Vehicle Certification Agency

THE UNITED KINGDOM VEHICLE APPROVAL AUTHORITY

COMMUNICATION CONCERNING THE APPROVAL GRANTED (1)/ ~~APPROVAL EXTENDED~~ (1)/ ~~APPROVAL REFUSED~~ (1)/ ~~APPROVAL WITHDRAWN~~ (1)/ ~~PRODUCTION DEFINITIVELY DISCONTINUED~~ (1) OF A TYPE OF REAR UNDERRUN PROTECTIVE DEVICE (RUPD), PURSUANT TO UN REGULATION NO 58.03

E11 Approval No: E11*58R03/00*12180*00

1. Trade name or mark of device: 313 404 600 001 UNIVERSAL UNDERRUN PROTECTION (RUP)

2. Device type: 313 404 600 001

3. Name and address of manufacturer:
CP Witter Ltd (Horizon Global UK)
Drome Road,
Deeside Industrial Estate
Deeside,
Flintshire,
CH5 2NY
United Kingdom

4. If applicable, name and address of manufacturer's representative: Not applicable

5. Characteristics of the device (dimensions and its fixing elements) See manufacturer's documents

6. Test conducted ~~on a vehicle /~~ on a representative part of the chassis of a vehicle (1)

7. Position on the device of the points of application of the test forces: P1 1005 mm, P2 490 mm, P3 0 mm

8. Maximum horizontal deflection observed during and after the application of the test forces in Annex 5: P1 21 mm, P2 17 mm, P3 4mm.

UK Approval Authority Vehicle Certification Agency 20-Oct-21

9. Restrictions on application

Vehicles on which the device may be installed (if applicable): various

Characteristics of the chassis to which the device may be installed (e.g. stiffness, profile dimensions,…) : Mounted on outside of chassis rails with maximum 1100mm spread. Second moment of area of chassis longitudinal sections should be greater than 18250000 mm^4

10. Maximum mass of vehicle on which the device may be installed: 7.5 tonne

11. Device submitted for approval on: 09 September 2021

12. Technical Service responsible for conducting approval tests: Vehicle Certification agency

13. Date of report issued by that service: 15 October 2021

14. Number of report issued by that service: VSY541774

15. Approval: GRANTED~~/REFUSED/EXTENDED/WITHDRAWN~~ in respect of the RUPD (1)

16. Position of approval mark on the device: On centreline of crossbeam on top surface

17. Place: BRISTOL

18. Date: 20 OCTOBER 2021

19. Signature:

C McCABE
Chief Technical and Statutory Operations Officer

20. The following documents, bearing the approval number shown above, are available upon request:

Drawings, diagrams and layout plans of the components of the structure considered to be of importance for the purposes of this Regulation;

Detailed information about the devices representing the vehicle structures used for the mounting of the RUPD (e.g. moment of inertia of the beams);

Where applicable drawings of the protective devices and their position on the vehicle.

Any remarks: none

(1) Strike out what does not apply

Vehicle Certification Agency

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APPROVAL NUMBER: E11*58R03/00*12180*00

INFORMATION PACKAGE CONTENTS

INDEX REVISION NUMBER: Not applicable

Conformity of Production (COP) Declaration	**COP Confirmed**	
Assessment Method	**ISO/TS Cert and Control Plans Compliance Statement COP Audit ***	
Date of Initial Clearance	**Pre**	**Pre 2013 Year**
Date of Last Clearance	**April**	**Year 2021**

Total number of sheets: 17 (Seventeen)

Reasons for Revision: Not applicable

Revision Date
&
Office Stamp

UK Approval Authority | Vehicle Certification Agency
20-Oct-21

VSY541774

Approval number: VCA Job Number: VSY541774

REAR UNDERRUN DEVICE

ECE REGULATION 58R/03

Type:	313 404 600 001
Vehicle Category:	N2
Extension Level:	0 (Base approval)

Total Number of Sheets: 17

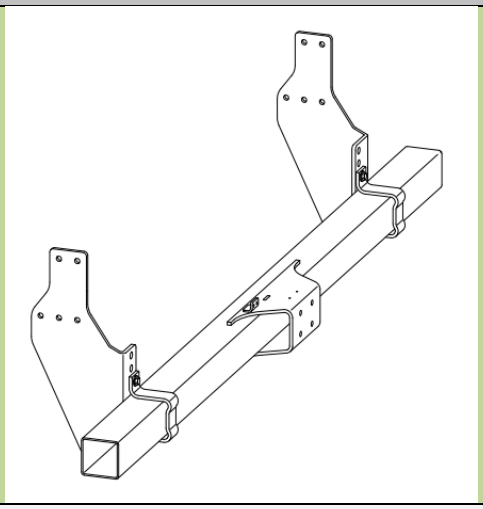
Extension History

Extension Number	Job Number	Reasons for Extension
00		New Approval

Appendix List

Appendix Number	Description
01	
02	
03	
04	

0.	**GENERAL**	
0.1.	**Make (trade name of manufacturer):**	CP WITTER LTD (HORIZON GLOBAL UK)
0.2.	Type:	UNIVERSAL UNDERRUN PROTECTION (RUP)
0.2.1.	Commercial name(s) (if available):	313 404 600 001
0.3	Means of identification of type, if marked on the vehicle:	SELF ADHESIVE LABEL
0.3.1	Location of that marking:	ON CROSSBAR
0.4.	Category of vehicle (c):	N2
0.5.	Company Name and address of manufacturer:	CP Witter Ltd (Horizon Global UK) Drome Road, Deeside Industrial Estate Deeside, Flintshire, CH5 2NY
0.8.	Name(s) and address(es) of assembly plant(s):	Horizon Global Germany GmbH Bahnhofstr. 2-4 04746 Hartha, Germany. Horizon Global South Africa Ltd 316B Mundt Street, Waltloo, Pretoria, Gauteng, 0184, South Africa. Terwa Romania SRL, Unit 2A, Olympian Park Brasov, Str. Ghimbavului nr. 80D, 507055 Cristian, Romania
0.9	Name(s) and address(es) of the manufacturer's representative (if any):	N/A

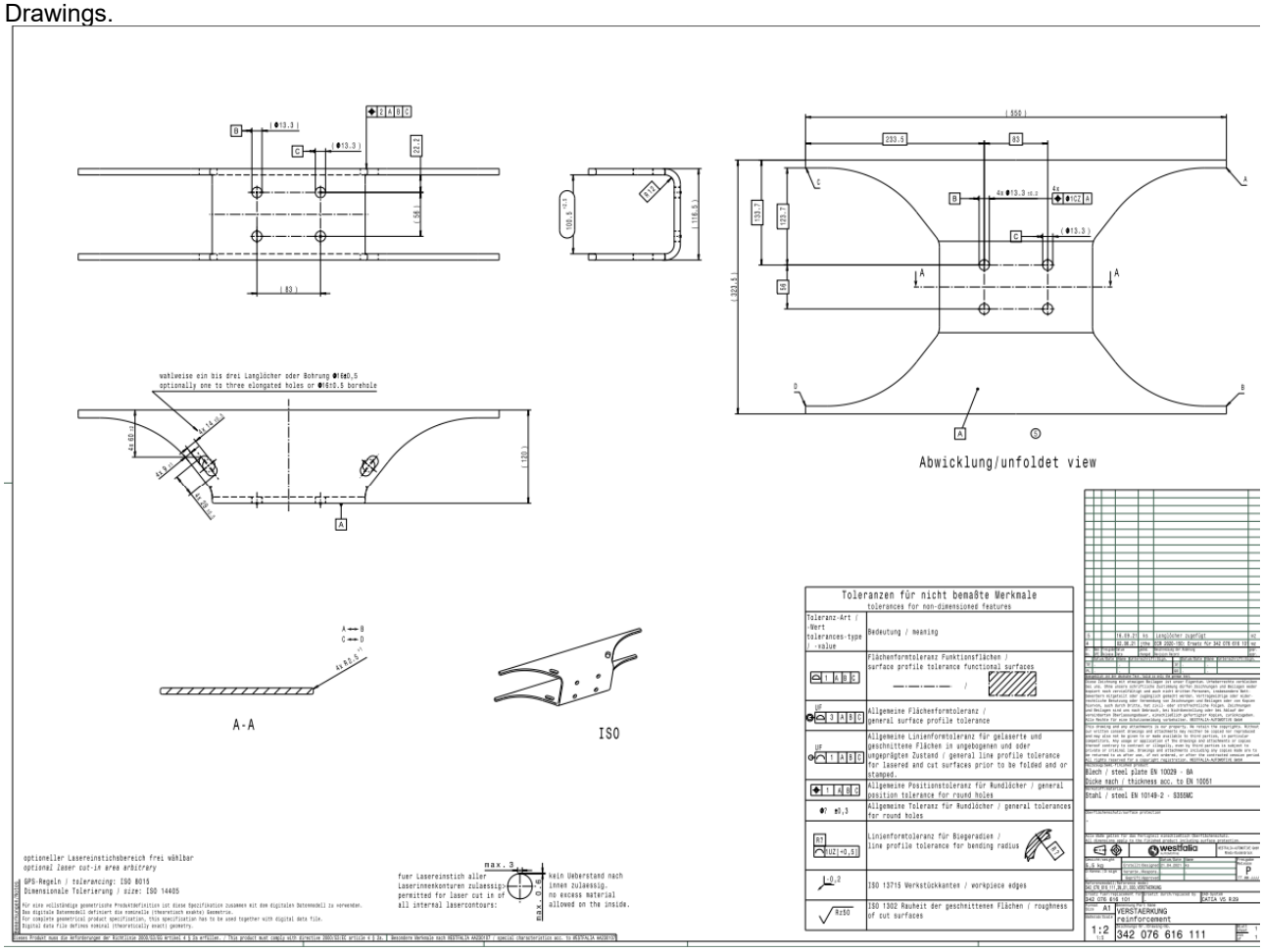
1.	**GENERAL CONSTRUCTION CHARACTERISTICS OF THE COMPONENT**	
1.1.	Photographs and/or drawings of a representative component:	
1.5	Material Used For Side Members	S355 MILD STEEL 10MM THICK

