STATUS

SPECIALIST TRANSPORT ADVISORY & TESTING UTILITY SOCIETY

This is to certify that a particular example of a

Original Front Row of Seats in a Ford Transit Custom

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 1552G1
Test Date: 18-05-2017
Test Ref : 1552_4790

Signature :

Michael Hughes
STATUS Manager

Manchester Metropolitan University

TC 001 V4

STATUS

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 Ford Transit Custom 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 1552G2
Test Date: 18-05-2017
Test Ref : 1552_4791

Signature :

Michael Hughes
STATUS Manager

Manchester Metropolitan University

TC 001 V4

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SPECIALIST TRANSPORT ADVISORY & TESTING UTILITY SOCIETY

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Seat Belt Anchorage Test Report

Report Reference No: 1552G

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

CONFIDENTIAL

Manchester Metropolitan University

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

Vehicle Type: Ford Transit Custom based Motor Caravan

Test date: 18/05/2017

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 with the 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 M1 as shown in the graphs in Appendix 2.

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

Signature: **Date:** 24/05/2017

Test Vehicle / Structure details:

The vehicle was a Ford Transit Custom 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_4790 Driver's seat and double passenger seat.

Seat Vehicle Position		RH	LH/C	LH
Vehicle row		First		
Seat Manufacturer		OE	OE	
Seat name		OE Driver	OE Passenger	
Seat type		Single	Double	
Belt type		3 Point	3 Point	3 Point
Anchorages on seat		All	All	All
Seat weight (kg)		27.00	36.00	
Load applied (kN)	Lap	13.5	13.50	13.50
	Diagonal	13.50	13.50	13.50
	Seat C of G	5.30	3.53	3.53
Load Channel No	Lap	3	5	7
	Diagonal	4	6	8
	Seat C of G	1	2	10

Test Ref: 1552_4791 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
Seat weight (kg)		95.25	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_4790

Seat Vehicle position	LH/C
Upper X displacement	223
X displacement limit	394
Upper Z displacement	99
Z displacement limit	-93
76/115/EC Result	PASS
ECE R14 Result	PASS

Test Ref: 1552_4791

Seat Vehicle position	RH	LH
Upper X displacement	150	150
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_4790	Seats generally pulled forwards. Driver's seat separated slightly from base pedestal (rear RHS) as there was no slide bolt present. All loads held. Deformation of floor/ step adjacent to LH seat visible.
1552_4791	Rear plate deformed slightly and pulled floor up at rear slightly but not excessively.

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_4791

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

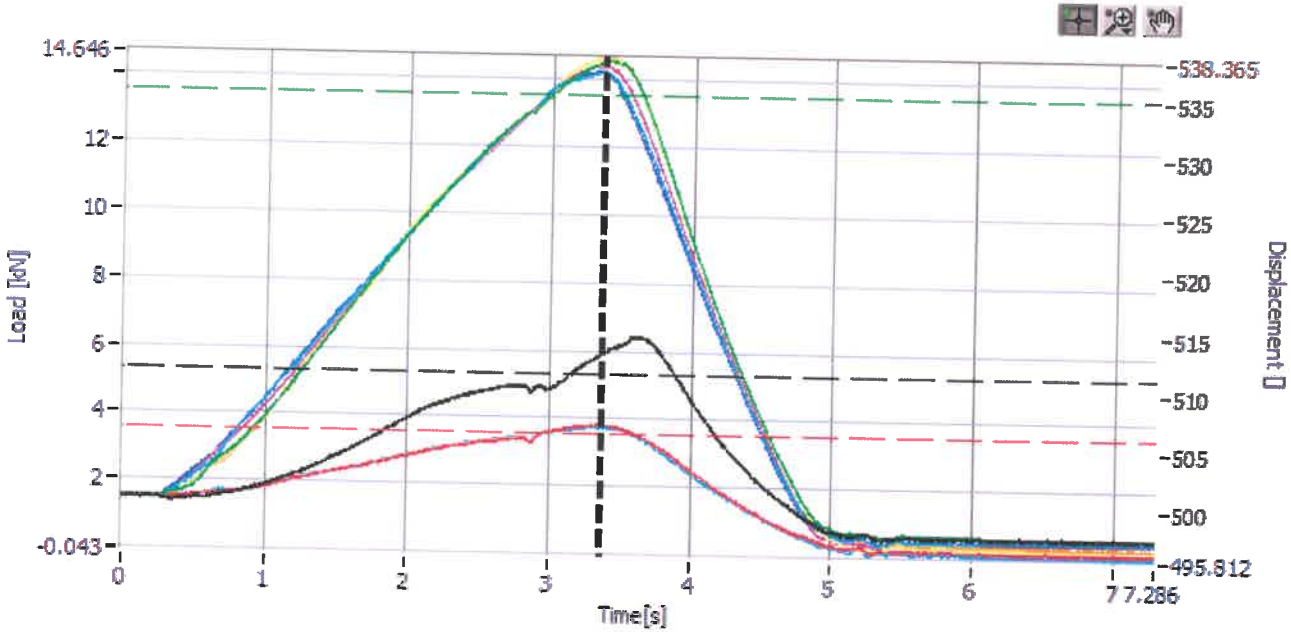
Measurement Datum XZ (0,0): Top left corner of seat back frame.					
Measurement	R Point	LNB	LB	Upper	
X	-328.9	-128	-228	2	
Y	0	191	-250	201	
Z	-460.0	-681	-617	-3	
Seat Back Angle (deg)			10		
Lower Anchorages	LNB Angle - α1 (deg)		48		
	LB Angle - α2 (deg)		57		
	Separation (mm)		440		PASS
	LNB offset (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_4790

