# Quotation & Armoring specifications for CEN BR6.



# Base vehicle- Toyota Land Cruiser 300 B6 Armoring – Vehicle to be supplied by client.

Туре	Class	Weapon/Ammunition	Range	Velocity	Shots	Spacing
Light Armoured Vehicles	B2	9mm	5	400m/s	3	120mm
	B3	357 magnum	5	430m/s	3	120mm
Venicies	B4	44 magnum	5	440m/s	3	120mm
Fully	B4+	AK47 ball 7.62 x 39	10	710m/s	3	120mm
	B5	5.56 x 45 Steel core SS109 round	10	950m/s	3	120mm
Armoured Vehicles	B6	7.62 x 51 ball	10	830m/s	3	120mm
	B6+	5.56 x 45 Lead M193 round	10	980m/s	3	120mm
Amour	B7	7.62 x 51 AP	10	820m/s	3	120mm
Piercing		AK47 7.62 x 39 AP	10	715m/s	3	120mm

# **Ballistic Specifications**

Supplier manufactures and supplies B6 armoured vehicles using materials, both opaque and transparent, that meet or exceed the requirements of the European CEN 1522/23 standard (level FB7 for the vehicle rear and sides/FB6 for the firewall and roof) and US NIJ level III or CEN 1063 standards to the level FB6 for opaque areas and BR6 for transparent areas.

# Armouring stage 1 (Opaque areas)

All four sides of the passenger compartment and the rear bulk head of the vehicle are protected using high-quality armour steel defeating 7.62x51mm P80 NATO Ball ammunition (U.S. NIJ level III, CEN level FB6) at 0° incidence (90° to the surface) and 10m range according to CEN1063 and CEN1522.

- Calibre 7.62 x 39 mm, FJ/PB/HCI, AK 47 Kalashnikov
- Calibre 5.56 x 45 mm, FJ/PB/SCP, M16 Colt(FB5-FB6)
- Calibre 7.62 x 51 mm, FJ/PB/SC, (FN) "FAL" / "LAR" NATO rifle(FB6-NIJ III)

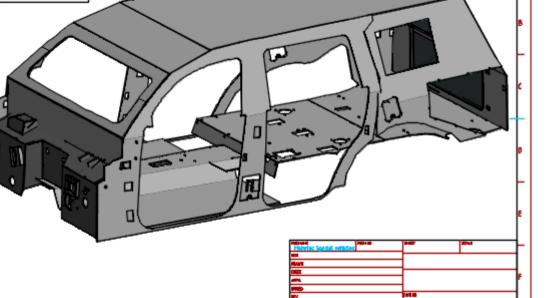
The firewall and the floor are protected using high quality armour steel defeating the following ammunitions upto the 7.62x51mm M80 NATO ball( US NIJ level III,CEN level FB6) at 0° incidence (90° to the surface) and 10m range according to CEN1522.

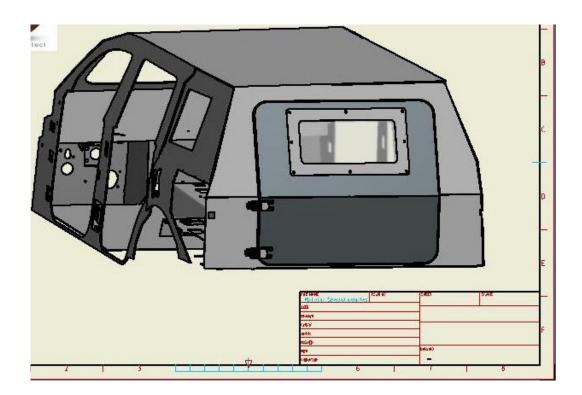
- Calibre 7.62 x 39 mm, FJ/PB/FeC, AK 47 Kalashnikov
- Calibre 5.56 x 45 mm, FJ/PB/SCP, M16 Colt(FB5-FB6)
- Calibre 7.62 x 51 mm, FJ/PB/SC, (FN) "FAL" / "LAR" NATO rifle(FB6-NIJ III)

# Armouring stage 2 (transparent areas)

All transparent areas are multi-layer and polycarbonate coated to protect against the following and all lesser weapons/ ammunitions up to 7.62x51mm NATO Ball (US NIJ level III,CEN level FB6) at 0° incidence (90° to the surface) and 10m range according to CEN1063.

