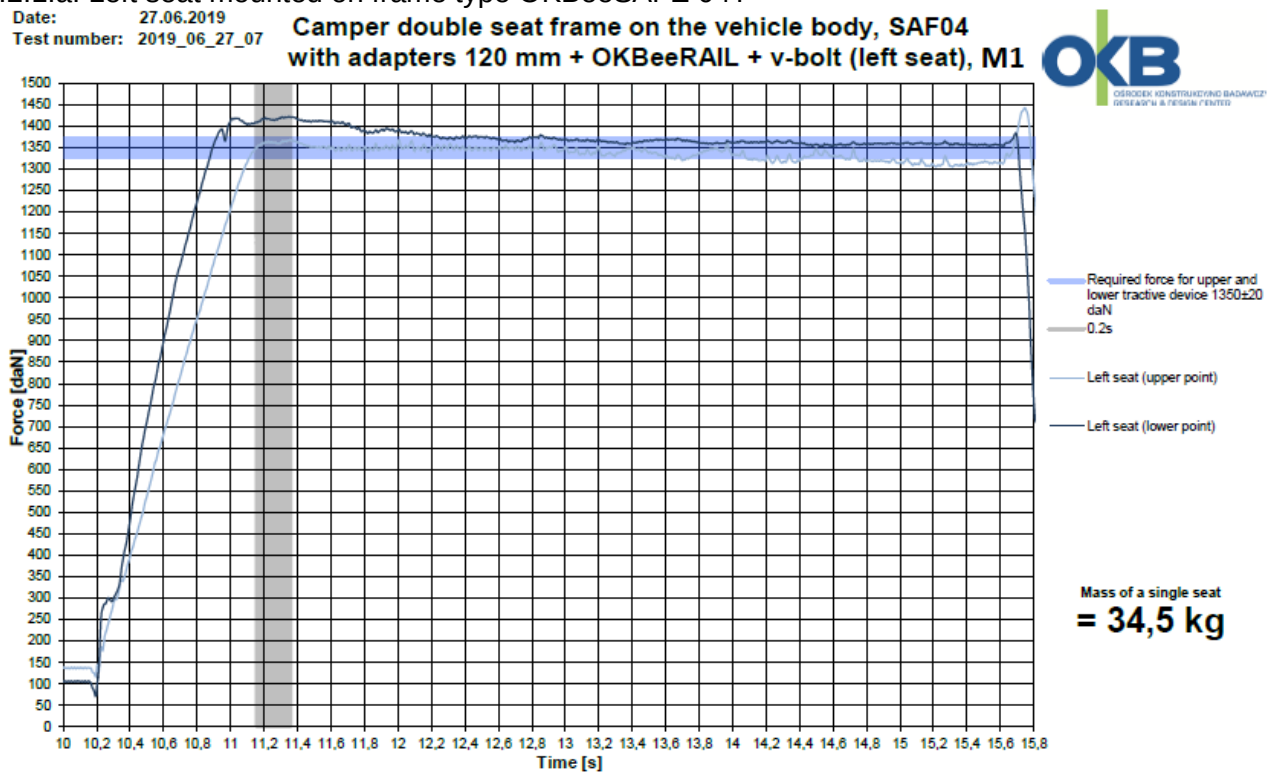
After test

Graphs:

