STATUS

SPECIALIST TRANSPORT ADVISORY & TESTING UTILITY SOCIETY

This is to certify that a particular example of a

Original Front Row of Seats in a VW T5/T6

manufactured by Nulite Ltd,

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 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

Certificate No: MMU 1552C1
Test Date: 12/11/2013
Test Ref: 1552_4046

Signature

Michael Hughes
STATUS Manager

Manchester Metropolitan University

TC 001 V3

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 93kg,
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 VW T5 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 1552C2
Test Date: 12/11/2013
Test Ref : 1552_4047

Signature

Michael Hughes
STATUS Manager

Manchester Metropolitan University

TC 001 V3

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SEAT BELT ANCHORAGE TEST REPORT

REPORT REF No: 1552C

FOR A 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: Volkswagen T5 with roof removed and replaced with Poptop's roof reinforcing system

Test date: 12/11/2013

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 and 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:** 15/11/2013

Test Vehicle / Structure details:

The vehicle presented was a Volkswagen T5 which had been converted potentially to become a Motor Caravan. 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. .

In the rear of the vehicle, between the C-Pillar and D-Pillar, was fitted a Nulite NL BD2 folding double Seat / Bed. All anchorages were located on the seat.

Test Details:

Test Ref: 1552_4046 Driver's seat and double passenger seat

Test category: M1

Seat Vehicle Position		RH	C	LH
Vehicle row		Frontmost		
Seat Manufacturer		OE	OE	OE
Seat name		Driver's seat	Front passenger	Front passenger
Seat type		Single	Double	
Belt type		3 Point	3 Point	3 Point
Anchorages on seat		LB	All	LB
Leg separation (mm)		NA	NA	NA
Leg height (mm)		NA	NA	NA
Configuration tested		Lowest rearmost with upper in highest position	-	Upper in lowest position
Seat weight (kg)		34.0	40.0	
Load applied (kN)	Lap	13.5	13.5	13.5
	Diagonal	13.50	13.50	13.50
	Seat C of G	6.7	7.85	
Load Channel No	Lap	3	5	9
	Diagonal	4	6	10
	Seat C of G	1	7	
Test result		**Pass Regulation and Directive**	**Pass Regulation and Directive**	**Pass Regulation and Directive**

Test Ref: 1552_4047 Nulite NL BD2 Double Seat/Bed

Test category: M1

Seat Vehicle Position		RH	LH
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)		95.3	
Load applied (kN)	Lap	13.5	13.5
	Diagonal	13.50	13.50
	Seat C of G	9.3	9.34
Load Channel No	Lap	3	5
	Diagonal	4	6
	Seat C of G	1	2
Test result		**Pass Regulation and Directive**	**Pass Regulation and Directive**

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:

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_4046	Vehicle floor pulled up to the rear of the seats.Seats splayed apart. Deformation of the bodywork adjacent to the uppers. Driver's seat reel actual starting to rip into slot.
1552_4047	Floor adjacent to the rear of the seat pulled up slightly but no apparent severe 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 (IVA appraisal certificate No VCA-TS IVA-0015) 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_4047

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

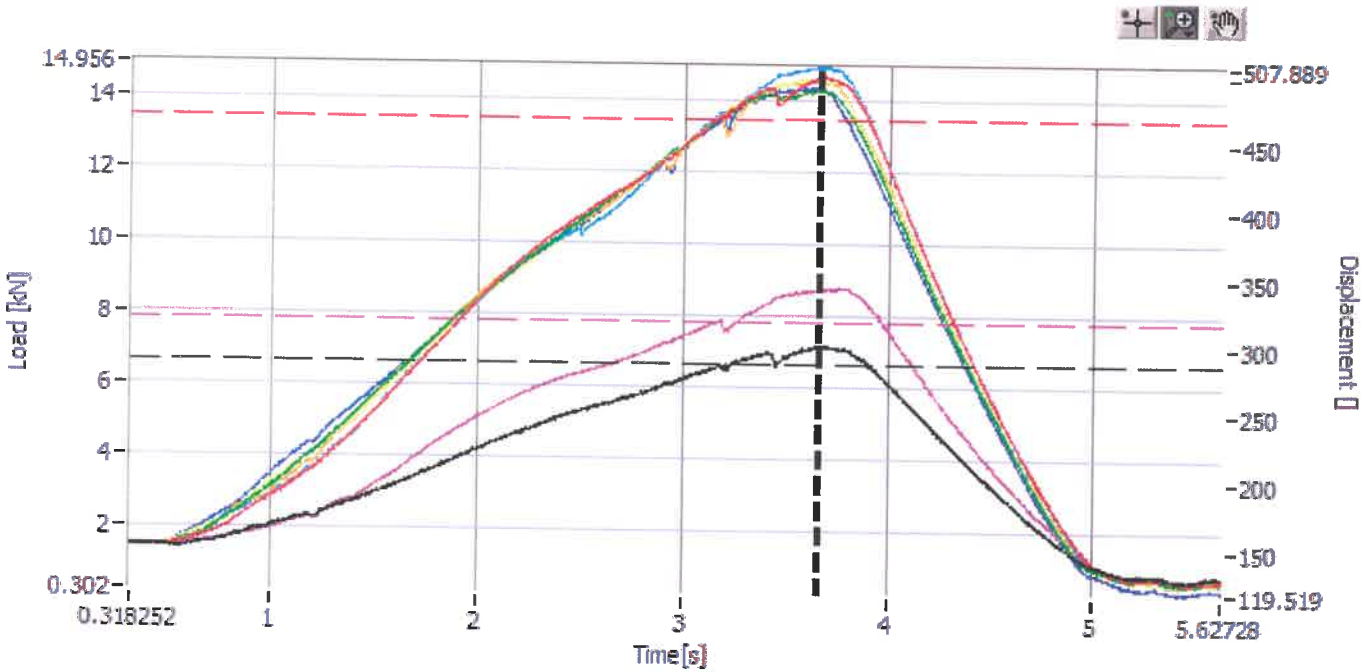
Measurement Datum XZ (0,0): Top left corner of seat back frame.					
Measurement	R Point	LNB	LB	Upper	
X	-328.9	-128	-228	2	
Y	0	191	-250	201	
Z	-460.0	-681	-617	-3	
Seat Back Angle (deg)			10		
Lower Anchorages	LNB Angle - α1 (deg)		48		
	LB Angle - α2 (deg)		57		
	Separation (mm)		440		PASS
	LNB offset (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_4046