- Calibre 7.62 x 39 mm, FJ/PB/FeC, AK 47 Kalashnikov
- Calibre 5.56 x 45 mm, FJ/PB/SCP, M16 Colt(BR5-BR6)
- Calibre 7.62 x 51 mm, FJ/PB/SC, (FN) "FAL" / "LAR" NATO rifle(BR6-NIJ III)





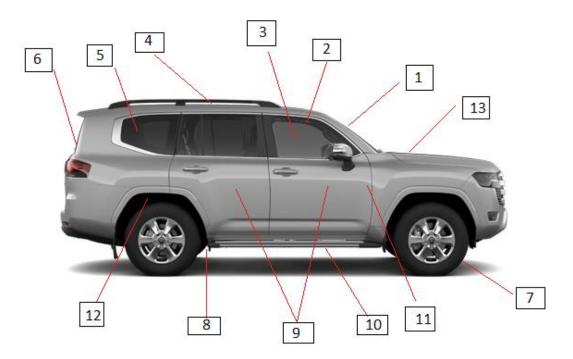
# Standard features & equipments in B6 Level package.

- ECM and battery protection
- Certified glasses for transparent areas
- Fuel-tank protection
- Upgraded suspension to cope with the additional weight due to armouring
- Run-flat systems on all 5 wheels
- B6 certificate for the vehicle and for the opaque & transparent ballistic materials provided on request.
- Radiator protection
- Full under belly protection for blast shield.

# Accessories & additional fittings:

- Fire suppressant semi automatic-
- Brake upgrade
- Retractable door windows driver side
- Suspension upgrade stage 2 (HD antiroll bars)
- Suspension upgrade stage 3 (high performance springs and dampers for high-speed driving)
- Bull-bar

- Codan NGT VR
- Thuraya SG-2520 kit
- Video recording (basic kit)
- Video recording/surveillance equipment
- Public Address system, Police siren, Front and back strobe lights, Two way intercom
- Tyre upgrade Heavy duty
- Dual battery system



# Armouring Specification:

**1.** Bullet proof Wind shield for protection against bullets and blasts.

2. Overlap and bullet catcher enhances the security and stability of small areas between the pillars, posts and window frames.

3. Door glasses replaced with transparent armor OEM curved shape.

- 4. Ballistic Armoring Roof 60°, Body 90° Armoring.
- 5. Glass replaced with transparent armor Glass.
- 6. Rear emergency door with Armor glass enhanced by Heavy duty hinges .
- 7. Run flats installed on all wheels. Forced drive running is stabilized even if tire goes flat.

8. Fuel tank armored from underneath the vehicle.

9. All four doors armored using ballistic material and all doors to have overlap system with returns to ensures complete protection from spacing between armor plate and transparent armor.

10. Under belly production for complete compartment against blast .

11. Door hinges reinforced from interior of door and frame of vehicle to reduce stress of weight added.

12. Upgraded Suspension components are reinforced as necessary to compensate for additional weight of the vehicle.

13. The battery and control module are protected using ballistic steel.







# **Quality control:**

All materials used in the production of the cabin were successfully tested against projectiles and explosives by independent laboratories.

Test reports can be presented upon request or during a factory visit.

The armoring of the vehicle provides protection against a wide range of projectiles and explosives. However, complete protection is not possible for reasons of design and modern military weapon technology.

An armouring certificate confirming the level of protection will be issued by Supplier in addition to the international certifications of the armouring components used in the manufacturing process.

# Armoring process:

- Once the client's vehicle and deposit have been received, a work order is put into effect describing the materials and levels of protection that the owner of the vehicle has requested. It is at this point that the armoring process can begin.
- Quality controller and Production Manager will Pre-check the Vehicle on defects on arrivals.

# Process 1: Vehicle Dismantling

The Vehicle is dismantled completely, exposing only the frame to allow the work to begin.

# Process 2: Preparation

Measurements of floor, ceiling, doors and firewalls are taken to fabricate the ballistic parts required to cover and protect each area with opaque armor (steel armor plate and or light weight composites) to all doors, side walls, rear area, roof and the fire wall.

