TNO Defence, Security and Safety

**COMPANY RESTRICTED** 

Return address: P.O. Box 45 2280 AA Rijswijk The Netherlands

# Test certificate \*

class

The test has been carried out according to EN 1

EN 1522-1

FB6 NS, 7,62 Ball Sintox

Assignor

.

CUHADAROGLU Yakuplu köyü yolu 34900 Istanbul Turkey

Experiment date23-12-2005ProjectDeurSample identificationAR-83 FB-6 7.62 MM BALL

For details see page 2 upto page 4

The sample does fulfill the ballistic requirements according to level 'FB6 NS, 7,62 Ball Sintox' Sample also tested with 5,56 Ball SS109, FB6, it failed for this threat, see certificate 05BP2361.

7.A. van de Voorde Project leader

\* This test certificate can not be used as a product certification

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Nederlandse Organisatie voor toegepast-natuurwetenschappelijk onderzoek / Netherlands Organisation for Applied Scientific Research



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Laboratory for Ballistic Research (LBO) Visiting address: Suburb Ypenburg Ypenburgse Boslaan 2 2496 ZA 's-Gravenhage

Subject Ballistic experiments

Date 06-02-2007

Our reference

05BP2351

Contact T.A. v.d. Voorde

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The Standard Conditions for Research Instructions given to TNO, as filed at the Registry of the District Court and the Chamber of Commerce in The Hague shall apply to all instructions given to TNO.

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23-12-2005



Test certificate number 05BP2351

page 2 of 4

Assignor CUHADAROGLU

### Test certificate \*

#### **Test results**

#### **Description of testmethod**

In order to determine the ballistic protection performance of windows and doors, three experiments are performed according to NEN-EN 1522-1 / 1523-1. The panel is clamped in a specially designed mounting system. The ballistic impact experiments are conducted with a bullet for the desired protection level as described in the standard. Three areas should be tested; 1. Armoured and re-enforced areas, 2. Transition / connection between frame and solid or moving sub-frame, 3. Parts like handle's, lock's, and their connection, weld's, etc. The mutual distance between the consecutive points of impact is 120 + 10 mm. If no penetrations occur but splinters are released at the rear face of the testpanel, this is marked as S (Splinters) behind the protection level in the testresults. If not, this is marked as NS (No Splinters).

	X7 · /	¥ 7	X7 1* 1	0111 1	
Shotnumber	V-impact (m/s)	Vr (m/s)	Valid (Yes/No)	Obliquity (°NATO)	Results
KKW2 05SN10109	848		Yes	0	Stopped
KKW2 05SN10110	846		Yes	0	Stopped
KKW2 05SN10111	838		Yes	0	Stopped
KKW2 05SN10112	839		Yes	0	Stopped
KKW2 05SN10113	826		Yes	0	Stopped
KKW2 05SN10114	829		Yes	0	Stopped
KKW2 05SN10115	832		Yes	20	Stopped
KKW2 05SN10116	838		Yes	20	Stopped
KKW2 05SN10117	839		Yes	60	Stopped
KKW2 05SN10118	837		Yes	60	Stopped

#### Results

The sample does fulfill the ballistic requirements according to level 'FB6 NS, 7,62 Ball Sintox'

Remarks : Sample also tested with 5,56 Ball SS109, FB6, it failed for this threat, see certificate 05BP2361.

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23-12-2005

Test certificate number 05BP2351

CUHADAROGLU

page 3 of 4

Assignor

J

# Sample specifications

Assignor identification	: AR-83 FB-6 7.62 MM BALL
TNO identification	: 05MB3023
Reference number	: -
Date of arrival	: 14-12-2005
Size	: 610 x 510 mm <sup>2</sup>
Thickness	: - mm
Weight	: - gram
Areal mass	: - kg/m <sup>2</sup>
Composition of sample in direction as encountered by projectile (Specification assignor	: see appendix r)

Remarks

: None

**Test Specifications** 

Experimental facility	: Small Calibre Firing Range no. 2 Ypenburg
Ambient temperature	: 18 °C
Relative humidity	: 52 %
Conditioning of sample material	1
- duration at least	: 24 hours
- at temperature	: 18 - 22 °C
- at rel. humidity	: 60 - 70 %
Temperature of sample during experiment	: 18 - 22 °C
Remarks	: None

#### **Ballistic specifications**

Weapon	: SVB 7.62x51 mm
- Barrel length	: 655 mm
- Rifling twist	: 1:305 Omw.:mm
Projectile	: 7.62 Ball Sintox
- Weight	: 9.55 gram
- Calibre	: 7.62 mm
- Manufacturer	: Dynamit Nobel AG
Distance muzzle to target	: 8.00 m

#### **Other specifications**

Contract number

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: 17268

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## AND IN CONTRACTOR

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