Description: Driver & bench seat- front row

Date: 12/11/2013 10:12:17

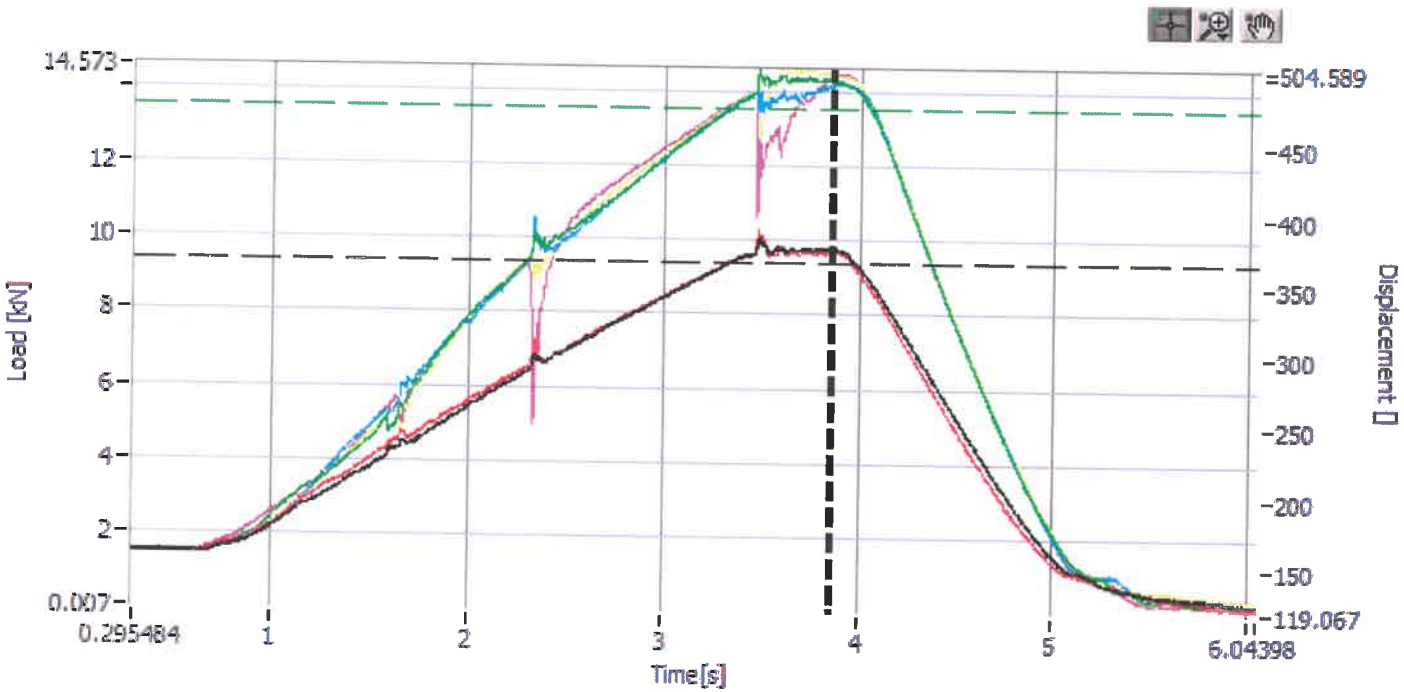


Cursor Time (s)		3.660	
Overlay Target Loads			Target
Load 1		7.17	6.67
Load 3		14.66	13.50
Load 4		14.31	13.50
Load 5		14.93	13.50
Load 6		14.61	13.50
Load 7		8.74	7.85
Load 9		14.57	13.50
Load 10		14.32	13.50

Test Title 1552_4047

Description NL BD2 double seat/ bed in T5 shell

Date 12/11/2013 14:05:07



Cursor Time (s)		3.856	
Overlay Target Loads			Target
Load 1		9.74	9.34
Load 2		9.63	9.34
Load 3		14.26	13.50
Load 4		14.17	13.50
Load 5		14.44	13.50
Load 6		14.37	13.50

Appendix 3 - Pre-test photographs

Figure 3.1 – 1552_4046

Figure 3.2 – 1552_4047

Appendix 4 - Post-test photographs

Figure 4.1 – 1552_4046

Figure 4.2 – 1552_4047

Appendix 4 - Post-test photographs

Figure 4.1 – 1552_4732

Figure 4.2 – 1552_4733