STATUS

SPECIALIST TRANSPORT ADVISORY & TESTING UTILITY SOCIETY

This is to certify that a particular example of a

Original Front Row of Seats in a Renault Trafic / Vauxhall Vivaro / Opel Vivaro / Nissan NV300 / Nissan Primastar / Fiat Talento

has complied with the simulated frontal impact requirements of EC Directive 76/115/EEC as amended by 2005/41/EC & ECE Regulation 14.07 for M1 category vehicles, when the vehicle original roof skin and roof strengthening bearers had been removed to accommodate a

Poptop Elevating Roof System

steel galvanised upper strengthening frame manufactured by

Nulite Ltd.

Certificate No: MMU 1552F1
Test Date: 07-04-2017
Test Ref : 1552 4771

Signature :

Michael Hughes
STATUS Manager

Manchester Metropolitan University

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SPECIALIST TRANSPORT ADVISORY & TESTING UTILITY SOCIETY

This is to certify that a particular example of a

Poptop Motorcaravan Double Seat / Bed

manufactured by Nulite Ltd

Part No NL BD2, seat mass 95.25kg,
seat belt type – 3 point,

has satisfied the strength and anchorage positional requirements of EC Directive 76/115/EEC as amended by 2005/41/EC & ECE Regulation 14.07 for M1 loading when mounted in a Renault Trafic / Vauxhall Vivaro / Opel Vivaro / Nissan NV300 / Nissan Primastar / Fiat Talento when the vehicle was fitted with a Poptop elevating roof system's upper strengthening frame, after the original roof skin and roof strengthening bearers had been removed.

Certificate No: MMU 1552F2
Test Date: 07-04-2017
Test Ref : 1552_4772

Signature :

Michael Hughes
STATUS Manager

Manchester Metropolitan University

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Seat Belt Anchorage Test Report

Report Reference No: 1552F

For an In-Vehicle Test
To EC Directive 76/115/EEC
As Amended By 2005/41/EC.
& To ECE Regulation 14.07

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Manchester Metropolitan University

Client : Nulite
Unit 51 Hutton Close
Crowther Ind. Est.
District 3
Washington
Tyne Wear
NE38 0AH

Vehicle Type: Renault Trafic / Vauxhall Vivaro / Opel Vivaro / Nissan NV300 / Nissan Primastar / Fiat Talento based Motor Caravan

Test date: 07/04/2017

Objective:

To test the seat belt anchorages in the sample supplied of the above vehicle for compliance with the positional and strength requirements of EC Directive 76/115/EEC as amended by 2005/41/EC & ECE Regulation 14.07 for vehicle Category M1.

Conclusions:

The vehicle seat belt anchorages tested in the sample supplied complied with the positional requirements stipulated in section 4.4 of Annex 1 of Directive 76/115/EEC (as amended by 2005/41/EC) & section 5.4 of ECE Regulation 14.07 as demonstrated by the data in Appendix 1.

The vehicle seat belt anchorages tested in the sample supplied complied withthe strength requirements stipulated in section 5 of Annex 1of Directive 76/115/EEC (as amended by 2005/41/EC) & section 6 of ECE Regulation 14.07 for vehicle Category M? as shown in the graphs in Appendix 2.

Report Authorised by: Michael Hughes **Position:** STATUS Manager

Signature:  **Date:** 12/04/2017

Test Vehicle / Structure details:

The vehicle was a Renault Trafic / Vauxhall Vivaro / Opel Vivaro / Nissan NV300 / Nissan Primastar / Fiat Talento based Motor Caravan adaptation. The vehicle was fitted with a Poptop elevating roof system's steel galvanised upper strengthening frame, after the original roof skin and roof strengthening bearers had been removed.

The vehicles first row was as per original vehicle with a driver's seat and double passenger seat. .

The rear row of seats was a Nulite NL BD2 folding double Seat / Bed located between the rear wheel arches. All seats were fitted with 3 point seat belts and all seat belt anchorages were located on the seat.

Test Details:

Test Ref: 1552_4771 Driver's seat and double passenger seat.

Seat Vehicle Position		RH	LH/C	LH
Vehicle row		Frontmost		
Seat Manufacturer		OE	OE	OE
Seat name		OE Driver	OE Passenger	OE Passenger
Seat type		Single	Double	Double
Belt type		3 Point	3 Point	3 Point
Anchorages on seat		All	All	All
Configuration tested		Upper highest seat rearmost lowest	-	-
Seat weight (kg)		23.55	26.00	
Load applied (kN)	Lap	13.5	13.50	13.50
	Diagonal	13.50	13.50	13.50
	Seat C of G	4.62	2.55	2.55
Load Channel No	Lap	3	5	7
	Diagonal	4	6	8
	Seat C of G	1	2	10

Test Ref: 1552_4772 Nulite NL BD2 Double Seat / Bed.