# Process 3: Upgrading

The fuel tank is removed to protect it with ballistic material and cover it with a waterresistant coating.. Suspension and braking systems of the vehicle are assessed and are modified to support the added weight caused by the armor. Other armoring options for the vehicle are also installed at this time

# Process 4: Opaque Armoring

Vehicle's armor plates are stitch-welded using high-intensity MIG welders. The above process ensures the structural integrity is un-compromised by thermal and chemical variations of the material.

## Process 5: Transparent Armoring

Standard window glasses are replaced with NIJ/CEN/STANAG tested Multilayered ballistic glasses. The thickness of the ballistic range between 39mm to 80mm. Each piece is curved to fit into the window frames with a precision that results in a more reliable window and does not put additional strain on the glass.

## Process 6: Reassembling

Finally, we replace the interior of the vehicle with careful attention to maintaining the original appearance. Now the vehicle is fully armored, yet the interior and exterior of your vehicle look almost exactly as they did before. Our technicians pay special attention to small details in order to ensure the beauty and quality of the finished product.

# **Certified Material for Armoring: BULLET PROOF GLASS :** > LUMI, AGP AND GLASS SHIELD – UAE AND USA

	Ballisti	c Resistar	ice – Test	Report				
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Report reviewed by:						nar		
Test method and supporting documentation:	Per Customer In EN 1063, Level							
Job number:								
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# LLINIGiass Industries LLC. Attention: Mahmoud Halaweh 18 August 2015 HEWI 100004687

Test Procedures

Ballisk: Resistance Tenting: All testing was conducted on an indoor range at ambient conditions in accordance with your instructions and the general provisions of PTUROE. Testing was conduced at threat texel B66, using calaers? *FSAS*1mm, 120 and an URO, Ball ammunolism. The sets amplies us possible 328 does the Trust Herman Level and the barrel to produce see (0) degree dollarging impacts. Photoentance in the and access ware located at 21.5 level and A.5.5 tex which, no conjunction was detormined by valuel cammaliance of the DR and the Ambient and A.5.5 level forward of the muze. Prestational was detormined by valuel cammaliance of the DR and the Ambient and the Ambient and the Ambient and the and the factor set of the produce a summary of information on the attached data exceed (4).

	est Sample	B	Ballistic Threat				Results		
Sample	Thickness	Weight				Veloci	ty (fps)		
Number	(in.) (a)	(ibs.)	Caliber	Obliquity	Shots (b)	Max		Penetrations	
LU 61505-001	1.604	49.6	7.62, M80	Q*	3	2730	2720	0	
LU 61506-002	1.604	49.6	7.62, M80	0"	3	2730	2698	0	
LU 61506-003	1.605	49.6	7.62, M80	0.	3	2730	2698	0	

ort prepared by: ashey gowland Ashley Gowland Customer Operations Coordinator Report reviewed by: Wary Mada Wetley Mason Manager of Technical Operations - Hard Armor

Data is of U.S. origin. Disclosure without required U.S. Government authorization is prohibited. Page 2 of 5 H.P. White Laboratory, Inc. Celet: 67.LLMIGLASS INDUSTRIES, LLC BALLISTIC RESISTANCE TEST Jeb No: 000004537 Text Deb: 38/18/15 Data Reckt. 8/17/15 Via: UPS Returned: N/A Range No. 3 Temp. 72 F BP 30.13 in. Hg RH 65% Bani Nordar: R3/308 Gunner: CHES Hosaider: BONSALL SET-UP Pince VI. Soverier, 23.5 ft, 25.5 ft. Biol Review 3. SHOTS ON A 1220M ITRANSLE. Prevery VI. Instein 20.0 ft. From Nat226 Withere Fare 2.0011 A LIMINUM FOIL. Partial VI. Instein VI. Sovere 14, 20.0 ft. Biology Ordeg. Biology Ordeg. Conducting: AMBENT Target VIII: 20.0 in. AMMUNITION (1): 7.62mm Ball, M80, 149 gr. Lot No. : UNKNOWN Lot No. : Lot No. : Lot No. : APPLICABLE STANDARDS OR PROCEDURES 10. EN 1063 12. LEVEL BR6 13. REQUIRED VELOCITY: 2690-2756 fps. 
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Page 3 of 5

