ALEXANDER DEFENSE CORPORATION

Alexander Defense Corporation Lex Anderson Cell: 972-750-0116
E-mail: lex@alexander-defense.com

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ARMORED LEVEL B6
TLC 2024 GXR 3500 TWIN TURBO

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Vehicle Specifications	
Vehicle	**TOYOTA LAND CRUISER GXR**
Year Model	**2024**
Engine	**3.5L V6 TWIN TURBO**
Fuel Type	**PETROL**
Color	**AS AVAILABLE**
Seats	**7**

***Photos for illustration purpose only.**

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➢ Armoring specifications for TLC 300 Level B6

The armored vehicles are fully compliant with the European Committee for Standardization (CEN) to BS EN 1063 level BR6/BS EN 1522 level FB6 which equates to the following threat:
Caliber 7.62 x 51 mm NATO ball, 9.5-gram at10 meters, 3 shots into 120mm circle, velocity 830±10 m/s, and all lesser threats (including AK47 assault rifle soft core ammunition), defined as ballistic B6 at both 45 & 90 degrees and various oblique angles including:

- 5.56 X 45 mm (SS 109).
- 5.45 X 39 mm Kalashnikov.
- 7.62 x 39 mm Kalashnikov.
- 7.62 x 51mm / M80 Nato Ball.
- a minimum of 2 X DM51 hand grenades detonated simultaneously directly on top and underneath the vehicle.

The armoring process on the standard base vehicles is integrated after the base vehicle production without changing the exterior appearance. All gaps between the main body of the vehicle and the doors are overlapped and fitted with features to prevent foreign projectiles or splinters from entering the passenger compartment.

➢ Materials used for armoring:

All materials used in the armoring process such as steel and glass have undergone a thorough destructive testing process from recognized government testing agencies and have demonstrated the ability, and be fully certified, to successfully defeat all threats defined as ballistic level B6 at both 45- and 90-degrees angles including:

- 5.56 X 45 mm (SS 109).
- 5.45 X 39 mm Kalashnikov.
- 7.62 x 39 mm Kalashnikov.
- 7.62 x 51mm / M80 Nato Ball.
- a minimum of 2 X DM51 hand grenades detonated simultaneously directly on top and underneath the vehicle.

All ballistic glass installed on the armored vehicles is rated as providing B6 ballistic protection levels at an ambient temperature of 50°C.

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1. Opaque areas:

All opaque areas including the roof are protected with ballistic steel 6.5 mm plating against softcore projectiles fired with the following and all lesser weapons at 90 degrees and 45 degrees (roof) impact angles:

- 5.56 X 45 mm (SS 109).
- 5.45 X 39 mm Kalashnikov.
- 7.62 x 39 mm Kalashnikov.
- 7.62 X 51 mm (NATO) ball.
- A minimum of 2 X DM51 hand grenades detonated simultaneously directly on top and underneath the vehicle.

2. Transparent areas:

All transparent areas are protected against projectiles fired with the following and all lesser weapons at a 90° impact angle:

- Caliber 7.62 X 39 mm, FJ/PB/SC, AK 47 (Kalashnikov) OBR- 43 PS.
- Caliber 5.45 X 39 mm AP, FJ/PB/SCP, AKS 74 (Kalashnikov).
- Caliber 5.56 X 45 mm, FJ/PB/SCP, US Rifle M16 A2, SS-109/M-8555.
- Caliber 7.62 X 51 mm, FJ/PB/SC, "FAL"/" LAR" NATO Rifle.

Ballistic glass is installed in a ballistic steel frame to ensure that angled shots cannot penetrate through the sides of the glass.

3. Floor:

The floor is fitted out with an anti-blast steel sheets designed in such a way that it will defeat at least two DM51 hand-grenades detonated simultaneously per square meter and all lesser explosives in full compliance with the European Committee for Standardization (CEN) standards to B6 level, fitted using continuous weld.