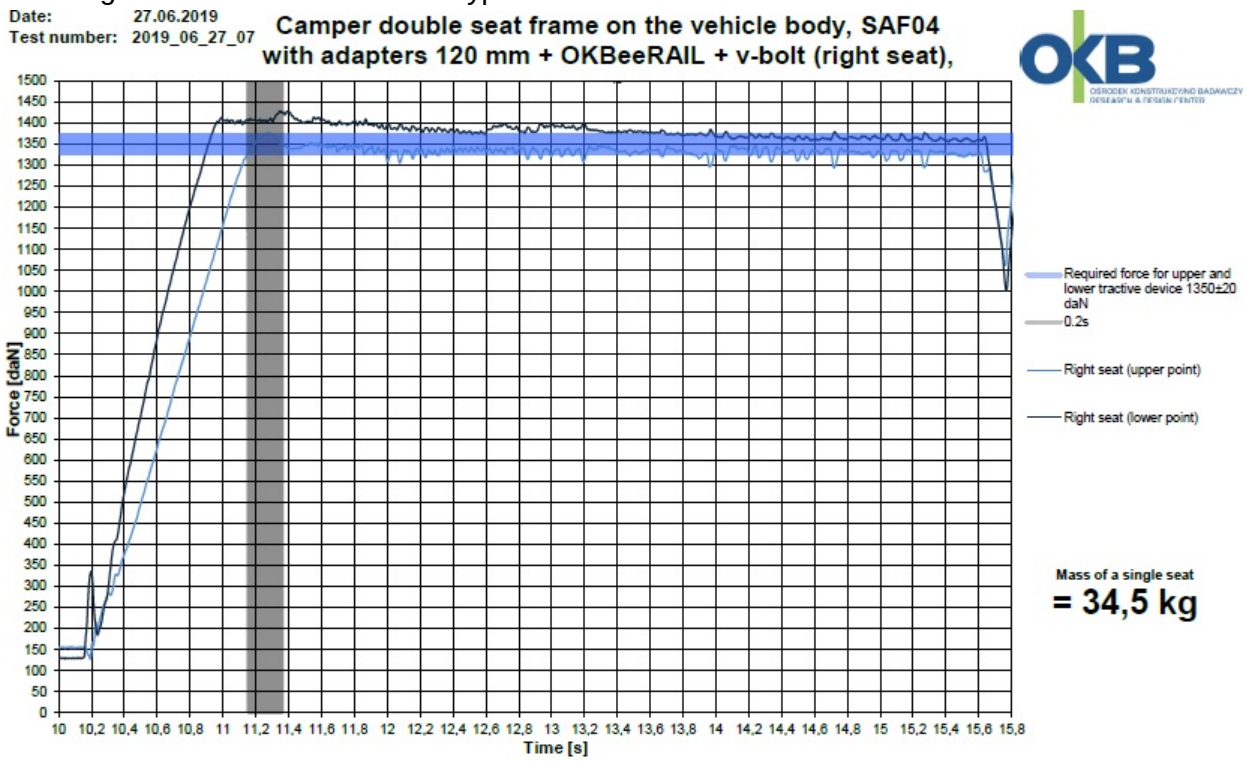
2.2.1. - Camper double seat frame type OKBeeSAFE 04T installed on representative vehicle body



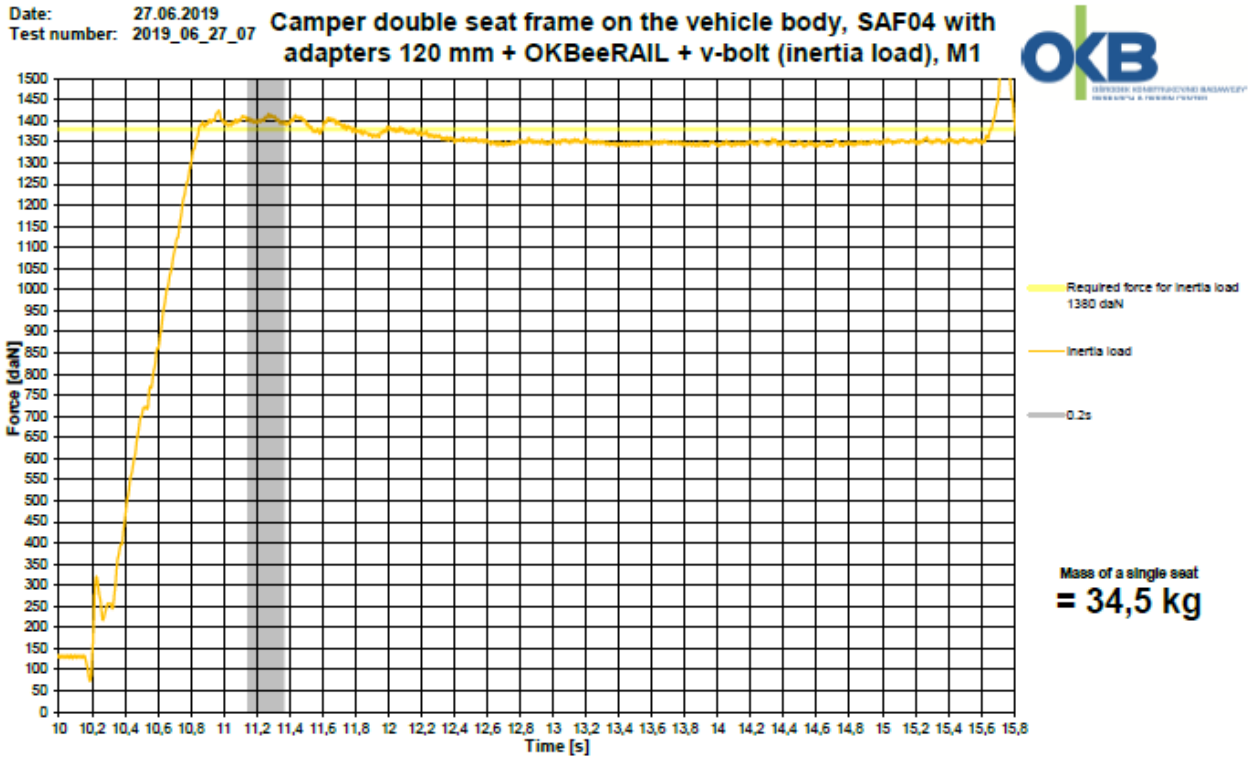
2.2.1.a. Left seat mounted on frame type OKBeeSAFE 04T