Page 5 of 5

#### STEEL : QUARDIAN, SWEBOR, SSAB AND PROTEK - SWEDEN $\triangleright$

#### Beschussamt Mellrichstadt Lohstraße 5, 97638 Mellrichstadt Tel.: 09776/70500, Fax: 09776/5457

Swebor Stål AB Föreningsgatan 9 S-97436 Luleå

Test Report Testing of the ballistic resistance of material

Report No : 21M221B01#, order No.:21247 Date of delivery : 11.06.2021 Tester : Gutsmiedl, Edelmann Sample : steel plate (6,6mm x 500mm x 500mm) Designation : Swebor Armor 500 SW2100-018 Applicant : Swebor Stål AR Manufacturer : Swebor Stål AR Requirement : .223 Rem FMJ/PB/SCP - .308 Win FMJ/PB/SC Beschussamt Mellrichstadt Lohstraße 5, 97638 Mellrichstadt

Report-No.: 21M221B01# Report part-No.: 02 Test date: 14.06.2021

Description of the specimen in shooting direction (specification of the manufacturer): steel plate, SA500, nominal thickness 6,5mm

- 3 -

Size of the sample (mm): 500 x 500 Thickness (mm): 6,6 Total weight determined by the Beschussamt (g) : 13069 Mass per unit area determined by the Beschussamt (kg/m<sup>3</sup>) : ----Mass per unit area determined by the manufacturer (kg/m<sup>3</sup>) : ----

Test conditions and results:

m 7 11	
Calibre	: 7,62 x 51 (.308 Win.)
Bullet type	: FMJ/PB/SC (DM111, MEN, CN347)
Durree cype	
Bullet mass	: 9,55g
Bullet velocity	: 830m/s +10m/s acc.to VPAM PM7
Weapon	: test barrel No. 03/04
weapon	
Barrel length	: 725mm
Twist length	: 305mm
TWIDE TENGEN	. Sostian
Shooting distance	: 10,00m
Room temperature	: 20°C
Humidity	: 49%
Sample fixation	: test rig 500 x 500mm
	04b -+ 0000 - 000
Sample preparation	: 24h at 20°C ± 2°C

Hit pattern (preset) : triangle 120mm ± 10mm No veloc. energy pene- angle remarks

	v(7,50) [m/s]	E(7,50) [J]	J/N					
								-
1	1 833	3313	N	90,0	bulge	without	cracks	

This report consists of 3 pages and 1 appendix

2	832	3305	N	90,0	bulge	without	cracks
3	827	3266	N	90,0	bulge	without	cracks
1.)	90 deg	ree = 0 o	degree	NATO			

The evaluation of penetration or no penetration was carried out according to VPAM  $\lambda \text{PR-}2006$ 

The test has been carried out according to special requirements of the applicant. A final classification is not applicable.

Mellrichstadt, 18.06.2021

sults relate only to the tested samples described in mort. remults relate only to the tester sump-report is only valid with the official seal and dence of the report numbers on all pages. on in extracts of this test report is not allowed. It is to pass on this test report without description of the

#### - 2 -Beschussamt Mellrichstadt Lohstraße 5, 97638 Mellrichstadt

# Report-No.: 21M221B01# Report part-No.: 01 Test date: 14.06.2021

- 2 -

Description of the specimen in shooting direction (specification of the manufacturer):

steel plate, SA500, nominal thickness 6,5mm

Size of the sample (nm): 500 x 500 Thickness (nm): 6,6 Total weight determined by the Beschussamt (g) Mass per unit area determined by the Beschussamt (kg/m<sup>1</sup>) : -----Mass per unit area determined by the manufacturer (kg/m<sup>2</sup>) : -----

Calibre Bullet type Bullet webocity Wespon Iength Frist Length Shooting distance Room temperature Humidity Sample fixation Sample preparation	: FMJ/ : 4,00 : 950m : test : 650m : 178m : 10,0 : 20°C : 49% : test	m m Om
Hit pattern (preset)	: tria	ngle 120mm $\pm$ 10mm
No veloc. energy pene- v(7,50) E(7,50) trat. [m/s] [J] J/N	[deg.]	remarks
1 952 1813 N	90.0	bulge without cracks