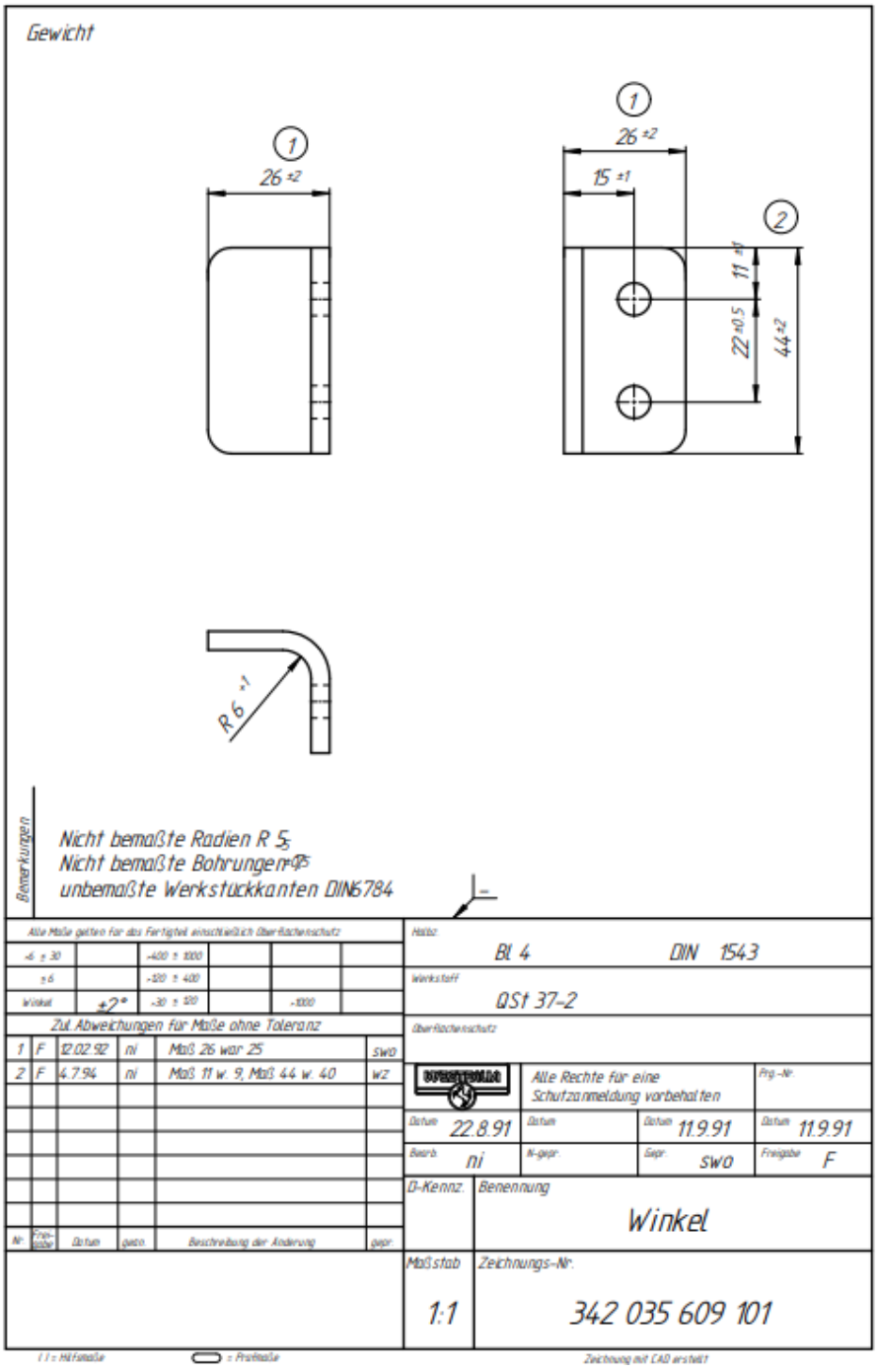
2.	**MASSES AND DIMENSIONS ([f]) ([g])**	
	(in kg and mm) (Refer to drawing where Applicable)	
2.3.3	Width Of Widest Rear Axle	
2.4.	**Range of vehicle dimensions (overall)**	
2.4.1.	**For chassis without bodywork**	
2.4.2.	**For chassis with bodywork**	
2.4.2.2.	Width ([g7]):	
2.6	Mass of the vehicle with bodywork, and with coupling device in the case of a towing vehicle of a category other than M1, in running order, or the mass of the chassis with cab if the manufacturer does not fit the bodywork and/or coupling device (including coolant, oils, fuel, 100% other liquids except waters, tools, spare wheel and driver, and, for buses and coaches, the mass of the crew member (75 kg) if there is a crew seat in the vehicle:	N/A
2.8.	Technically permissible maximum laden mass stated by the manufacturer ([i]) ([3]):	7500

