

# TEST REPORT N° 286-EN/20/BNE

on September 22<sup>nd</sup>, 2020

## DELIVERED TO :

INDUSTEEL FRANCE, site du Creusot  
56 rue Clémenceau  
71201 LE CREUSOT Cedex FRANCE

**PURPOSE :** Validation of the protection level of armor one plate target according to the customer's specification dated on September 2<sup>nd</sup>, 2020.

**TESTED SAMPLE(S):** SAFE 500 thickness 6.50mm

**TESTING DATE :** September 16<sup>th</sup>, 2020

Publication : INDUSTEEL FRANCE – 2 copies

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## TESTED SAMPLE(S)

Two samples are supplied by the customer; only one is tested.

<b>Sample number</b>	213606 T02
<b>Grade</b>	SAFE 500
<b>Cast</b>	730011487
<b>Nominal thickness (mm)</b>	6.5
<b>Real thickness (mm)</b>	6.8
<b>Size (mm)</b>	915x307
<b>Hardness (HB)</b>	517

## TESTING CONDITIONS

	<b>September 16<sup>th</sup>, 2020</b>
<b>Shooting range temperature (°C)</b>	21.4
<b>Shooting range humidity (% RH)</b>	56

### Used equipment

Climatic enclosure: Air conditioned room  
Target frame: BLINDAGE ETBS  
Velocity measurement: RADAR BR3503 M-VIT-15  
Carriage: PROTOTYPA STZA 14A n° 55

Test barrels calibers:

7.62x51 n° 6620, 650mm length, right hand twist, twist 305mm, 4 grooves  
5.56x45 n° 4999, 650mm length, right hand twist, twist 178mm, 6 grooves

Ammunition calibers:

7.62x51 FJ(1)/PB/SC batch n° T-15-001  
5.56x45 FJ<sup>2</sup>/PB/SCP1 batch n° 07F8061

### Implementation

According to the EN 1523:1998, excepted that the tested material is not a window, door, shutter or blind.

The panel is tested at an angle of 0° NATO.

## TESTING RESULTS

See the enclosed results sheet n° 30303.



## CONCLUSION

The sample supplied by INDUSTRIEL CREUSOT has been submitted to the test according to the customer's specification.

The steel panel withstood three impacts of projectiles 7.62x51 FJ(1)/PB/SC and three impacts of projectiles 5.46x45 FJ(2)/PB/SCP1 of EN 1522:1998 level FB6, at 0° with no perforation of the witness foil (absence of splinters).

The director  
**M. BERTHEL**





Les essais ont été réalisés selon la norme la Norme : NF EN 1522 / 1523 (1999)

## Observations :

Cible(s) individuelle(s)			
N°	Référence BNE	Référence client	Composition client
1	RBM-20-2093	213606 T02	SFE 500

N°	Masse (kg)	Largeur (mm)	Longueur (mm)	Ep nominal (mm)	Ep réelle (mm)	N° de coulée	Dureté/ Nuance (HB)	Conditionnement		
								Temp (°C)	HR (%)	Durée (h)
1	14,9	915	307	6,5	6,8	730011487	HB 517			

Gaine de Tir N° : 1

Feuille témoin : 2024 T3 0,5mm

Humidité Gaine de tir : 56,0 %HR

Température Gaine de tir : 21,4 °C

## Equipements de Contrôle, de Mesure, et d'Essai

Balance(s) : M-BAL-03 (12kg), M-BAL-12 (R2)

Affût(s) : PROTOTYPA STZA 14A N° 55

Enceinte(s) climatique(s) : Salle climatisée

Support(s) de cible : BLINDAGE ETBS

Métrologie Cplt : M-THR-24, M-MEX-10, M-RAP-02, M-REG-14, M-RUB-41, M-TEL-11

Equipement(s) de mesure de vitesse : RADAR BR3503 M-VIT-15

Présent(s) :

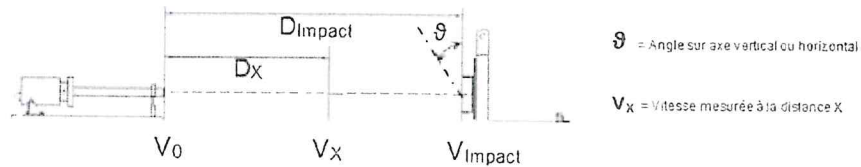
Technicien(s) : MME. BRUNEL / M. LUCETTE

Pauline BRUNEL  
Technicienne laboratoire



Essais de résistance à l'impact

Calibre	Canon N°	Longueur du canon (mm)	Nbre de rayures	Pas de rayures	Distance de mesure de vitesse $D_x$ (m)	Distance impact $D_{Impact}$ (m)
5,56 X 45	4999				7,5	10
7,62 X 51	6620				7,5	10



N°	Série	Tir	Calibre	Typ proj.	Lot	Incidence	$V_{7,5}$ (m/s)	Protection	Observations
1	1	1	7,62 X 51	M80	T-15-001	0°	821,8	OUI	
		2	7,62 X 51	M80	T-15-001	0°	824,8	OUI	Distance entre 1-2 : 120 mm
		3	7,62 X 51	M80	T-15-001	0°	829,4	OUI	Distance entre 2-3 : 120 mm
		4	5,56 X 45	SS109	07F8061	0°	953,7	OUI	
		5	5,56 X 45	SS109	07F8061	0°	951,3	OUI	Distance entre 4-5 : 120 mm
		6	5,56 X 45	SS109	07F8061	0°	942,9	OUI	Distance entre 5-6 : 115 mm