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TEST REPORT: LATERAL PROTECTION (SIDE GUARDS)

ECE Regulation 73.01 to Supplement 0 - 1

REPORT/JOB NUMBER: VSU431922

TEST DETAILS

Location of Test	VCA Midlands Centre, Watling Street, Nuneaton, Warwickshire, CV10 0UA, United Kingdom.
Date of Test	25 July 2018
VCA Representative(s)	Andrew Bell and Steve Gurney
Manufacturer's Representative(s)	Tony Godden
Reason for Test	Extension to STU approval

MANUFACTURER DETAILS

Manufacturer's Name	Aalco
Manufacturer's Address	Aalco Metals Ltd, Parkway House, Unit 6 Parkway Industrial Estate, Pacific Avenue, Wednesbury, West Midlands, WS10 7WP, United Kingdom.
Model Type & description	SG132L rail with Takler 500 and Takler 700 legs.
Category	STU

CONCLUSION

The above mentioned vehicle/component was tested in accordance with the above mentioned legislation and was found to comply in all respects. This report relates only to the items tested.

Signature: *A.D. Bell*
Name: Andrew Bell
Position: Type Approval Engineer
Date: 30 July 2018

LIST OF ANNEXES

ANNEX	No of PAGES	SUBJECT
1	1	Test results
2	-	-
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TEST SPECIFICATION AND WORST CASE RATIONALE

Test report to cover introduction of new lateral section as an alternative to SG132, to be known as SG132L. This is offered with reduced leg spacing to allow for the reduced thickness of section compared with SG132.

Test results appended to this report.

Note: Include information on variants and versions this report covers, as applicable. Supporting documents may be annexed to this report

Significant Interpretations, Alternative Test Methods, New Technologies

Not applicable

Tests required (if more than one is applicable)

- Single rail deflection test
- Double rail deflection test

COMPONENT SPECIFICATION (as specified in agreed worst case rationale)

SG132L rail

Takler 500 leg

Takler 700 leg

MANUFACTURER'S DOCUMENTATION

Manufacturer's documentation is complete and reflects the agreed specification for the component tested and covers all variants and versions agreed in the worst case rationale

Yes

FACILITY AND EQUIPMENT CHECKS

1	Generic Risk assessment followed	<i>Insert RA identifier here</i>	PCRAF-001	Yes
	OR			
	Specific Risk assessment completed and stored in electronic job folder			NA
2	Facilities and test equipment are appropriate			Yes
	Brief description of test equipment: Sideguard push rig			
3	Calibration certificates checked and valid, recorded in the following table			Yes

Equipment	Serial No.	Calibration data
Sideguard push rig	00899	28 March 2019
Tape measure	Not applicable	Not applicable
-	-	-



TEST REQUIREMENTS

			Complies Yes/NA
<i>Item 1.1</i>	Vehicle Type: N2, N3, O3 & O4		
	Vehicles, Part I with lateral protection, Part II Lateral protection Device, Part III Installation of an approved or partially approved device to a vehicle.		
<i>Part I & III. 3.1.1.1 & 3.1.1.2</i>	Vehicle is equipped with a specific device, OR the sides of the vehicle are so designed that component parts can be regarded as replacing the side guards		NA
<i>Part I & III. 12.1 & 15.1</i>	Side guards do not increase overall vehicle width.		NA
	Distance of main part of outer surface inboard from outermost plane of vehicle (limit < 150mm)	mm	NA
	Max distance or rearmost 250mm of side guard inboard from outermost edge of rear tyres (excluding bulging closes to the ground) limit < 30mm	mm	NA
<i>Part I & II. 12.2 & 14.1</i>	Outer surface of side guard is smooth and flat.		Yes
	Outer surface is continuous from front to rear except for gaps (< 25mm) and/or overlapping edges face rearwards or downwards.		Yes
	Gaps between adjacent parts are < 25mm and rearward part does not protrude out board of forward part.		Yes
	Protruding heads of bolts and/or rivets are domed and do not protrude more than 10mm.		Yes
	Other protruding parts are smooth and rounded and so do not protrude more than 10mm		Yes
	All external edges and corners have a minimum radii of 2.5mm.		Yes
<i>Part I & II. 12.3 & 14.2</i>	Side guard consists of:		
	continuous flat surface		NA
	OR one or more horizontal rails		Yes
	OR combination of above		NA



Rails are not more than 300mm apart and :
> 50mm high (N₂ and O₃)
> 100mm high (N₃ and O₄)

NA
Yes

Motor Vehicle / Drawbar :

Part I & III, 12.4.1.1
& 15.2..1.1

Longitudinal distance of forward edge of side guard to rear of rearmost part of tyre on wheel immediately forward of the guard mm

NA

(Limit < 300mm Motor vehicle, < 500mm Drawbar trailer)

NA

Motor vehicle:

Part I & III, 12.4.3 & 15.2.3

Dimension above falls within cab or falls behind cab but has been extended to meet cab according to paragraph 12.4.4. & 15.2.4.