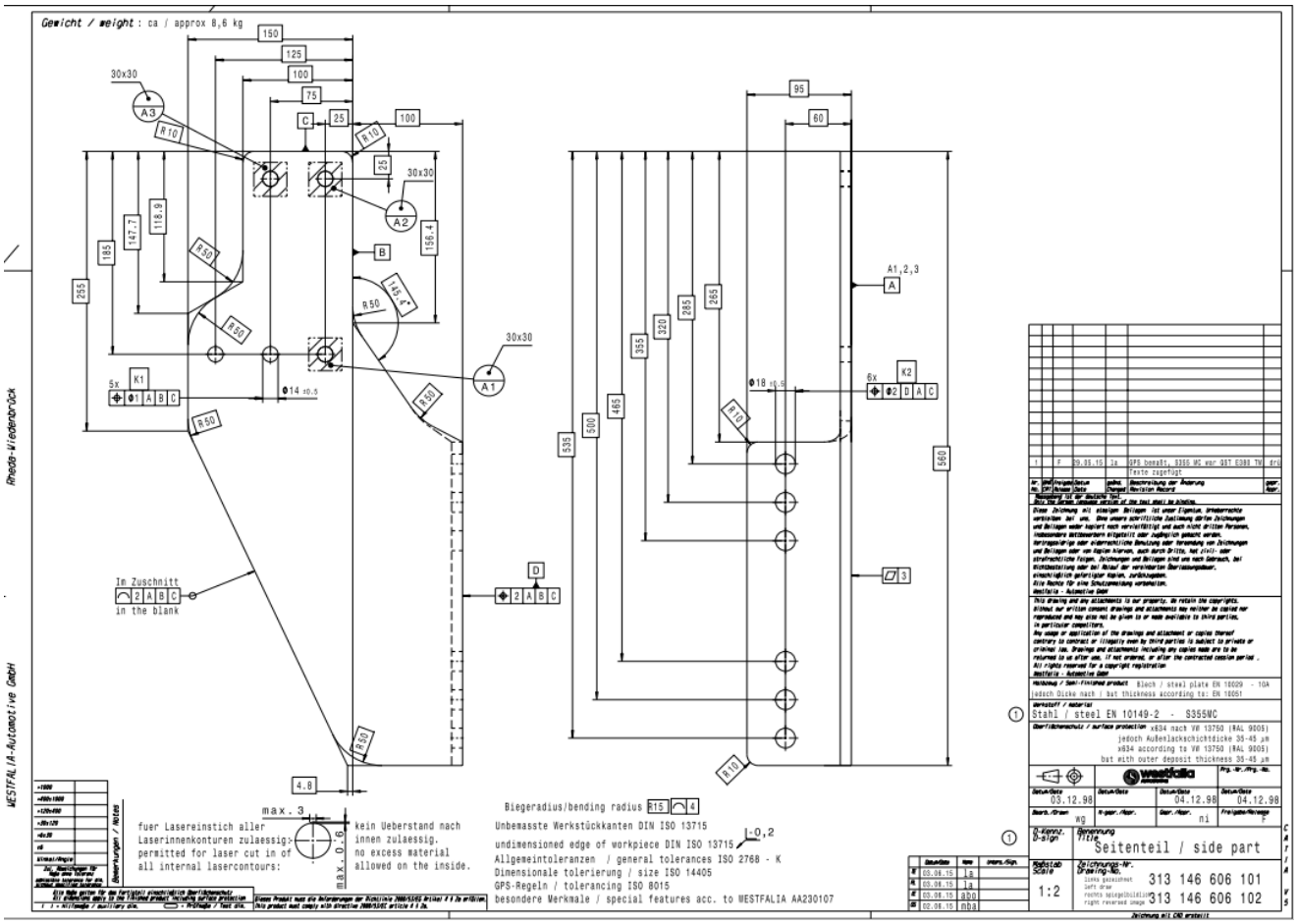
9.	**Bodywork**	
9.1	Type Of Bodywork	N/A
9.2	Material used and method of construction:	

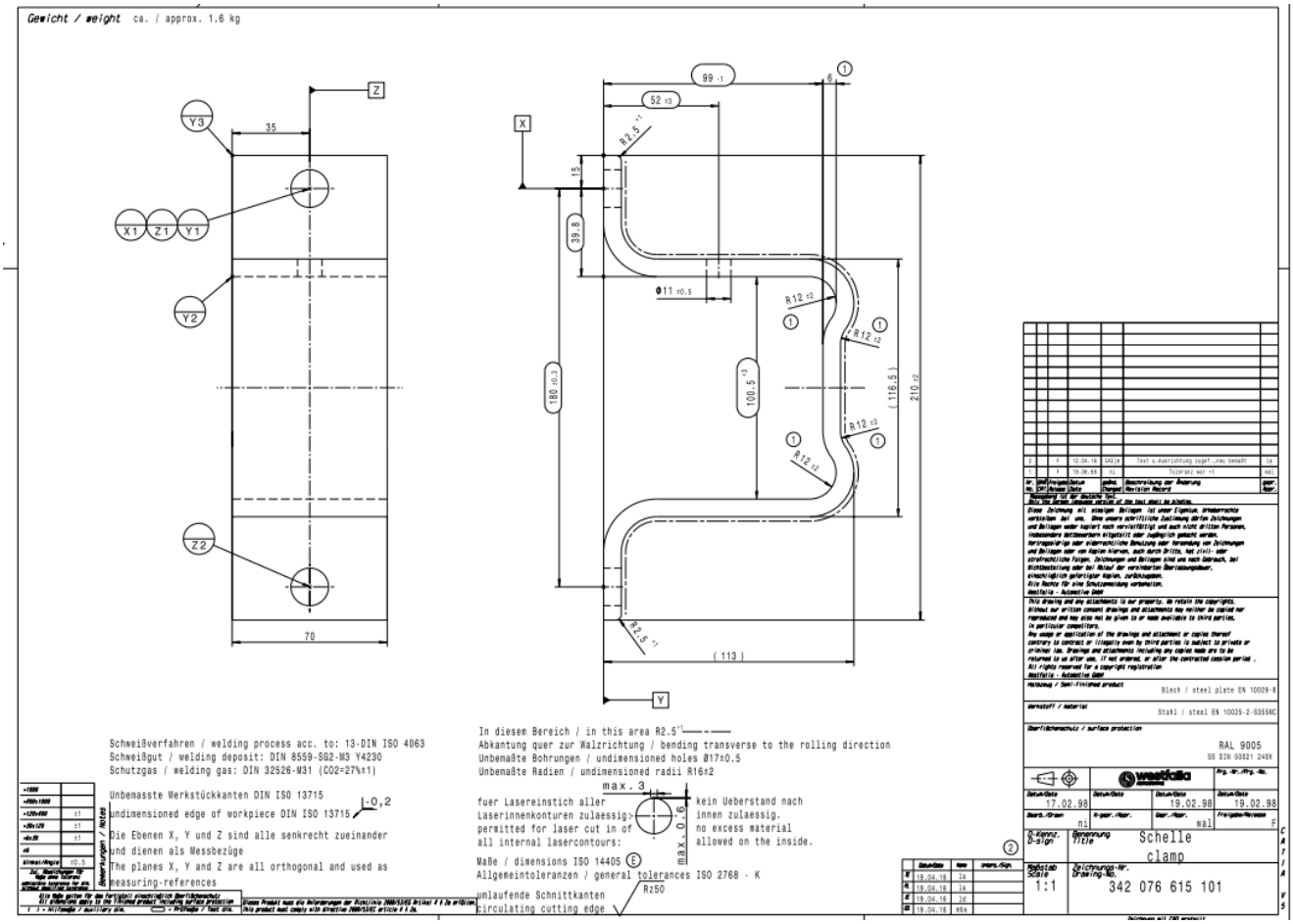
9.15	**Rear Underrun Protection**	
9.15.1	Drawings of the vehicle parts relevant to the rear underrun protection, i.e. drawing of the vehicle and/or chassis with protection and mounting of the widest rear axle, drawing of the mounting and/or fitting of the rear underrun protection. If the underrun protection is no special device, the drawing must clearly show that the required dimensions are met: Refer to drawings	UNIVERSAL UNDERRUN
9.15.2	In the case of special device, full description and/or drawing of the rear underrun protection (including mountings and fittings), or, if approved as a separate technical unit, type approval number:	N/A