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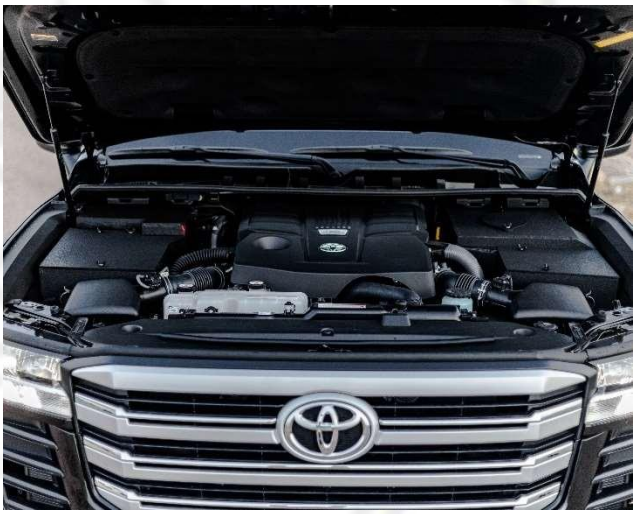
4. Engine compartment & Radiator Protection:

All batteries are protected within steel armored boxes within the engine compartment against projectiles and splinters; these armored boxes can be easily removed for maintenance or transportation.



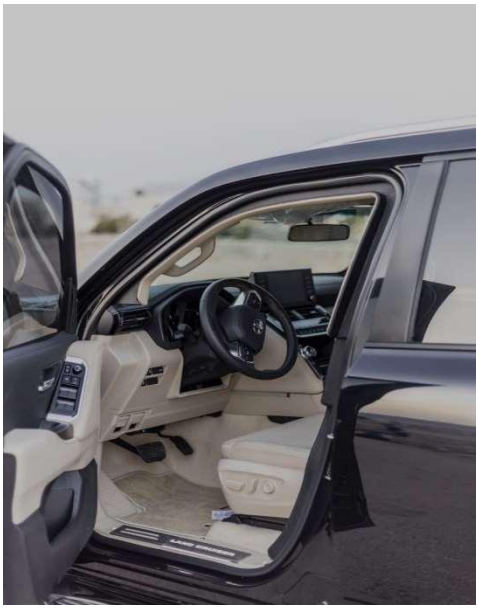
The vehicle management system, including the fuse boxes, which control the essential electrical vehicle functions, is protected with armored steel to level B6 against splinters and fragmentation, Full-length armored steel to the level of B6 ballistic certification is mounted on both sides of the engine compartment behind the vehicle wings that protect the engine compartment.

The dashboard, bulkhead, firewall, and openings for normal vehicle functions such as steering column, foot pedals, and other controls are protected by ballistic steel.

5. Protected fuel tanks:

All fuel tanks are fully armored using blast steel to combat ballistic and fragmentation attacks.

6. Door apertures:



Every door aperture has a ballistic steel overlap andsplash return around the door aperture, through 180°/360° of the aperture, to prevent any ballistic leakage and also to keep the armored door in place in theevent of a large side blast.

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7. Doors and door hinges:

All standard door hinges on all doors are replaced with engineered – for purpose heavy-duty hinges capable of sustained functioning of the heavier armored doors.
All door pillars are armored and specially reinforced to prevent distortion caused by the additional weight of the doors.
All door hinges directly connect the armoring steel in the doors to the armoring steel in the pillars and no weight is carried by the standard sheet steel of the base vehicle.
Door check straps/ retainers are fitted to all doors to prevent reaching full articulation.

8.Suspension system:

The standard OEM Suspension system is replaced with a high-performance suspension system providing constant loading.

Upgraded steering dampers, front and rear shock absorbers from high quality Australian or German manufacturers of sufficient design to prevent fluid from boiling, front and rear springs as well as the front and rearanti-roll bars are installed.

Suspension turrets and anchoring points are strengthened and reinforced to enable the additional load.

9. Tires:

All wheels including the spare tire are fitted with run-flat systems rated at 50+km at a speed of 50kmph run-flat capability.

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INSPECTION CERTIFICATE FOR ARMORED STEEL

BESCHUSSAMT MELLRICHSTADT

Mitglied der VPAM

Zertifikat
Certificate
22Z311C01

Inhaber des Dokumentes: *Holder of the document*	SSAB Europe Oy Rautaruukintie 155 92100 Raahe Finland

Prüfung der durchschusshemmenden Eigenschaften von plattenartigem Material nach:
Test of the bullet resistance of plate material according to:
VPAM PM Fassung 3, Stand: 15.03.2021