Description Front row

Date 18/05/2017 10:33:41

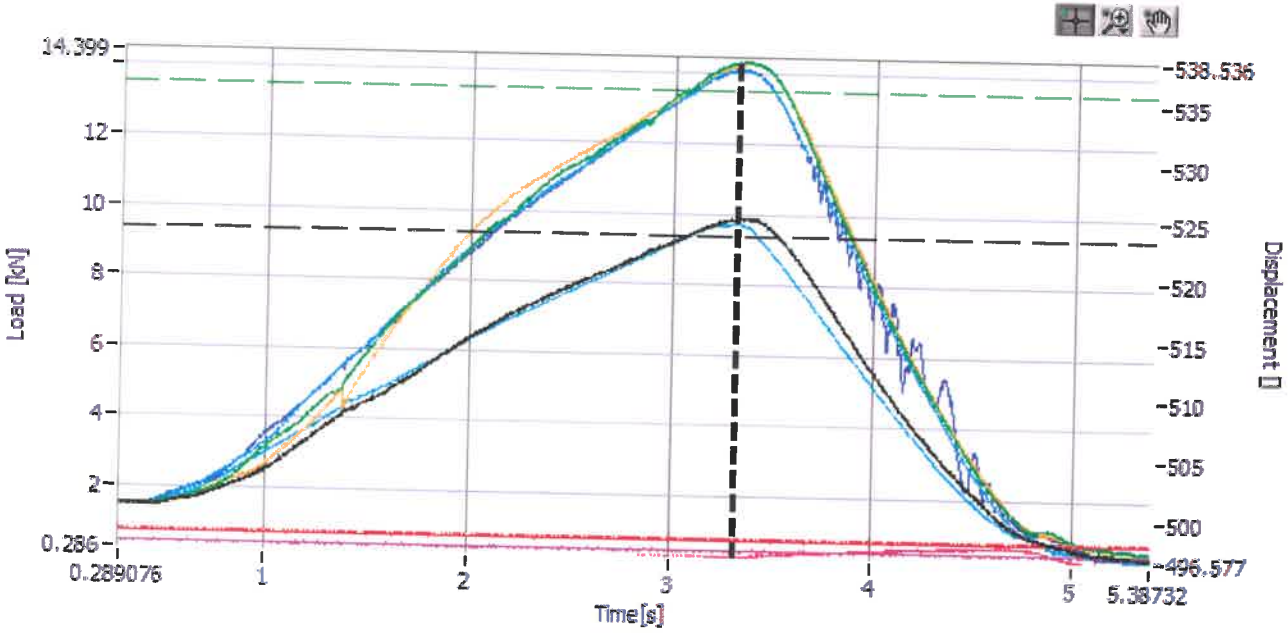


Cursor Time (s)		3.367	
Overlay Target Loads			Target
Load 1		5.91	5.30
Load 2		3.80	3.53
Load 3		14.48	13.50
Load 4		14.17	13.50
Load 5		14.62	13.50
Load 6		14.35	13.50
Load 7		14.58	13.50
Load 8		14.16	13.50
Load 9		0.73	0.00
Load 10		3.71	3.53

Test Title 1552_4791

Description Rock n roll

Date 18/05/2017 11:41:40



Cursor Time (s)		3.318	
Overlay Target Loads			Target
Load 1		9.88	9.34
Load 2		0.75	0.00
Load 3		14.29	13.50
Load 4		14.09	13.50
Load 5		0.78	0.00
Load 6		0.46	0.00
Load 7		14.26	13.50
Load 8		14.13	13.50
Load 9		0.26	0.00
Load 10		9.70	9.34

Appendix 3 - Pre-test photographs

Figure 3.1 – 1552_4790

Figure 3.2 – 1552_4791

Appendix 4 - Post-test photographs

Figure 4.1 – 1552_4790

Figure 4.2 – 1552_4791