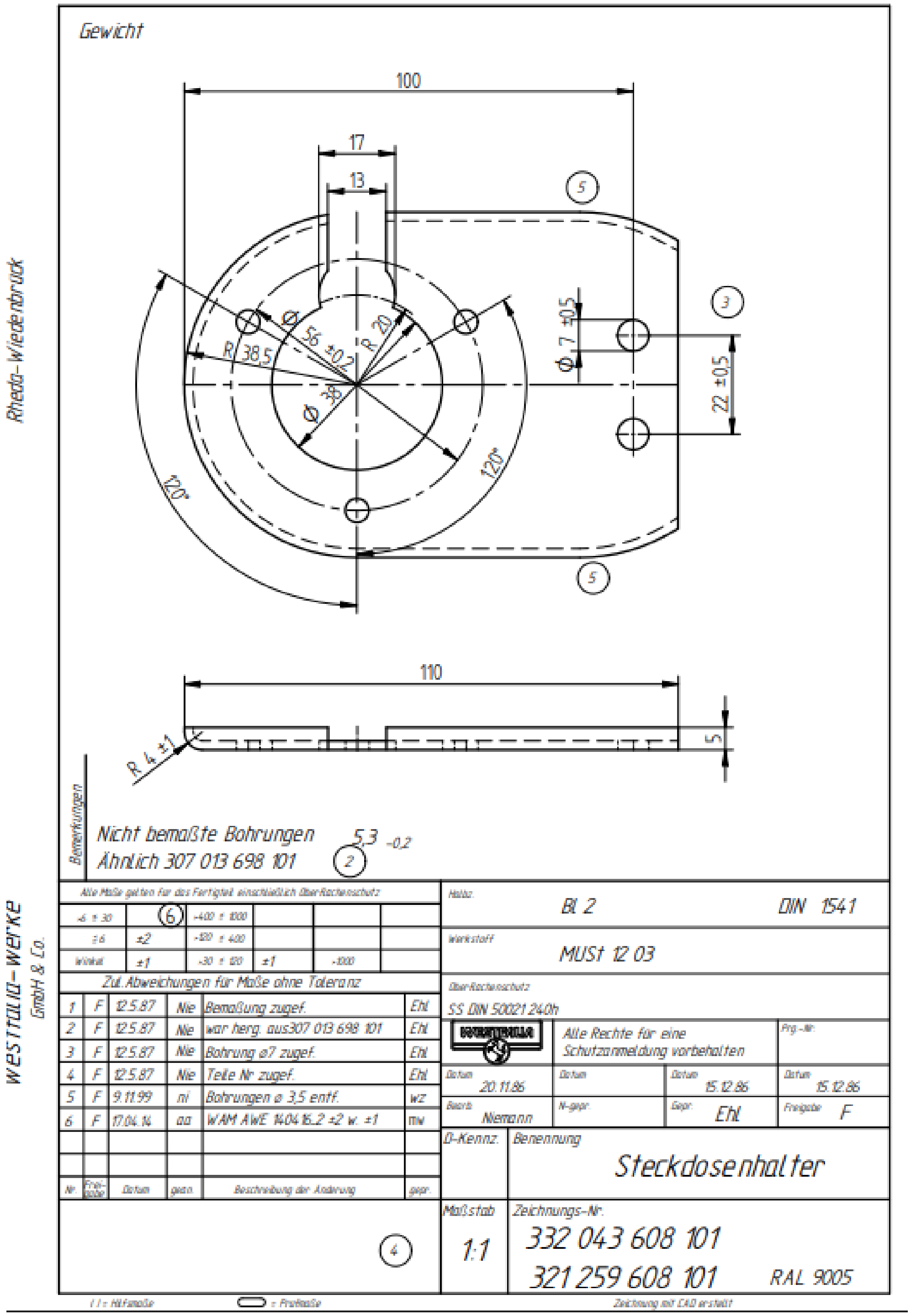
Drawings.