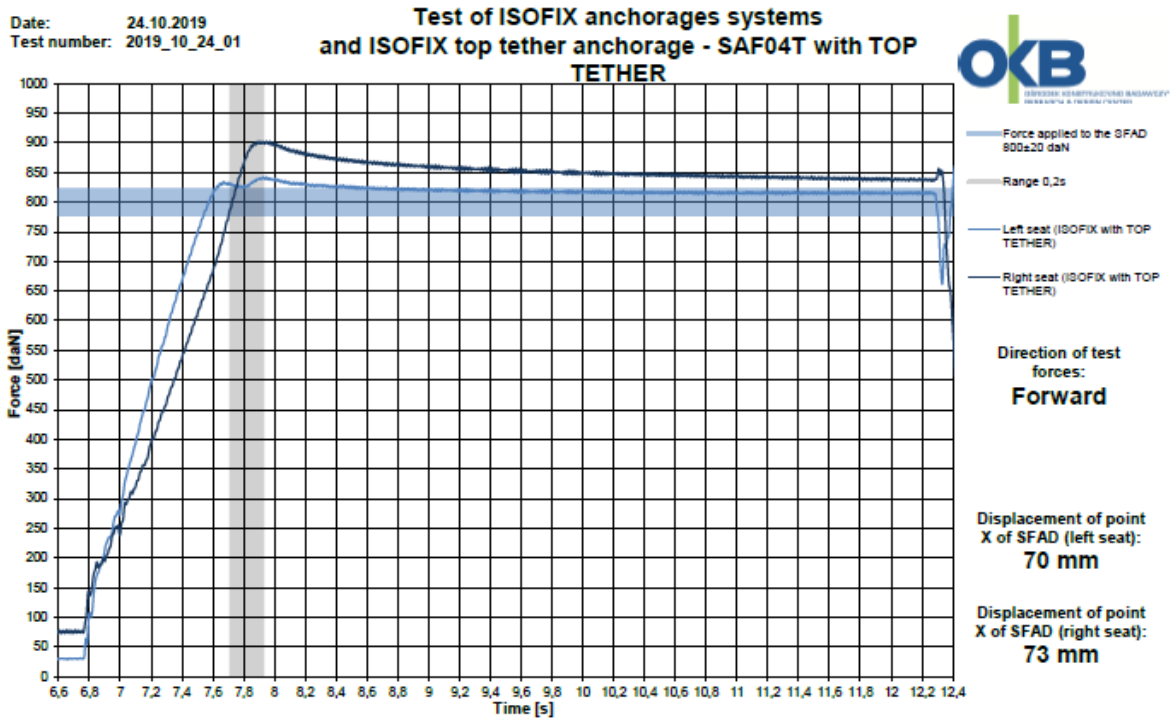
2.2.1.b. Right seat mounted on frame type OKBeeSAFE 04T



