

Attachment to Certificate 1233

Subject: Armoured vehicle
 Type: Toyota Land Cruiser 200
 Company: Project Support Vehicles GmbH & Co. KG

Design modifications:

shot no.	area	modification
P180 DB4	back door - window frame 120° azim. / 0° elev.	continuous weld around window frame in series production
P188 P190 P282	back door, right door gap 170° azim. / 0° elev.	additional armour steel 10 mm Armox 600 in the gap between back door and vertical flat steel on the rear panel, gap <= 3 mm in series production
P155 P277 D106 D107	back door, upper and left door gap 180° azim. / 0° elev.	gap between back door and vertical/horizontal flat steel on the rear panel <= 3 mm in series production
- covering of the holes (for cable, steering linkage, etc.) outside the armour steel of the fire wall with 10 mm Armox 600, continuous weld - covering of the hole (for cable, etc.) outside the armour steel of the a-pillar with 10 mm Armox 600, continuous weld		

Certificate

The IABG mbH certifies, that the


Subject: Armoured vehicle
 Manufacturer: Project Support Vehicles GmbH & Co.KG
 Type: Toyota Landcruiser 200
 Customer: Project Support Vehicles GmbH & Co.KG
 Produced by: Project Support Vehicles GmbH & Co.KG
 with a location in (city): Osterholz-Scharmbeck, Germany

has fulfilled the following specifications:

- Mine: 3 hand grenades (DM 51)
 Position: under the feet of the driver
 Additional under belly mine protection

Document number: 0916

Lichtenau, 17 February 2009


 Dr.-Ing. Engelbert Walzmuth
 Head of section


 Vera Caylak
 Project Leader

The IABG is certified under ISO-9001:2000 - EN9100.
 The IABG is a member of several STANAG-Groups.
 The IABG is a member of the ToE of STANAG 4569.

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Subject: Armoured vehicle
 Type: Toyota Land Cruiser 200
 Company: Project Support Vehicles GmbH & Co. KG

Test results:

Complete and partial penetrations of the Toyota Land Cruiser 200

Ammunition: 7.62 mm x 51 (P 80), FMJ/PB/HC

shot no.	ammo	area	comment	CP/PP	re-test	result	
P52	7.62 P80	rear door - side window 90° azim. / 0° elev.	transition door panel to window, sealant not cured	PP	n. n.	safe	
P160		back door - window frame 120° azim. / 0° elev.	transition back door panel to window frame, re-test with continuous weld	CP	ok	safe	
P186		back door, lower door gap 180° azim. / 0° elev.	transition back door panel to floor	PP	n. n.	safe	
P189		back door, right door gap 170° azim. / 0° elev.	transition back door panel to rear panel, re-test with additional armour steel 10 mm ArmoX 600	PP CP	ok	safe	
P190							
P195		back door, upper door gap 180° azim. / 0° elev.	transition back door panel to rear panel, re-test with additional armour steel 8 mm ArmoX 600	PP	ok	safe	
P277		back door, left door gap 190° azim. / 0° elev.		PP	n. n.	safe	
P282		back door, right door gap 170° azim. / 0° elev.	re-test shot P189, P190	PP	n. n.	safe	
CP - complete penetration PP - partial penetration n. n. - not necessary Total number of shots: 286							

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Subject: Armoured vehicle
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Test results:

Complete and partial penetrations of the Toyota Land Cruiser 200

Ammunition: 7.62 mm x 51 (DM 111), FMJ/PB/SC

shot no.	ammo	area	comment	CP/PP	re-test	result
D84	7.62 DM111	back door - window frame 120° azim. / 0° elev.	transition back door panel to window frame	PP	n. n.	safe
D99		back door, lower door gap 190° azim. / 0° elev.	transition back door panel to floor	PP	n. n.	safe
D106 D107		back door, upper door gap 180° azim. / 0° elev.	transition back door panel to rear panel, re-test with additional armour steel 8 mm ArmoX 600	PP CP	ok	safe
CP - complete penetration PP - partial penetration n. n. - not necessary Total number of shots: 158						