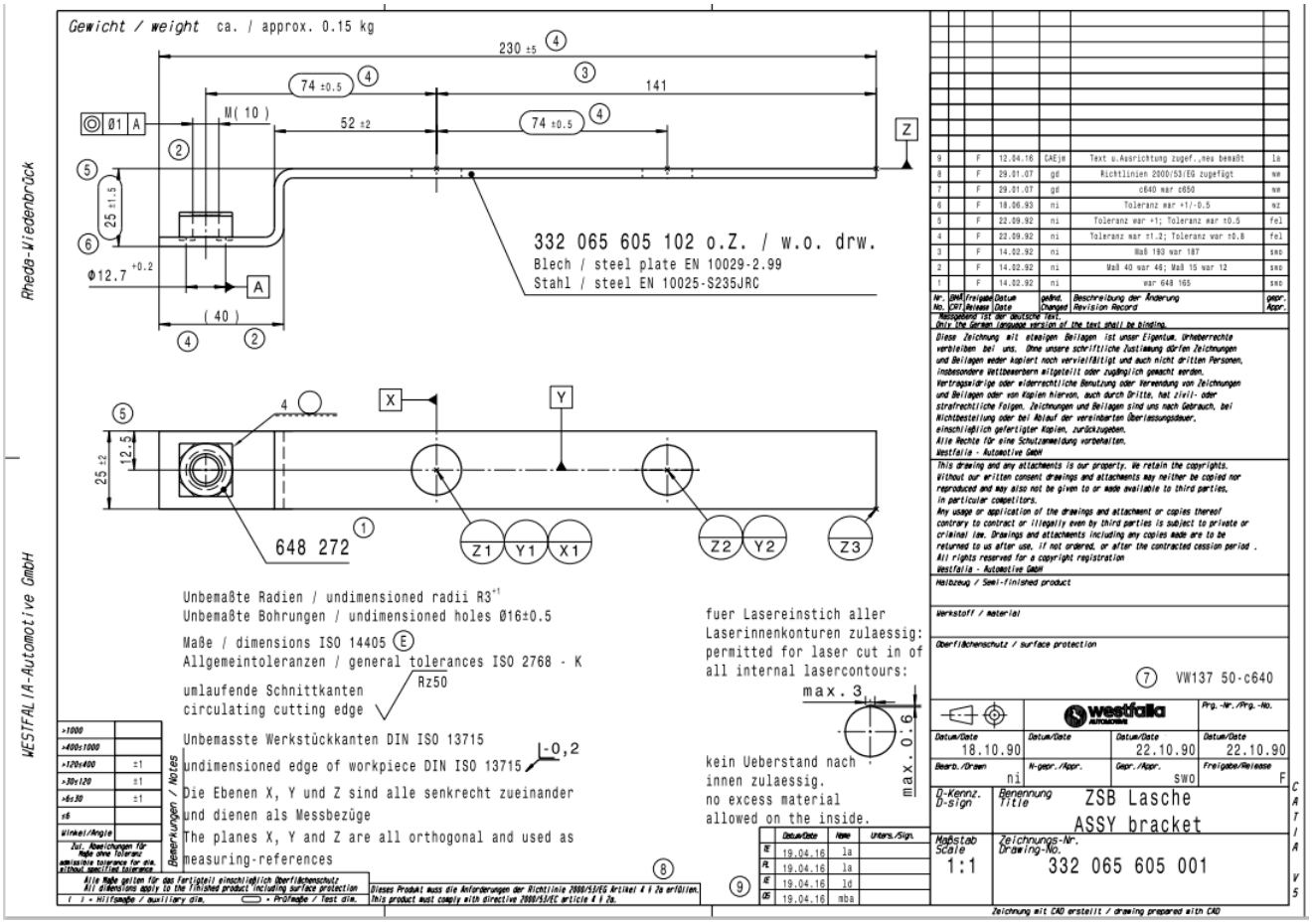


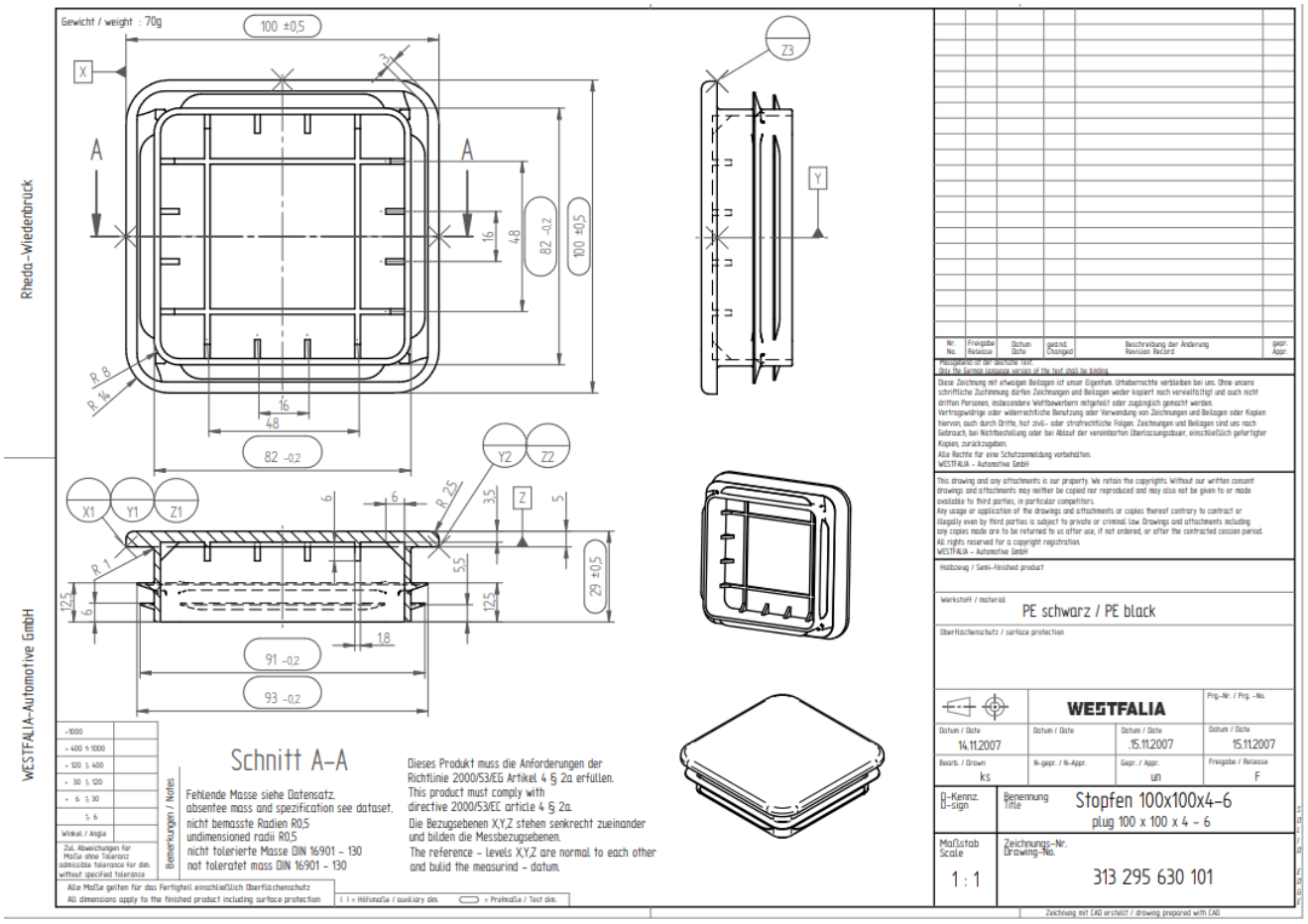


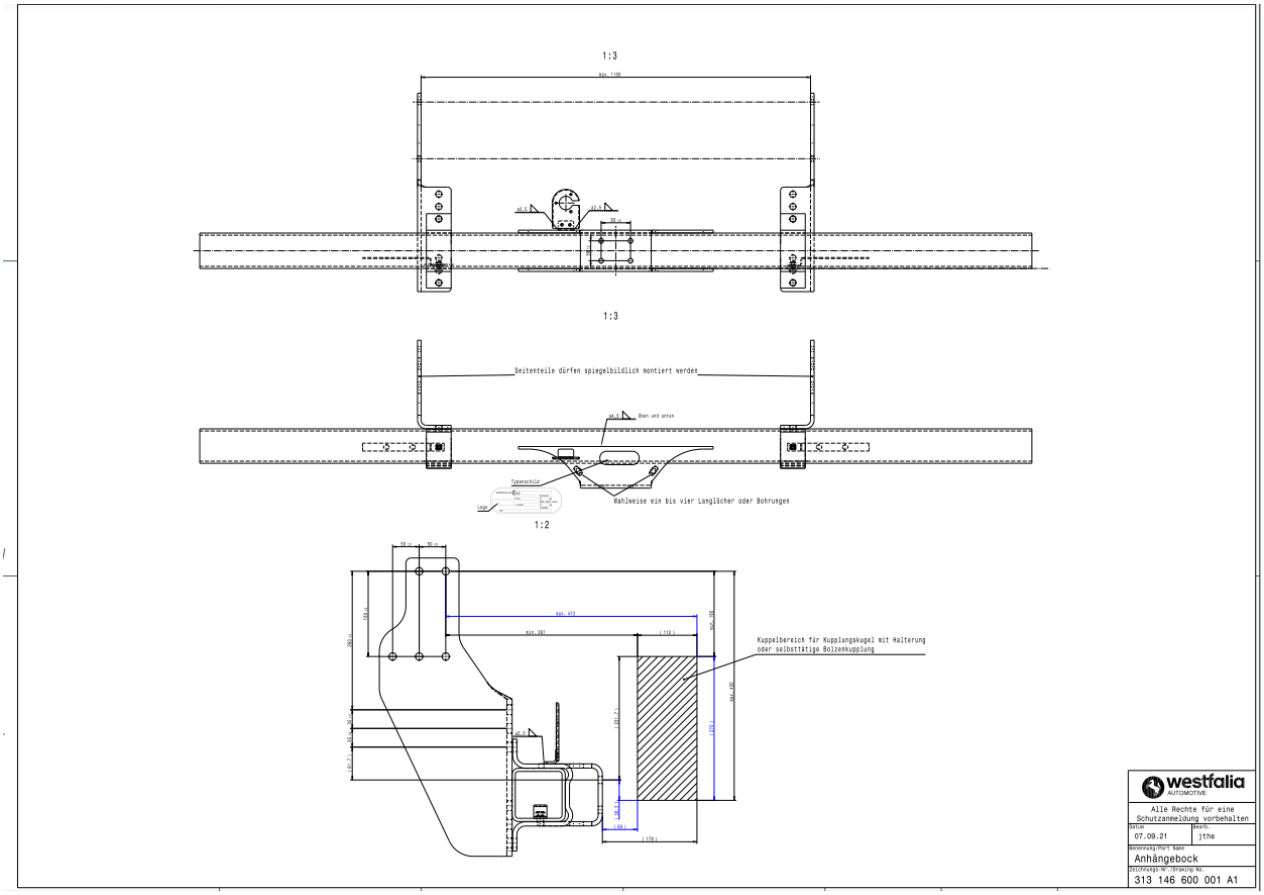





Gewicht
100
17
13
5
3
R 38,5
Ø 56 ±0,2
R 20
Ø 38
Ø 7 ±0,5
22 ±0,5
120°
120°
5
110
R 4 ±1
5
Rheda-Wiedenbrück
Bemerkungen
Nicht bemaßte Bohrungen 5,3 -0,2
Ähnlich 307 013 698 101 2
Alle Maße gelten für das Fertigteil einschließlich Oberflächenschutz
Zul. Abweichungen für Maße ohne Toleranz
1 F 12.5.87 Nie Bemaßung zugef. Ehl
2 F 12.5.87 Nie war herg. aus 307 013 698 101 Ehl
3 F 12.5.87 Nie Bohrung ø7 zugef. Ehl
4 F 12.5.87 Nie Teile Nr zugef. Ehl
5 F 9.11.99 ni Bohrungen ø 3,5 entf. wz
6 F 17.04.14 aa WAM AWE 140416_2 ±2 w. ±1 mw
Nr. Frei-gabe Datum gez. Beschreibung der Änderung gepr.
westfalia-werke GmbH & Co.
Halbz. Bl 2 DIN 1541
Werkstoff MUSt 12 03
Oberflächenschutz SS DIN 50021 240h
Alle Rechte für eine Schutzanmeldung vorbehalten
Datum 20.11.86
Datum 15.12.86
Datum 15.12.86
Bearb. Niemann
Gepr. Ehl
Freigabe F
D-Kennz. Benennung
Steckdosenhalter
Maßstab 1:1
Zeichnungs-Nr.
332 043 608 101
321 259 608 101
RAL 9005
4
Zeichnung mit CAD erstellt







Fitting Instructions,

Translations in:

English

German

Danish

Spanish

French

Finnish

Italian.