Hersteller: *Manufacturer*	SSAB Europe Oy
Auftraggeber: *Applicant*	SSAB Europe Oy
Prüfgegenstand: *Sample*	Stahlblech (6,7mm x 495mm x 495mm) *steel plate*
Probenbezeichnung: *Designation*	Ramor 500 heat-No. 20282-021
Prüfdatum: *Test date*	19. September 2022
Detailergebnisse siehe Prüfbericht Nr.: *Detailed results see test report No.*	22M311C01

Die vorgelegte Probe erfüllte die Anforderungen nach:
The submitted sample met the requirements according to:

VPAM PM Fassung 3

PM 7, 90°, 20°C

Die Prüfergebnisse beziehen sich ausschließlich auf die im zugehörigen Prüfbericht beschriebenen Prüfgegenstände. Dieses Dokument ist nur mit Unterschrift und Dienstsiegel gültig. Original nur mit Prägung im Staatswappen.
The test results relate only to the tested samples described in the accompanying test report. This document is only valid with signature and official seal. Only the original document has an embossed coat of arms.

Beschussamt Mellrichstadt, 19. September 2022

LANDESAMT FÜR MASS UND GEWICHT

Bötsch

Beschussamt Mellrichstadt (Mellrichstadt Ballistics Agency) - Lohstr. 5 - 97638 Mellrichstadt
Telefon +49-9776-7050-0 - Telefax +49-9776-5457 - ba-met.poststelle@lmg.bayern.de - Germany

Harbschutz2_Rev_AA0222

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INSPECTION CERTIFICATE FOR ARMORED GLASS

Baden-Württemberg
Regierungspräsidium Tübingen

Beschussamt Ulm

Eich- und Beschusswesen Baden-Württemberg

Staatliche Prüf- und Zertifizierungsstelle für Waffen- und Sicherheitstechnik
Legal verification and certification office for weapons and security engineering

Zertifikat - Certificate

S 21 0068 01 / Z

Durchschusshemmende Verbundsicherheitsverglasung
Bullet resistant laminated glazing

Antragsteller Applicant	GLASS SOLUTIONS LLC UAE - RAS AL KHAIMAH
Hersteller Manufacturer	GLASS SOLUTIONS LLC UAE - RAS AL KHAIMAH
Ort und Datum der Prüfung Location and test date (d.m.y.)	89081 Ulm, 12.10.2021
Prüfvorgabe Test requirement	**DIN EN 1063** : 2000-01
Gegenstand der Zertifizierung Item under certification	VSG-Verglasung (+21°C) Laminated glazing (+21°C) 500 x 500 x 41,60 mm [Istmaße / Actual sizes] (22,10 kg)
Typenbezeichnung Product reference	**EN 1063 BR6 NS**
Zugeordnete Widerstandsklasse Resistance class achieved	**DIN EN 1063 BR6 NS**
Details siehe Prüfbericht-Nr. Details see test report number	S 21 0068 01 / B

Hiermit bestätigen wir, dass sämtliche zur Zertifizierung eingesetzten Prüfmittel, Messmittel und Hilfsmittel entsprechend dem akkreditiertem System qualifiziert bzw. messtechnisch rückgeführt sind.
We hereby confirm that all test devices, measuring tools and aids used for the certification are qualified or metrological traceable to the accredited system.

Zertifikate ohne Unterschrift und Dienstsiegel haben keine Gültigkeit. Dieses Zertifikat darf nur vollständig und unverändert weiterverbreitet werden. Auszüge oder Änderungen bedürfen der Genehmigung des Beschussamtes Ulm.
Der Prüfbericht ist Grundlage und Bestandteil des Zertifikats.
Only the original certificate stamped and signed by the Proof House is valid. This certificate may only be passed on in its entirety and without modification. The use of parts of this certificate is allowed only with the express consent of the Beschussamt Ulm.
The test report is basis and part of the certificate.

Mitglied der VPAM

Akkreditierte Prüf- und Zertifizierungsstelle

DAkkS Deutsche Akkreditierungsstelle D-ZE-17047-01-00

Ulm, den 12.10.2021

HABUSSLER
Leiter der Zertifizierung
Head of certification

Dokument: SI 10-010 Genehmigung: L Stand: 30.04.2020

Beschussamt Ulm
Albstraße 74
89081 Ulm
Tel.: 0731-9 68 51-0
Fax: 0731-9 68 51-99
beschussamt@rpt.bwl.de
www.beschussamt.eu

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Prüfbericht-Nr.: S 21 0068 01 / B — Beschussamt Ulm
Test report number:

Allgemeine Angaben
General details

Art der Probennahme: Vom Antragsteller ausgewählt und angeliefert am 05.10.2021
Taking of samples: Chosen and delivered on 05.10.2021 (d.m.y.) by the Applicant

Prüfer: M. Güntner
Tester: S. Junginger

Teilnehmer: ---
Participants:

Prüfvorgaben
Specifications of the standard

Entsprechend der Widerstandsklasse **BR6 NS** nach **DIN EN 1063**
According to the resistance class **BR6 NS** of **DIN EN 1063**

Waffe: Weapon:	**Art** Type	Prüflauf Test barrel
	Kaliber Calibre	7,62 x 51 mm
	Drallänge Twist length	305 mm
Munition: Ammunition:	**Geschoss** Bullet	Vollmantel, Spitz, Weichkern; Typ: DM41 Full jacket, pointed, soft core; Type: DM41
	Geschossgewicht Bullet weight	9,50 ± 0,10 Gramm / gram
	Losnummer Lot number	BaU 7.62 DM41MEN 1/3/3 L1

Geforderte Geschoss-geschwindigkeit: 830 ± 10 m/s
Required bullet velocity:

Schussentfernung: 10 ± 0,50 m
Test distance:

Versuchsaufbau: Prüfmuster 90° (0° Nato) zur Schussrichtung befestigt
Test setup: Test sample fixed 90° (0° Nato) to the shooting direction

Trefferbild: Dreieck, Seitenlänge 120 mm ± 10 mm (je Probe)
Hit location: Triangle 120 mm ± 10 mm (each sample)

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Details zum Gegenstand der Prüfung
Details to the item under test

Art:
Sample description: VSG-Verglasung
Laminated glazing

Abmessungen:
Size / thickness: 500 x 500 x 41,60 mm [Istmaße / Actual sizes]

Anzahl:
Number of samples: 3

Aufbau:
(Beginnend mit Angriffsseite)
Composition:
(Starting from the attack face)

8,00mm Gl 0,76mm PVB 8,00mm Gl 0,76mm PVB 8,00mm Gl 1,26mm PU 3,00mm LX 1,26mm PU 8,00mm Gl 1,26mm PU 3,00mm LX (Nennmaße / Nominal sizes)

Gl = Glas / Glass
PVB = PVB-Folie / PVB-foil
PU = Polyurethan-Folie / Polyurethane foil
LX = Lexan-Folie / Lexan-foil

Sonstige Angaben:
Further information:

Prüfmustereinlagerung: 12 Stunden bei +21° C
Umgebungstemperatur während der Prüfung: +21° C
Test sample stored prior to test: 12 hours at +21° C
Ambient temperature during the test: +21° C

Typenbezeichnung:
Product reference: **EN 1063 BR6 NS**

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Prüfbericht-Nr.: S 21 0068 01 / B — Beschussamt Ulm
Test report number:

Darstellung der Prüfergebnisse
Presentation of the test results

Probe Nr. Sample number	Schuss-folge Shot number	$V_{2,5}$ 1) [m/s]	$E_{2,5}$ 2) [Joule]	Auswertung 3) Evaluation	Trefferabstände Hit distances
1 09215683	1.	838	3336	KD, NS	1 – 2 = 120 mm
	2.	832	3288	KD, NS	1 – 3 = 120 mm
	3.	838	3336	KD, NS	2 – 3 = 120 mm
2 09215722	1.	835	3312	KD, NS	1 – 2 = 121 mm
	2.	836	3320	KD, NS	1 – 3 = 120 mm
	3.	838	3336	KD, NS	2 – 3 = 118 mm
3 09215643	1.	833	3296	KD, NS	1 – 2 = 120 mm
	2.	837	3328	KD, NS	1 – 3 = 120 mm
	3.	838	3336	KD, NS	2 – 3 = 119 mm

1) $V_{2,5}$ = Geschossgeschwindigkeit 2,5 m vor dem Prüfmuster
Bullet velocity 2,5 m in front of the sample

2) $E_{2,5}$ = Geschossenergie 2,5 m vor dem Prüfmuster
Bullet energy 2,5 m in front of the sample

3) KD = Kein Durchschuss / No penetration
D = Durchschuss / Penetration
S = Splitterabgang auf der Rückseite des Prüfmusters / Splinters on the rear side of the sample
NS = Kein Splitterabgang auf der Rückseite des Prüfmusters / No splinters on the rear side of the sample

Ergebnis der Prüfung (Zusammenfassung)
Result of the test (summary)

Die Verglasung **erfüllt** die Prüfanforderungen der Widerstandsklasse **BR6 NS**
The glazing meets the requirements of the resistance class **BR6 NS**

Zertifikat erstellt: ☒ Ja / Yes S 21 0068 01 / Z ☐ Nein / No
Certificate issued:

Der Prüfbericht ist Grundlage für das erstellte Zertifikat.
The test report is the basis for the issued certificate.