Seat Vehicle Position		RH	LH
Vehicle row		Rearmost	
Seat Manufacturer		Nulite	
Seat name		NL BD2	
Seat type		Double	
Belt type		3 Point	3 Point
Anchorages on seat		All	All
Configuration tested		Seat	Seat
Seat weight (kg)		95.25	
Load applied (kN)	Lap	13.5	13.50
	Diagonal	13.50	13.50
	Seat C of G	9.34	9.34
Load Channel No	Lap	3	7
	Diagonal	4	8
	Seat C of G	1	10

Refer to the pre-test photographs shown in Appendix 3.

Results:

Effective anchorage positions

Data showing the position of the seat 'R' point in relation to the effective belt anchorages, with regard to the requirements, is shown in Appendix 1.

Loads held

The loads held were as shown in the graphs found in Appendix 2:

Upper anchorage displacement

Test Ref: 1552_4771

Seat Vehicle position	LH/C
Upper X displacement	200
X displacement limit	411
Upper Z displacement	0
Z displacement limit	-20
76/115/EC Result	PASS
ECE R14 Result	PASS

Test Ref: 1552_4772

Seat Vehicle position	RH	LH
Upper X displacement	136	145
X displacement limit	411	411
Upper Z displacement	0	0
Z displacement limit	-6.6	-6.6
76/115/EC Result	PASS	PASS
ECE R14 Result	PASS	PASS

Observations

Following each test the vehicle was visually examined; during this examination the condition of the vehicle and components were noted. The examination results in the following observations:

Test Ref	Observation
1552_4771	Left hand upper adjuster bent slightly otherwise minimal deformation.
1552_4772	Little Visible deformation.

See also Post-test photographs are shown in Appendix 4.

Test Equipment;

Tests were carried out on a VCA appraised seat belt anchorage test facility with all calibration of measurement instrumentation traceable to National standards in accordance with ISO17025. The uncertainty of measurement is included in the calibration records for all measurement equipment.

Seat R point positions were determined using a SAE 3D H point measurement machine and a 3D Coordinate measurement system.

Appendix 1: - Anchorage Positional Data

Test Ref: 1552_4772

Seat Measurement sheet Ref: **1552_003** Nulite NL BD2

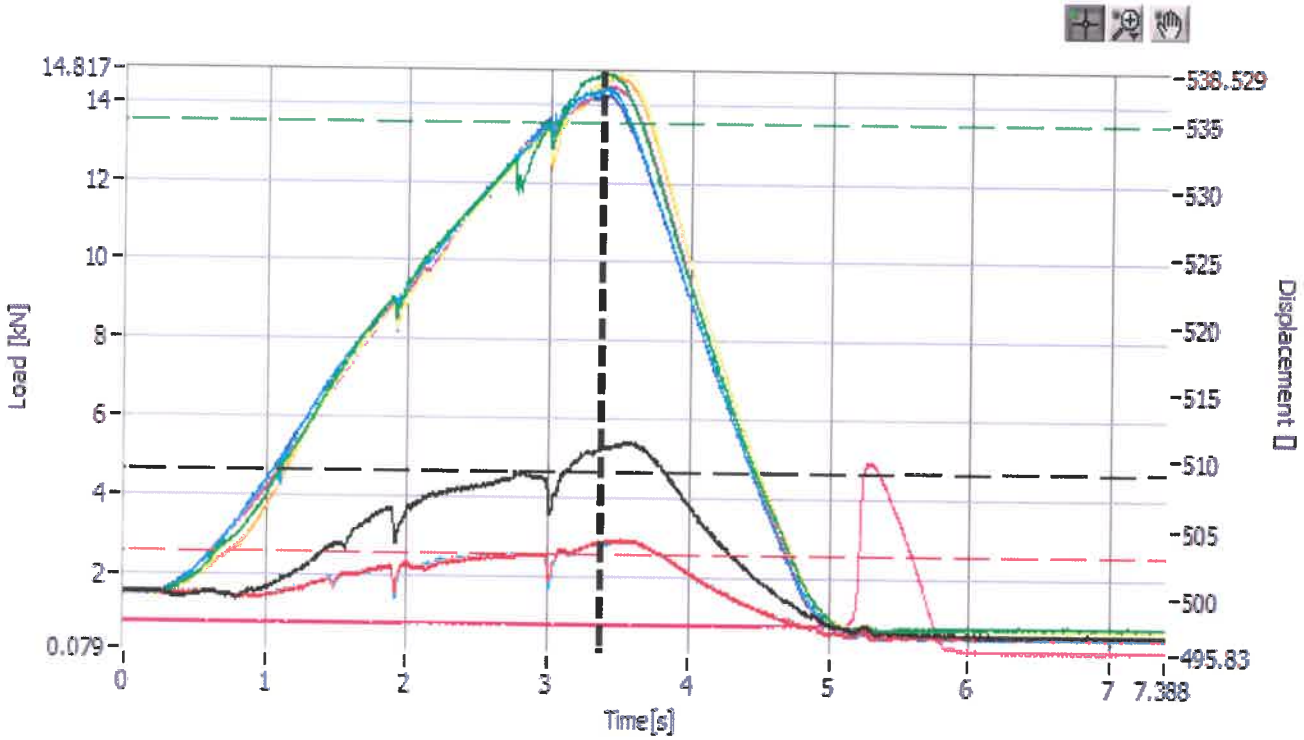
Measurement Datum XZ (0,0): Top left corner of seat back frame.					
Measurement	R Point	LNB	LB	Upper	
X	-328.9	-128	-228	2	
Y	0	191	-250	201	
Z	-460.0	-681	-617	-3	
Seat Back Angle (deg)			10		
Lower Anchorages	LNB Angle - α1 (deg)		48		
	LB Angle - α2 (deg)		57		
	Separation (mm)		440		PASS
	LNB offset (mm)		191		PASS
	LB offset (mm)		-250		PASS
Upper Anchorage	S Dimension (mm)		201		PASS
	Within Zone		PASS		