1 952 1813 N 90,0 Dulge without cracks 2 948 1797 N 90,0 Dulge without cracks 3 951 1809 N 90,0 Dulge without cracks 1.) 90 d

The evaluation of penetration or no penetration was carried out according to VPAM APR-2006

### Beschussamt Mellrichstadt Lohstrasse 5, 97638 Mellrichstadt

# Abkürzungen / abbreviations Geschossarten / bullet types: rten / bilder rymen: holl messing Kegelatumpfgeschoss Vollmantel Rundkopf Martkern Wolfrancarbidkern Wolfhancarbidkern Weichkern mit Penetrator Zwei Jchalkarne Weichkern mit Penetrator Zwei Jchalkarne Teilmantelgeschoss Teilmantelgeschoss Schartrandgeschoss FMS CB FMJ RN SC HC WC PB FN FeC SCP TPSC I JSP JHP SJSP SJHP SWC

Remerkungen / comments: OM District for the senter of the

DIN EN 1063, DIN EN 1522/1523

Durchschussindi Trefferabstand Flächengewicht Multihit

#### Sonstige / miscellaneous: Nein Splitterindikator Durchschussindikator

no fragmentation witness plate penetration witness plate hit distance mass per unit area

Revision, 25.06.2020

SI DI TA FG MH

- 3 -

#### Appendix 1

ad ill Brass med Bulle ill Metal ound Nose oft Core ard Core -\*en C ngsten Core inted Bullet at Nose Fe-Core Soft Core Penetrator Two-piece Steel Core t Core ... -picce Steel Core wendlary keted Soft Point keted Hollow Point i Jacketed Hollow Point i Jacketed Hollow Pont ····dcutter

vithout marks slight (s\_g, nlight bulgs ...) slight (s\_g, nlight bulgs read) bulgs without cracks bulgs with cracks bulgs with cracks without light bulgs with cracks without light bulgs with cracks without light complete pendents or cragementation fragmentation described by DIM EN' no fragmentation described by DIM EN'

# **HEAVY DUTY SUSPENSIONS:**

# OUTBACK ARMOR, TJM, IRONMAN AND BILSTEIN – AUSTRALIA AND GERMANY



# **Hinges**

# **Reinforced Doors and Pillars with Heavy-duty Hinges**



# **RUNFLAT : ROAD GUARD, HUTCHINSON AND SAFESURE - GERMANY, UAE** AND INDIA

IFM Institut für Fahrzeugtechnik und Mebilitikt

des Herstellers / manufacturer

Prüfbericht

Test report

Nr.: 20316Mi0003\_kurz

Kurzzusammenfassung der Begutachtung eines 17" Reifennotlaufsystems Short summary of the assessment of a 17" tire runflat system

TUV NORD

TUV NORD

TÜV NORD Mobilität GmbH & Co. KG IFM – Institut für Fahrzeugtechnik und Mobilitet Adlerstraße 7 45307 Essen

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

# Prüfbericht

Nr. 203.044.01.15

#### Kurzzusammenfassung der Begutachtung eines Reifennotlaufsystems für 18"- Felgen Abstract of testing of a runflat system for 18" rims

Auftraggeber: Orderer:

Europlast – Nycast GmbH Industriestr. 47 42551 Velbert - Röbbeck

### Untersuchungsgegenstand: test object:

Reifen – Notlaufsystem, zweiteilig gefertigt aus elastomer-modifiziertem Gußpolyamid, Tire – run-flat system, two-piece manufactured of elastomer modified cast polyamid.