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 Company: Project Support Vehicles GmbH & Co. KG

Target information:

target information	
target type	vehicle
vehicle type	Toyota Land Cruiser 200
design version	LC 200 B7, 12.08.2012
bulkhead	10 mm Armax 600 (hot formed)
side panel	10 mm Armax 600
wheel arch	10 mm Armax 600
rear panel	10 mm Armax 600
door panel	10 mm Armax 600
roof	8 mm Armax 600
floor	10 mm Armax 600 vertical
floor	4 mm Armax 500 horizontal
screw covering	8 mm BSEC 610, article 3973 and 3508
ballistic liner vehicle interior	2 layer Aramid
windscreen	87 mm PSVIAGP 5532
side door window (front, right)	78 mm PSVIAGP 2208
side door window (front, left)	78 mm PSVIAGP 2209
side door window (rear, right)	78 mm PSVIAGP 2210
side door window (rear, left)	78 mm PSVIAGP 2211
back door window	78 mm PSVIAGP 5537

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Subject: Armoured vehicle
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Test conditions:

test conditions	
test regulation	VPAM BRV 2009 (May 14 th 2009)
classification	VR 9 7.62 mm x 51 (P 80), FMJ/PB/HC 820 m/s +/- 10 m/s
additional testing of weak areas	7.62 mm x 51 (DM 111), FMJ/PB/SC 830 m/s +/- 10 m/s
angle of the roof testing	elevation: 45°
angle of the windscreen testing	parallel to the vehicle longitudinal axis additional elevation: 20°
firing range	IABG mbH Burghof 1, 33185 Lichtenau Germany
distance launcher to target	10 metre
distance velocity measurement to target	1 to 2 metre
witness plate material	Aluminium alloy
witness plate thickness	0,5 millimetres
witness plate standoff distance	as near to target backing as possible
ambient temperature	13-25°C
date and place of test	July 28 th August 04 th 2012, 33185 Lichtenau



Certificate 1233

Company
Project Support Vehicles GmbH & Co. KG
Marie-Curie-Str.16-18
27711 Osterholz-Scharmbeck, Germany

is hereby certified that the armoured vehicle

Toyota Land Cruiser 200

passed the vehicle acceptance test (ballistic)
 according to

VPAM BRV 2009 (May 14th 2009) VR9
 7.62 mm x 51 (P 80), FMJ/PB/HC
 7.62 mm x 51 (DM 111), FMJ/PB/SC

This certificate is only valid with the following attachment.

Document number: 1233

Lichtenau, September 11th 2012

U. Diarkes
 Ulrich Diarkes
 Head of Department

Vera Caylak
 Vera Caylak
 Project Manager

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General information:

general information	
test institute	IABG mbH Burghof 1, 33185 Lichtenau Germany
customer	Project Support Vehicles GmbH & Co. KG Marie-Curie-Str.16-18 27711 Osterholz-Scharmbeck, Germany
manufacturer basic vehicle	Toyota Motor Corporation 1 Toyota-Cho, Toyota City, Aichi Prefecture 471-8571, Japan
manufacturer armoured steel	SSAB AB Klarabergsviadukten 70, D6 101 21 Stockholm, Sweden
manufacturer armoured steel (hot formed)	Deform AB Box 25 SE-693 21 Degerfors, Sweden
manufacturer armoured steel (hot formed)	Benteler Defense GmbH Frachtstraße 10-18 33602 Bielefeld, Germany
manufacturer armoured glass	AGP Calle 93B 19 - 35, 5th floor Bogotá D.C. - COLOMBIA
manufacturer ballistic liner	Scanfiber Composites A/S Niels Bohrs Vej 11 DK-9870 Sindal
manufacturer armoured vehicle	Project Support Vehicles GmbH & Co. KG Marie-Curie-Str.16-18 27711 Osterholz-Scharmbeck, Germany
vehicle identification number (VIN)	bodyshell
number of test report	B-DS 6217/01