Norwegian

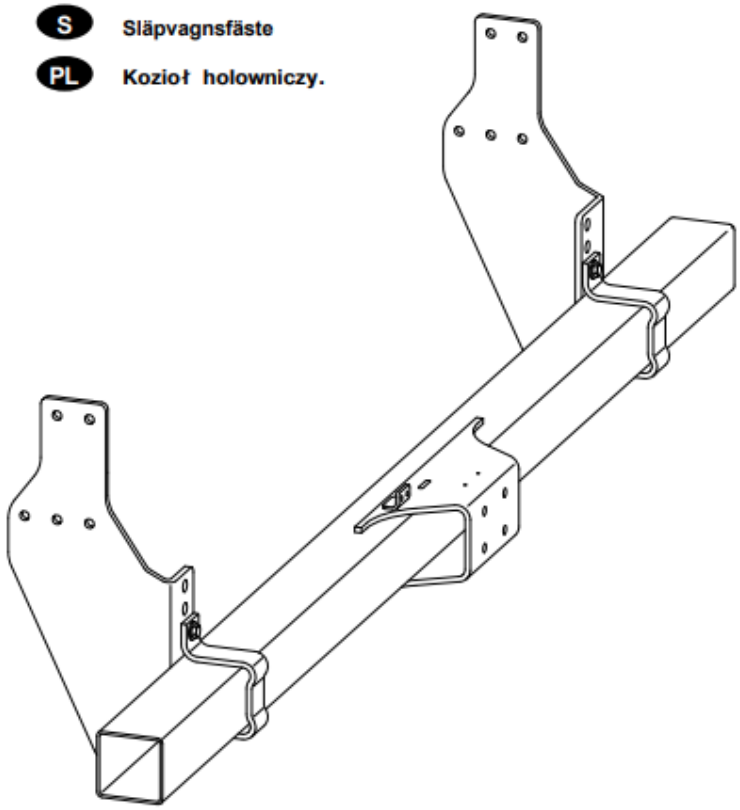
Dutch

Sweden

Polish.

D Anhängebock
DK Anhængerbuk
E Caballete de fijación
F Support de remorquage
FIN Vetolaiteyksikkö
GB Towing bracket
I Supporto per rimorchio
N Tilhengerbukk
NL Koppelingsconsole
S Släpvagnsfäste
PL Kozioł holowniczy.

WESTFALIA



313 404 691 101 - 002

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GB

Installation and Operating Instructions Towing Bracket

Westfalia Order No.: 313 404

EC Approval No.

as per Guideline 94/20/EC:	e13 00-0534	**Type:** 313 146
as per Guideline 70/221/EEC-2006/20/EG:	e13 00-6131	**Type:** 313 404
as per Guideline ECE-R 58:	E13 58 R-02 6131	**Type:** 313 404

Application: Universal
Free side contact surface on longitudinal member approx. 150 x 200 mm
Maximum spacing of longitudinal members (outside dimension) 1100 mm
Minimum spacing of longitudinal members (outside dimension) 750 mm

Technical Data:

The tested D-value is 25,1 kN. This corresponds, for example, to a towed weight of 3500 kg and a permissible total weight of 9500 kg. The tested trailer nose weight is 150 kg.
For driving, the data of the vehicle manufacturer with regard to the towed weight and trailer nose weight are decisive, whereby the tested values of the CBB may not be exceeded.

The underride protection function is given for vehicles without limitation of the permissible combination weight.

This towing bracket including all mounting parts weighs approx. 61 kg. Please take into account that the kerb weight of your vehicle is increased by this amount after mounting the towing bracket.

Safety Precautions:

The towing bracket is a safety part and may only be mounted by specially trained personnel. Should spare parts be required, these may also only be mounted on the undamaged original-equipment part by specially trained personnel.

When driving with a trailer, observe the driving instructions in the vehicle manufacturer's operating instructions.

Retighten all mounting bolts of the towing bracket after approx. 1000 towing km.

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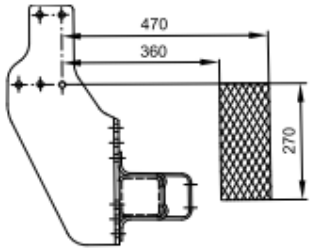
GB

General Installation Instructions:

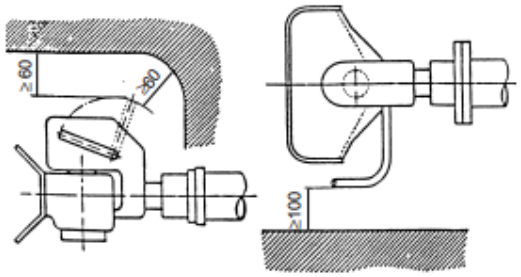
A coupling ball with bracket or an automatic coupling may be mounted on the towing bracket. With both, i.e. the coupling ball with bracket and the automatic coupling, a quick-change coupling system may be mounted.

Please see the following drawing 1 for the coupling range of the ball centre or of the automatic coupling point:



The mounting dimensions and clearance dimensions as per Appendix VII, Figure 30 of the Guideline 94/20/EC must be ensured.

To insure danger-free operation of automatic couplings, sufficient space must be present between the hand lever and other vehicle parts. The dimensions shown in Drawing 2 are considered sufficient.



If the towing bracket is also to be used as an underride protection device, the requirements and mounting dimensions of the Guideline 70/221/EWG / ECE-R 58 must be adhered to.
To adjust to the vehicle width, the cross pipe may be shortened symmetrically to the centre level. However, a side overhang over the clamps of at least 50 mm should always be ensured.
If the cross pipe is not mounted in its lowest position, the lower overhang of the side parts may be cut off. Here at least 10 mm over the clamp end should be left.
Other modifications are not permitted.

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GB

The bolt length at point **"b"** is designed for ball plates with a flange thickness of 15 - 25 mm, e.g. Westfalia Order No. 329 060.

If other connecting devices are used, correct length, strength and tightening torque of the screw fittings must be ensured.

If installing the towing bracket necessitates the removal of the towing eye, the towing bracket serves as a replacement, provided the permissible towed weight is not exceeded and the towing takes place on normal roads.

If present, remove insulating compound and/or underseal in the area of the towing-bracket contact surfaces. Coat bare bodywork with anti-corrosion paint.

The fixing points specified as standard must be observed.
National guidelines concerning official approval of auxiliaries must be observed.
These installation and operating instructions must be enclosed with the vehicle papers.

Parts of Towing Bracket

Item	Description	Qty.
1	cross pipe	1
2	Side piece	2
3	Clip	2
4	Shackle	2
5	Electrical socket bracket	1
6	Hexagon bolt M 6 x 16; property class 8.8	2
7	Hexagon bolt M 10 x 30; property class 8.8	2
8	Hexagon bolt M 10 x 50; property class 10.9	4
9	Hexagon bolt M 12 x 1,25 x 50; property class 10.9	10
10	Hexagon bolt M 16 x 50; property class 8.8	4
11	Washer 10,5	10
12	Washer 12,5 x 30 x 3	20
13	Washer 17 x 30 x 3	8
14	Hexagon nut M 6; property class 8	2
15	Hexagon nut M 10; property class 10	4
16	Hexagon nut M 12 x 1,25; property class 10	10
17	Hexagon nut M 16; property class 8	4
18	Sealing plug	2
19	Installation instructions	1

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Available Spare Parts for Towing Bracket

Spare Part No.	Description
913 146 650 001	Mounting parts items 6-17, 19
942 076 615 001	Clip item 3
932 065 605 001	Shackle item 4 (2x)
921 259 608 101	Electrical socket bracket item 5
900 001 503 587	Sealing plug item 18

Installation Instructions:

1.) Specify the cross pipe position.

2.) Specify the positioning of this on the longitudinal member using the side piece **"2"**.
(Note: The hole pattern for the DB Atego is already present in the longitudinal members.)

3.) Transfer the holes **"a"** to the longitudinal members and drill out with Ø 13 mm dia. bit.

4.) Premount the side parts **"2"** on the longitudinal members.

5.) Premount the cross pipe **"1"** on the side parts **"2"** with the clamps **"3"**. The drilling pattern **"b"** must be positioned symmetrically to the vehicle centre axis when doing so.

6.) Drill through the lower wall of the cross pipe **"1"** with an Ø 11 mm dia. bit at the points **"d"**. Push the shackles **"4"** into the ends of the cross pipe and screw on at **"d"** with the clamp **"3"** and cross pipe **"1"**.

7.) Finally, align the towing bracket and secure all screw fittings with the specified torque.

Point **"a"** M12 x 1,25;	10.9	→ 95 Nm
Point **"b"** M10;	10.9	→ 55 Nm
Point **"c"** M 16;	8.8	→ 170 Nm
Point **"d"** M10;	8.8	→ 40 Nm

8.) Secure the electrical socket bracket **"5"** at point **"e"**.

9.) Mount the plugs **"18"** in the ends of the cross pipe on the right and left.

Subject to change.