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Prüfbericht-Nr.: S 21 0068 01 / B Beschussamt Ulm
Test report number:

Fotodokumentation
Photo documentation

Prüfmuster 1 / Test sample 1: 09215683

Foto / Photo: Beschussamt Ulm
Nr. / No.: S 21 0068 01; B01

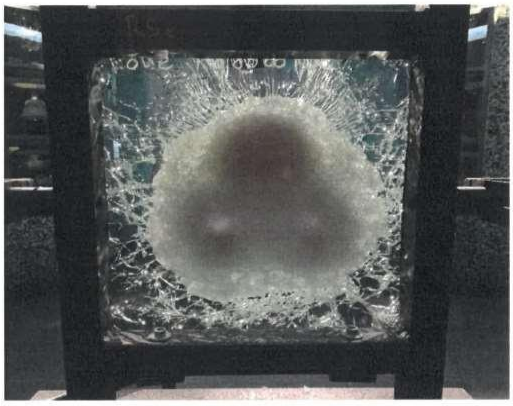

Foto / Photo: Beschussamt Ulm
Nr. / No.: S 21 0068 01; B02

Prüfmuster 2 / Test sample 2: 09215722

Foto / Photo: Beschussamt Ulm
Nr. / No.: S 21 0068 01; B03

Foto / Photo: Beschussamt Ulm
Nr. / No.: S 21 0068 01; B04

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TECHNICAL CERTIFICATE FOR SUSPENSION

OUTBACK ARMOUR PTY LTD
ABN: 45 155 074 089
1/151 Robinson Rd E, Geebung 4034, Queensland, Australia
Phone: +61 7 32654142, Email: sales@outbackarmour.com.au
www.outbackarmour.com.au

TECHNICAL SPECIFICATION CERTIFICATE

VEHICLE:	TOYOTA LANDCRUISER 300 SERIES – SUSPENSION (B6)

This Outback Armour heavy duty suspension kit has been developed specifically for modified Toyota Landcruiser 300 Series vehicles armoured to B6 level up to 5 tonnes.

LOAD RATING:	UP TO 5 TONNE TOTAL VEHICLE WEIGHT. Weight distribution - Front: 2 tonne / Rear: 3 tonne

STANDARD SUSPENSION KIT PARTS

PART TYPE	PART NUMBER	QUANTITY	DESCRIPTION
Struts	OAAV0880032	2	Heavy duty – front 65mm high pressure twin tube. - Height adjustable spring seat.
Shock Absorbers	OAAV0180033	2	Heavy duty – rear 65mm high pressure twin tube.
Coil Springs	OAAV1020001	1	Heavy duty linear rate – front (19mm)
	OAAV1020034	1	Suits B6 - Heavy duty progressive rate – rear (21mm)
	OAAV1020036	1	Suits B7 - Heavy duty progressive rate – rear (23mm)
Bump Stops	OASU4220001	1	Natural rubber – front (4 per kit) 60mm high, progressive rate. Assists with component protection and vehicle stability.
	OASU4210300	1	Natural rubber – rear (2 per kit) - LH & RH steel bump stop brackets. - 100mm high, progressive rate rubber bump stops. - Assists with component protection and vehicle stability.
Sway Bars	OASU3830002	1	Heavy duty – Rear (26mm) - Includes polyurethane bush kit.
Panhard Rod (Track Bar)	OASU3420002	1	Adjustable length - direct OEM replacement. Corrects rear tracking of vehicle (axle centre position)

Outback Armour does not warrant or imply the suitability of any other vehicle component, original or modified, for the increased load capacity afforded by the suspension.

Outback Armour recommends the installation of at least one sample suspension kit to confirm that product fitment suits the customer's specific application.