Appendix 2 - Load graphs

Test Title 1552_4771

Description Front row of 3 seats to M1

Date 07/04/2017 09:54:25

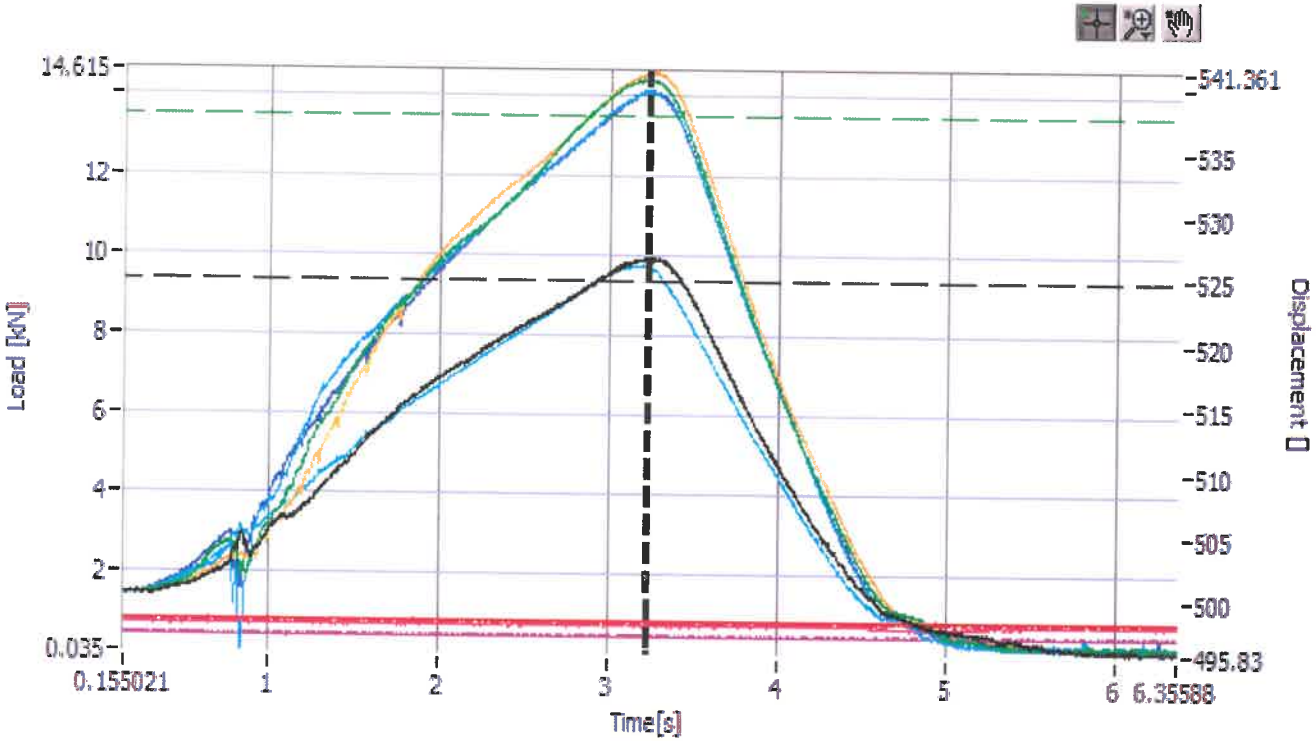


Cursor Time (s)		3.371	
Overlay Target Loads			Target
Load 1		5.18	4.62
Load 2		2.87	2.55
Load 3		14.74	13.50
Load 4		14.34	13.50
Load 5		14.60	13.50
Load 6		14.38	13.50
Load 7		14.49	13.50
Load 8		14.18	13.50
Load 9		0.75	0.00
Load 10		2.79	2.55

Test Title 1552_4772

Description Double seat / bed to M1

Date 07/04/2017 11:04:42



Cursor Time (s)		3.225	
Overlay Target Loads			Target
Load 1		9.92	9.34
Load 2		0.83	0.00
Load 3		14.42	13.50
Load 4		14.14	13.50
Load 5		0.82	0.00
Load 6		0.48	0.00
Load 7		14.57	13.50
Load 8		14.12	13.50
Load 9		0.73	0.00
Load 10		9.69	9.34

Appendix 3 - Pre-test photographs

Figure 3.1 – 1552_4771

Figure 3.2 – 1552_4772

Appendix 4 - Post-test photographs

Figure 4.1 – 1552_4771

Figure 4.2 – 1552_4772