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Vehicle Certification Agency

VCA, 1 Eastgate Office Centre,
Eastgate Road, Bristol, BS5 6XX, United Kingdom
enquiries@vca.gov.uk |
www.vehicle-certification-agency.gov.uk |
+44(0) 300 330 5797

Report Number: VSY541774 Issue: 0

Inspection/Test Report: Rear Underrun Protection – Part I – Device as a STU

Legislation

UNECE Regulation 58.03 to Supplement 2

Inspection/Test Details

Location of Inspection/Test:	CP Witter Ltd (Horizon Global UK), Drome Road, Deeside Industrial Estate, Deeside, Flintshire, CH5 2NY, United Kingdom
Date of Inspection/Test:	09 September 2021
VCA Representative(s):	Fred Craffert, Nick Sanderson
Inspectors office location:	VCA MC
Manufacturer's Representative(s):	John Murphy
Reason for Test Report:	New approval

Manufacturer Details

Name and Address:	CP Witter Ltd (Horizon Global UK), Drome Road, Deeside Industrial Estate, Deeside, Flintshire, CH5 2NY
Type:	313 404 600 001
Commercial Description:	313 404 600 001 UNIVERSAL UNDERRUN PROTECTION (RUP)
Category:	N2 < 7.5 tonne

Conclusion

The above-mentioned 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.

Witness Engineer Signature:

Name:	Nick Sanderson
Position:	Type Approval Engineer
Date:	15 October 2021

List of Annexes

Annex	No of Pages	Subject
I		
II		

UK Approval Authority | Vehicle Certification Agency
20-Oct-21

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Vehicle Certification Agency

Report Number: VSY541774 Issue: 0

Issue Record

Issue 0 is original report

Worst Case Rationale

This test report covers the strength performance of the “Universal Underrun Protection (RUP) device for fitment to <7.5 t N2 category vehicles.

The underrun crosstube is 2350 mm long and can be fitted to various vehicles with different chassis rail spacings as the crosstube is attached to the mounting brackets by clamping.

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

All positions tested.

Inspection/Tests Required

	Yes, NA, See Report … / Approval … / Annex …
Application for Approval:	Yes
Part I – Approval of RUPD:	Yes
Testing:	Yes

Component Specification

Part Number(s):	See Drg No 313 404 600 001

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. Information document uploaded to job folder and identified by job number.	Yes

Facility and Equipment Checks

Facility Appraisal reference and date (if applicable)	PCRAF-001.
Calibration certificates checked and valid, recorded in the following table:	Yes

UK Approval Authority | Vehicle Certification Agency
20-Oct-21

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+44(0) 300 330 5797

Report Number: VSY541774 Issue: 0

Equipment

Description	Make	Model	Serial number	Calibration due date*
Actuator	MTS		10441135	14 July 2022
Load cell	MTS		476311	14 July 2022

**Specify calibrated date + (interval) or calibration due date.*

Vehicle Certification Agency

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+44(0) 300 330 5797

	Inspection/Test Requirements	Complies Yes / NA
	Application for Approval	
5.1.	Application for approval is submitted by the vehicle manufacturer or by his duly accredited representative.	Yes
5.2.	Application is accompanied by:	
5.2.1.	Documentation giving a description of the technical characteristics of the RUPD: its dimensions, lines and constituent materials, and the method of its installation.	Yes
5.2.2.	Sample of the type of RUPD, clearly and indelibly marked on all of its main components with the applicant's trade name or mark, and the type designation.	Yes
5.3.	RUPD representative of the type to be approved and fitted with an approved RUPD is submitted for the approval tests.	Yes
5.4.	Manufacturer demonstrated the existence of satisfactory arrangements for ensuring effective checks on conformity of production.	Yes
	Part I – Approval of RUPD	
	Cross-member	
7.1.	Section height of the cross-member is appropriate for the type of vehicle for which it is intended: - ~~Height is ≥ 120 mm. (O3,O4,N3 and N2 with mass >8t)*~~ - ~~Height is ≥ 100 mm for RUPD for vehicle of Category M, N1 or~~ N2 with mass ≤ 8t, O1, O2, G or with platform lift * **Strikethrough, as appropriate.*	Yes
7.1.	Lateral extremities of the cross-member do not bend to the rear or have a sharp edge; they are rounded on the outside and have a radius of curvature of ≥ 2.5 mm.	Yes
	Moveable Device Designed to have Several Positions at the Rear of the Vehicle	
7.2.	There is a guaranteed method of securing the moveable RUPD in the service position to preclude any unintentional change of position.	NA

7.2.	A label that meets the following conditions is provided to inform the operator about the standard position of the RUPD to offer effective protection against under-running: - It is provided with one or more suitable symbols and/or is in the language(s) of the country where the device is sold. - It is at least minimum size: 60 x 120 mm.	Yes
7.2.	Force applied by the operator to vary the position of the moveable device is ≤ 40 daN.	NA
	Resistance to Force	
7.3.	RUPD offers adequate resistance to forces applied parallel to the longitudinal axis of the vehicle, in accordance with the test in Annex 5. *(See test results.)*	NA
7.3.	Maximum horizontal deflection of the RUPD observed during and after the test is recorded in the 'Test Results' table for inclusion in the type approval communication (Annex 1, Item 8). *(See test results.)*	NA
	Underrun Device for Vehicle Fitted with Platform Lift at the Rear	
7.4.1.	Maximum lateral clearance between elements of the underrun device and elements of the platform lift amount to ≤ 2.5 cm each.	NA
7.4.2	Individual elements of the underrun protection, including those outboard of the lift mechanism, where provided, shall have an effective surface area:	NA
7.4.2	-Individual elements each have effective surface area of ≥ 420 cm^2 *	
7.4.3	-For cross members with a section height of <120mm Individual elements each have an effective surface area of ≥ 350 cm^2	
7.4.4	- Vehicle has a width < 2,000 mm and where it is impossible to achieve the surface area requirements of paragraphs 7.4.2 and 7.4.3, the effective area may be reduced on the condition that the resistance criteria are met.	

**Strikethrough, as appropriate.*

Comments, if applicable:

None

UK Approval Authority | Vehicle Certification Agency
20-Oct-21

Test Conditions for RUPD

Ann 5, 1.1.	At the request of the manufacturer, the test is conducted: ~~- On a vehicle type for which the RUPD is intended*~~ - On a part of the chassis of the vehicle type for which the RUPD is intended and representative of the vehicle type(s) in question* - ~~On a rigid test bench~~* **Strikethrough, as appropriate.* *Note: These measurements exclude the bulging of the tyres close to the ground.*	Yes
Ann 5, 1.2.	Parts used to connect the RUPD to the vehicle chassis or rigid test bench are equivalent to those used to secure it on the vehicle.	Yes
Ann 5, 1.3.	At the request of the manufacturer, the test procedure described in paragraph 3 is simulated by calculation. Comments, if applicable, and calculation results:	NA
Ann 5, 1.4.	In the case of a RUPD where the cross-member does not have a vertical flat surface of at least 50 per cent of the required minimum section height, the manufacturer has supplied a suitable device that allows the application of horizontal test loads on the cross-member. Details, if applicable: Not applicable *Add any drawings, etc. in an Annex*	NA

Test Conditions for Vehicle

Ann 5, 2.1.	Vehicle is at rest on a level, flat, rigid and smooth surface.	NA
Ann 5, 2.2.	Front wheels of the vehicle are in the straight-ahead position.	NA
Ann 5, 2.3.	Tyres are inflated to the pressure recommended by the vehicle manufacturer.	NA
Ann 5, 2.4.	Vehicle is restrained, as necessary, to achieve the test forces required in paragraph 3.1.	NA
Ann 5, 2.5.	Vehicle equipped with automatic levelling (e.g. hydropneumatic, hydraulic or pneumatic) suspension is tested in the normal running condition specified by the manufacturer.	NA