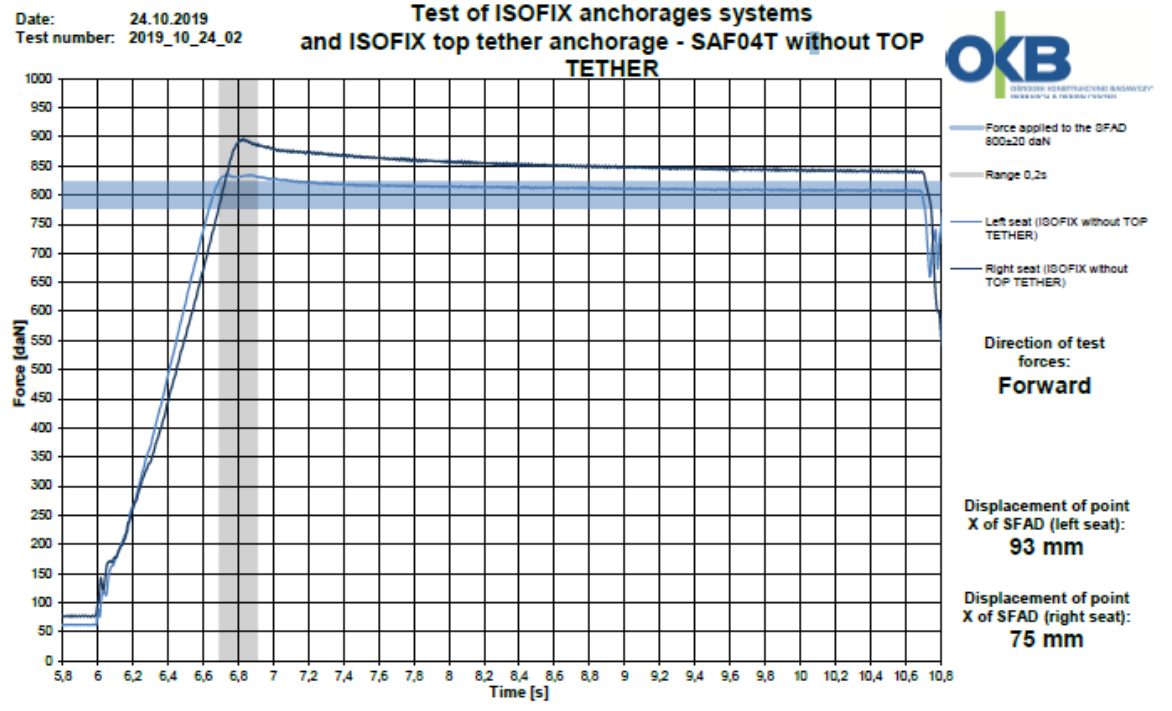
2.2.1.c. - Inertia load – Additional force applied to seat base (frame base)



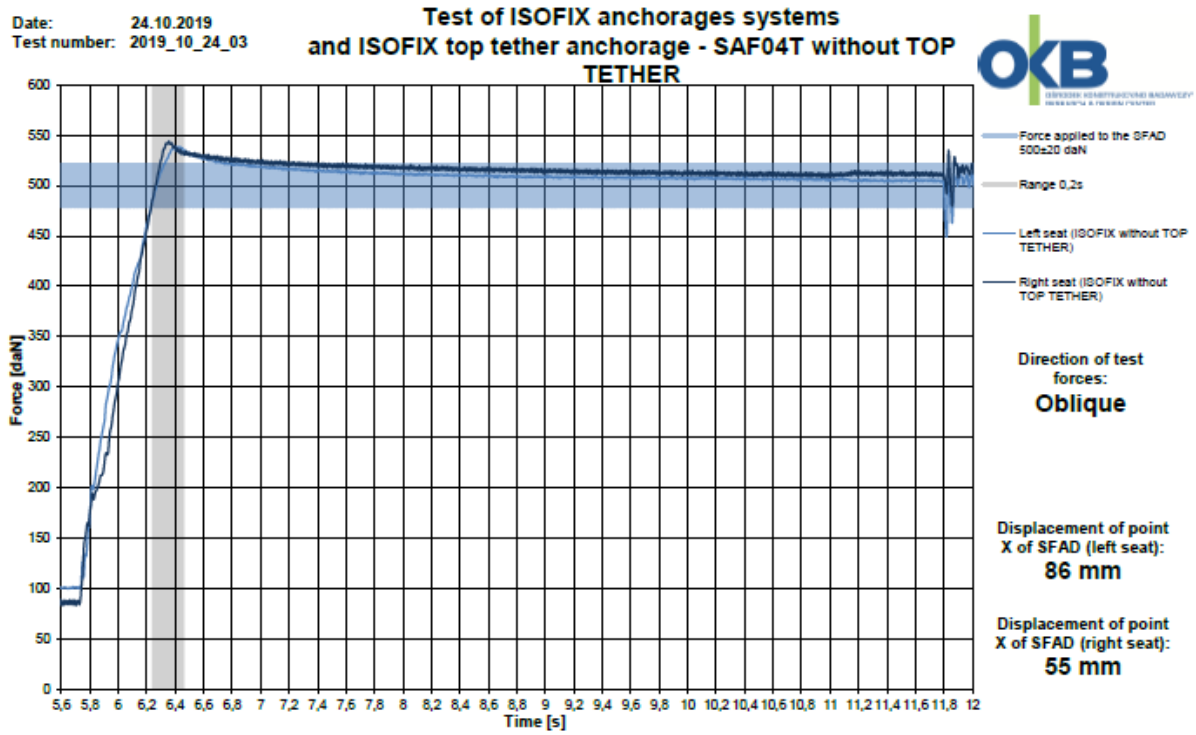
2.2.2.a ISOFIX and Top Tether anchorages strength (2019_10_24_01) - OKBeeSAFE 04T:



2.2.2.b ISOFIX (2019_10_24_02) - OKBeeSAFE 04T:



2.2.2.c ISOFIX (2019_10_24_03) - OKBeeSAFE 04T:



End of the technical report