TUV HORD Mobility Gmb11 & Co KG IFM - Institut für fahrzougtechnik und Mobility Adlersti 7: D 43307 ("seen Abbredliet von der Abkerdlierungstellte der Kallfahrt Durchsenniss Bundsenpublik Deutschland UnderWeitigernahr - Kand V 10004 66 Veradt/Stittlinkellte US, Komponenten – Erütterben \_ Progenk Vigend F2rCA elgoD15203.044 55 (Europtert hanFält 18\_20 zuligkund 11 62.009/HDRINE kurz0030 404 11 56 de

## PRÜFBERICHT Nr.: 20316Mi0003\_kurz Hersteller Manufacturer : EUROPLAST - Nycast GmbH

TUV NORD

Typ Type Prüfreiten Tested tire Notlaufsystem PKW/SUV, Felgen 16-20" Runflat system for passenger cars / SUV, rim Blatt 2 von 2 page of : 265/65 R17 Datum / date 15.01.2016

### Prüfungsdurchführung: test procedure:

Das Notlaufsvelsen wurde nach Herstellenvorgaben wie folgt, geprüft: Moniteir auf einer Heige Bak 17° mit einem Reifen die Geöße 26665 R17 (Bridgestone Dueller System mit Unterschlass (Iniege miehern Marceles Sprinter (Reidast: 1400 kg) wurde das system mit Unterschlass (Iniege auf einer Marceles Sprinter (Reidast: 1400 kg) wurde das asphaltierter Strecke (ATP Papenburg) gefahren.

<u>The run-fail system was tosted in accordance with manufacturer's rogulements as follows:</u> Mounted on a rim 3J x I? "With lines of size 25565 B11 (Bridgestons Dualler HT 640) on the mar sche line side on a Merceder Spritter (Hendel Iosid. 1400 X), ha system vas on dy Henr with flat tires over 50 km with a speed of 50 km²h on a laveled and tarmaced route (ATP Paparisorg).

#### Kurzzusammenfassung Abstract

Die oben beschriebenen Anforderungen wurden mit dem Notlau/system orfüllt ohne dass es zu einem Ausfall des Systems kam. Die Testlahrt wurde nach 5/km abgebrochen. Die Fahrzeugreschloren und das Handling des Fahrzeuge mit drucklosen Relfen auf einer Fahrzeugseite ließen sich auch von einem ungeübten Autofahrer bohernschen.

The above-described requirements were fulfilled without leading to a failure of the system. The test drive was shorted after 57 km. The vehicle rescalance and the handning of the vehicle with unpressurised tires on one vehicle side wore manageable even by an unpreacticed motorial.

Diesor Bericht umfasst 2 Seiten. Die umfassende Begutachtung entnehmen Sie bitte dem Prüfbericht 20316MI0003 des TÜV Nord vom 14.0.1.2016

This report encompasses 2 pages. The comprehensive assessment please ruler to the report of the TÜV Nord 20318/M0201 from 2016.01.14 Essen, dated 15.01.2016 Auftrags-Nr. / order No.: 8113015587, Verz. Nr.: 203.002.16

obilita

R.158810 Institut für Fahrzeugtechnik und Mobilität Fachgebiet: Räder – Reifen – Fahrwerk - Tuning 1.Mi. TUV NORD



C Dipl.-Ing. Mlinski antlich anerkannter Sachverständiger für den Krattfahzzeugwerkehr





# Warranty and after sales service

Armored vehicles manufactured by Supplier carry 3 years warranty on all retrofitted armoured components excluding lubricants and parts which are subject to normal wear and tear. In the event of a problem occurring that cannot be resolved by local technicians, a member of our service team will be available to assist or travel to the location of the vehicle to carry out the repair. Services under the warranty will be provided free of charge to the customer upon immediate written notification by either the dealer or the vehicle owner. It is left to our discretion to replace or repair parts that have become unusable as a result of proven defects in design, material or workmanship.

# Logistics/ Transportation:

Logistics support can be provided upon request and will be charged separately as per the prices prevailing.

# Pricing:

Description	Armoring Level	Unit cost/USD	Qty	Total Amount/USD	Lead time
Toyota Landcruiser					
300	B6 Level		1		10-15 Days

\*Lead time for one unit TLC 300 B6 Armouring 30-45 days from the date of soft chassis received with receipt of payment confirmation.

# Payment terms

# Validity

# 30 days General Terms and Conditions:

- Completed vehicles remain the property of Supplier until receipt of full payment.
- Documentations and approvals related to the finished vehicle will be supported by our team members upon receipt of the relevant certificates from the client side.
- UAE law is applicable.