NA

Guard meets cab panels and, if necessary, is turned in through an angle not exceeding 45° OR on suspended / tilt cab, gap between front edge of guard and cab panel is < 100mm (in which case 12.4.2 and 15.2.2 does not apply)

NA

Part I & Part III 12.4.4 and 15.2.4

At the manufacturers option where the 300mm dimension referred to in 12.4.1.1 & 15.2.1.1 falls behind the cab and the device extends forward to within 100mm of the cab then the provisions of 12.4.3 and 15.2.3 may be met

NA

Semi-Trailer

Part I & Part III, 12.4.1.3 & 15.2.1.3

Longitudinal distance of forward edge of side guard to the rear of the transverse plane of the supporting legs, if fitted (limit 250mm) mm

NA

Longitudinal distance of front edge of side guard to centre of kingpin (in rearmost position) limit 2700mm mm

NA

Part I & Part III, 12.4.2 and 15.2.2

Where forward edge of side guard lies in otherwise open space, edge consists of continuously vertical member extending over whole height of guard

NA

Outer edge of member measures at least 50mm rearward (N₂, O₃) or 100mm rearward (N₃, O₄) and is turned 100mm inwards.

NA

Part I & Part III, 12.5 TR Lateral Protection (Side Guards) (42A) Longitudinal distance of rearward edge of side guard to mm

NA



and 15.3	forward of foremost part of tyre on wheel immediately NA rearward of the guard (limit 300mm)		
Part I and Part III, 12.8 and 15.6	Height of lower edge of guard above ground (limit 550mm)	mm	NA
Part I and Part III, 12.9 and 15.7	The upper edge shall not be more than 350mm below the structure of the vehicle, cut or contacted by a vertical plane tangential to the outer surface of the tyres, except in the following cases.		NA
Part I & Part III, 12.9.1 and 15.7.1	Where the plane in (12.9 & 15.7) does not cut the vehicle structure, then the upper edge shall be level with the load carrying platform, or 950mm from the ground whichever is less.		NA
Part I & Part III 12.9.2 and 15.7.2	Where the plane (in 12.9 & 15.7) cuts the vehicle structure at a level more than 1.3m above the ground: upper edge is not less than 950mm above the ground.		NA
Part I & Part III, 12.9.3 & 4, and 15.7.3 & 4	<i>Note: On vehicles designed and constructed to carry a container or demountable body, or a crane, the container or body is considered as part of the vehicle and the upper edge of the guard is determined in accordance with paragraphs 12.9.1 & 2. and 15.7.1. & 2.</i>		NA
Part I, Part II and Part III, 12.10, 14.4 & 15.8	Side guard is rigid, securely mounted and made of metal or suitable material.		Yes
Part I, Part II and Part III, 12.11, 14.5 and 15.9	Components incorporated in the side guards and permanently fixed, e.g. battery box, air tanks, fuel tanks, lamps, reflectors, spare wheels and tool boxes meet the dimensional requirements.		Yes
Part I & Part III, 12.12 and 15.10	Brake, air or hydraulic pipes are not attached to side guard.		NA

APPLIED FORCE TEST

Part I & Part II, 12.10 & 14.4	Face of ram in circular and flat with a diameter of 220mm +/- 10mm		Yes
	Centre of ram is aligned perpendicularly with the external surface of the guard.		Yes
	Maximum deflection under horizontal static force of 1kN:		Yes – see table of



			results
	Over rearmost 250mm (limit 30mm)	mm	Yes – see table of results
	Over remainder of guard (limit 150mm)	mm	Yes – see table of results

CALCULATIONS

<i>Part I & Part II, 12.10 & 14.4</i>	Strength calculations show that the device complies with the requirements of these sections.		NA
<i>Part I & Part II, 12.13 & 14.6</i>	Force required to vary the position of the device does not exceed 40daN., when LPD is designed to have several positions of use.		NA

APPROVAL

<i>Part I & Part III, 5.1.4 & 5.3.4</i>	Approval mark is conspicuous and in a readily accessible location on the vehicle.		Yes
<i>5.1.6 & 7, and 5.3.6 & 7</i>	Approval mark is legible and indelible, close to or on the vehicle data plate affixed by the manufacturer		Yes
<i>Part II, 5.2.4.</i>	Approval mark is affixed, conspicuously and in a readily accessible location to the main components of the LPD.		Yes
<i>5.2.5</i>	Approval mark is legible and indelible.		Yes

Remarks

None

Note: VCA apply measurement uncertainty to calibrated items but not test results.

Kit no.	Rail	Leg	Drop (mm)	Leg spacing (mm)	Front overhang (mm)	Rear overhang (mm)	Deflection at front (mm) (limit 150mm)	Deflection at centre(mm) (limit 150mm)	Deflection at rear(mm) (limit 30mm)
5 - single rail	SG132L	Takler 500	500	2500	500	200	82	86	22.9
6 - double rail	SG132L	Takler 700	700	2500	500	150	73	83	29.9