Test Procedure

Ann 5, 3.1.	Horizontal displacements are verified by means of suitable test mandrels, with test forces applied separately and consecutively, via a surface ≤ 250 mm high by 200 mm wide, with a radius of curvature of 5 ± 1 mm at the vertical edges. *Note: Exact height of application surface is defined by the manufacturer.*	Yes
Ann 5, 3.1.	Height above the ground of the centre of the surface is defined by the manufacturer within the lines that bound the device horizontally.	Yes
Ann 5, 3.1. *16.2.* *25.2.*	When tested on a vehicle of category M, N_1, N_2 with max mass ≤ 8 t, O_1 or O_2, the ground clearance with respect to the underside of the protective device ≤ 550 mm over its entire width, even when the vehicle is unladen, and is such that the height above the ground of the points of application of the test forces ≤ 600 mm.	Yes
Ann 5, 3.1. *16.1.* *25.1.*	When tested on a vehicle category N_2 with max mass > 8 t, N_3, O_3 or O_4, the ground clearance with respect to the underside of the protective device, even when the vehicle is unladen, is appropriate:	NA
16.1.(a)	- ≤ 450 mm for motor vehicles and trailers with hydropneumatic, hydraulic or pneumatic suspension or a device for automatic levelling according to load.*	
16.1.(b)	- ≤ 500 mm or a departure angle according to ISO 612:1978 of 8°, whichever is less, for vehicles other than those in (a) above.*	
	- In any case the vehicle has a departure angle up to 8° according to ISO 612:1978 with a maximum ground clearance of 550 mm.*	
	**Strikethrough, as appropriate.*	
Ann 5, 3.1. *16.2.* *25.2.*	When tested on a vehicle of category M, N_1, N_2 with max mass ≤ 8 t, O_1 or O_2, the ground clearance with respect to the underside of the protective device ≤ 550 mm over its entire width, even when the vehicle is unladen, and is such that the height above the ground of the points of application of the test forces ≤ 600 mm.	Yes
	Inner Test Points	
Ann 5, 3.1.1.	Horizontal force is applied consecutively to two points (P1), situated symmetrically about the centreline of the device or/vehicle at a distance of 700 to 1000 mm apart:	Yes
	- ~~Horizontal force is the lesser of 180 kN or 85 % of the force generated by the maximum mass of the vehicle~~. *	
	- Horizontal force is the lesser of 100 kN or 50 % of the force generated by the maximum mass of the vehicle for non-separate cab category N_2 vehicle with a max mass ≤ 8 t. *	
	**Strikethrough, as appropriate.*	

Ann 5, 3.2.	If any point identified by the defined distance is located within an interruption area of the underrun protection device, the test force is applied at a replacement point located on the horizontal centreline, within 50 mm of the vertical edge closest to the intended point of force application.	NA
	Outer and Central Points	
Ann 5, 3.1.2.	Horizontal force is applied consecutively to two points (P2) located 300 ± 25 mm from the longitudinal planes tangential to the outer edges of the wheels on the rear axle or of the RUPD, if it exceeds the width of the rear axle: ~~- Horizontal force is the lesser of 100 kN or 50 % of the force generated by the maximum mass of the vehicle.*~~ - Horizontal force is the lesser of 50 kN or 25 % of the force generated by the maximum mass of the vehicle for non-separate cab category N_2 vehicle with a max mass ≤ 8 t. * **Strikethrough, as appropriate.*	Yes
Ann 5, 3.1.2.	An identical horizontal force is then applied to a third (central) point C located on the line joining the two P2 points, in the median vertical plane of the vehicle:	Yes
Ann 5, 3.2.	If any point identified by the defined distance is located within an interruption area of the underrun protection device, the test force is applied at a replacement point located at the intersection of the horizontal and vertical centrelines of each element furthest from the vertical centreline of the device or of the vehicle, whichever is applicable. This point is ≤ 325 mm from the longitudinal planes tangential to the outer edges of the wheels on the rear axle.	NA
Ann 5, 3.1.3.	For tests on a rigid bench, a horizontal force of the lesser of 50 kN or 25 % of the force is generated by the maximum mass of the vehicle, applied consecutively to two points (B1 and B2), located at the discretion of the manufacturer and to a third (central) point C located on the line joining these two points, in the median vertical plane of the device.	NA

Vehicle Certification Agency

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Inspection/Test Results

Measured Displacement – RUPD								
Force position	Distance from centreline (mm)	Distance from underside (mm)*	Applied force (kN)		Horizontal measured displacement (mm)		Vertical measured displacement (mm)**	
			Required	Applied	Maximum	Residual	Maximum	Residual
P2 left	490		62.539	62.539	17	2	-	-
P1 left	1005		36.788	36.788	16	4	-	-
P3	0		36.788	36.788	4	0	-	-
P1 right	1005		36.788	36.788	21	6	-	-
P2 right	490		62.539	62.539	14	3	-	-

For Test force and location requirements, see diagram.

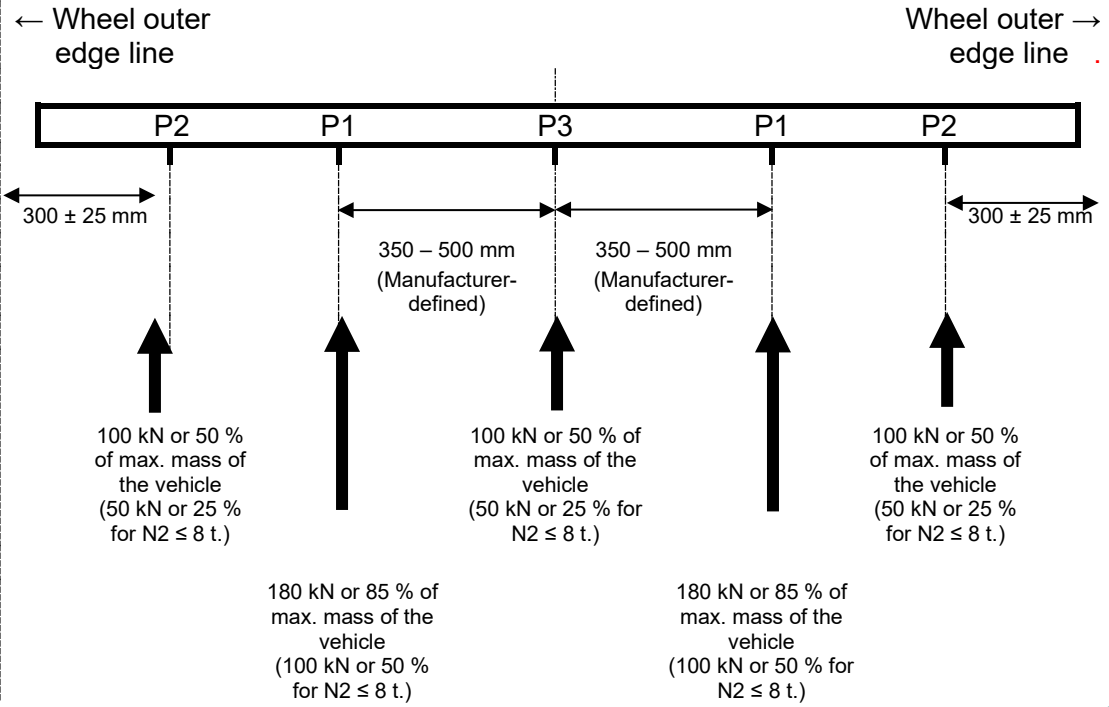
**Distance from the underside is 50% of the section height of the bar*

***Positive value in vertical displacement equals an increase of ground clearance*

Displacement Limits: *No displacement limit is specified within Part I; however, no device can be fitted to a vehicle if it has a maximum measured displacement exceeding 400 mm, and, in certain specified cases, more than 300 mm.*

See RUPD installation and displacement limits table below from 16.4 for category specific limits.

Summary of Test Point Locations and Applied Forces



Note: For tests at VCA Midlands an additional force of 0.3% will be applied to these figures to comply with the VCA decision rule for a pass result

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RUPD Installation and Displacement Limits			
Category	Description	Maximum Installation Distance (mm)	Maximum resultant horizontal distance between rear extremity of vehicle and rear of the device at maximum displacement mm)
$M/N_1/N_2$ O_1/O_2,	Maximum Mass not exceeding 8T	400	400
N_2/N_3	Maximum Mass exceeding 8T	300	400
O_3/O_4	Equipped with a platform lift or designed as a tipping trailer	300	400
O_3/O_4	No platform lift Not a tipping trailer	200	300

Remarks

None

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

Annex I – Test Photographs

Photographs of the device pre- and post- test should be included. Alternatively, attach the report (including photographs) from the test facility as an annex.