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ALEXANDER DEFENSE CORPORATION

STANDARD RUNFLAT TEST REPORT

TÜV NORD Mobilität

TÜV NORD Mobilität GmbH & Co. KG

IFM – Institut für Fahrzeugtechnik und Mobilität

Adlerstraße 7
45307 Essen

Tel.: 0201 825-4120
Fax: 0201 825-4150

www.tuev-nord.de

Prüfbericht

Nr. 203.008.01.15

Kurzzusammenfassung der Begutachtung eines Reifennotlaufsystems

Abstract of testing of a runflat system

Auftraggeber:
***Orderer*:**

Europlast – Nycast GmbH
Industriestr. 47
42551 Velbert - Röbbeck

Untersuchungsgegenstand:
test object:

Großreifen – Notlaufsystem, Felge 20", dreiteilig
gefertigt aus elastomer-modifiziertem Gußpolyamid, Flanken mit Einstichen zur elastischen Gestaltung der Anlageflächen zu den Reifen, mit Stahlzwischenringen an den Anlageflächen zu den Reifen
Large tires – run-flat system, rim 20", three-piece
Manufactured of elastomer modified cast polyamid. Flanks with grooves for elastic design of the contact surfaces to the tires, with steel spacer rings to the contact surfaces of the tires

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Prüfungsdurchführung:
test procedure:

Das Notlaufsystem wurde einer Prüfung in Anlehnung an die Anforderungen des Tests Finabel A20A geprüft:
Montiert auf einer Felge 20 – 10.00“ mit einem Reifen der Größe 365/85 R 20 16 (Pirelli Pista P22) auf der Vorderachse links an einer Sattelzugmaschine (Radlast: 4140 kg) wurde das System mit luftleeren Reifen zunächst 3 km mit höchstmöglicher Geschwindigkeit (bis 85 km/h), dann weitere 22 km mit einer Geschwindigkeit von 50 km/h und abschließend 55,8 km mit einer Geschwindigkeit von 25km/h ausschließlich auf ebener asphaltierter Strecke (ATP Papenburg) gefahren.
The run-flat system was tested in accordance with the requirements of the test Finabel A20A as follows: Mounted on a rim 20 - 10:00 "with tires of size 365/85 R 20 16 (Pirelli Pista P22) on the front axle left side of a truck tractor (wheel load: 4140 kg), the system was only driven with flat tires first for 3 km by the highest possible speed (up to 85 km/h), then another 22 km with a speed of 50 km/h, and finally 55.8 km at a speed of 25km/h on a leveled and tarmaced route (ATP Papenburg).

Kurzzusammenfassung
Abstract

Der Test wurde wegen des Versagens des Reifens vorzeitig abgebrochen.

Die Fahrzeugreaktionen und das Handling des Fahrzeugs mit drucklosen Reifen auf einer Fahrzeugseite ließen sich bis zum Versagen des Reifens auch von einem ungeübten Autofahrer beherrschen.

Das Notlaufsystem war zum Testabbruch in einem Zustand, der die Erfüllung der Testanforderung von mindestens 100 km Laufleistung erwarten lässt.

The test was aborted due to failure of the tire.
The vehicle reactions and the handling of the vehicle with unpressurised tires on one vehicle side were manageable even by an unpracticed motorist until failure of the tire.
At test termination the run-flat system was in a state, which is expected to meet the test requirement of at least 100 km mileage.

Dieser Bericht umfasst 2 Seiten.
Die umfassende Begutachtung entnehmen Sie bitte dem Prüfbericht 203.008.15 des TÜV Nord vom 29.07.2015
This report encompasses 2 pages.
The comprehensive assessment please refer to the report of the TÜV Nord 203.008.15 from 2015.07.29

Essen, 29.07.2015
Auftrags-Nr.: 10649

IFM Systeme / Komponenten
Fachgebiet
Räder / Reifen / Fahrwerk / Tuning

Dipl.-Ing. Kobus
Amtlich anerkannter Sachverständiger
für den Kraftfahrzeugverkehr

IFM TÜV NORD Mobilität K8A-P00004-96 DIN EN ISO/IEC 17025, 17020

\\eadl01fs\IFM\IFM_SK_Komponenten_E\Gutachten_Projekte\Typprüfung Fahrzeuge\Gutachten allgemein\2015\203.008.15 (Europlast)\203.008.01.15.doc

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