



IFS/15/BER/79/¹³³⁹/2015

BALLISTICS EVALUATION REPORT

IFS File No.	IFS/15/BER/79
Date of Report	27/11/2015
User request Letter No.	Your Email of work order dated: 19/11/2015
Acceptance of tender No./ Tender Enquiry No.	Not Applicable
Date of Trials	27/11/2015
Armour Type	Bullet Resistant Steel Plate
Manufacture / Supplier / User	Essar Steel India Ltd., Hazira
User	Not Applicable

(Dr. M.S. Dahiya)
Director

Note

1. The test results of ballistics evaluation of seven (06) BRSP submitted by **The Essar Steel India Ltd., Hazira** are as per the sheet attached here with.
2. The test articles were brought to IFS, Gandhinagar by the manufacturer's representative as per their own specifications / fabrication process.
3. IFS, Gandhinagar is not responsible, directly / indirectly, for the quality of production lots being manufactured by the firm.
4. The report is valid only for the particular items evaluated against the specified ammunition & publication of these results in any abridges form is not allowed without written approval from Director, IFS, Gandhinagar.
5. The tested samples are returned back to the manufacturer's representative along with the test report after ballistics evaluation.
6. The test procedure is followed as per the NIJ standards.
7. Mr. Akshay Shingweker, Dy. Manager, R & D, Essar Steel India Ltd., Hazira was remain present at the time of Ballistic Evaluation.

COMPLIANCE TEST -04

A) BASIC DETAILS

IFS Test Sample ID:	IFS-15-BRSP-79-ESSAR-04	Trial Date:	27/11/2015
Armour Type:	Bullet Resistant Steel Plate	BRSP ID:	QK0476213H-4, 12mm
Type of Firearm:	SLR No.: 18058124	Type of Ammunition:	7.62 X 51 mm
BFS Acceptance Criteria:	Not Applicable	Weight of BRSP:	35.9 kg
Reference Velocity:	860 ± 15 m/s	Distance:	10 m
Room Temperature:	25.1°C	Humidity:	52.0%

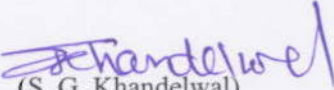
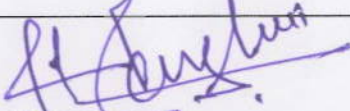
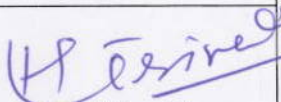
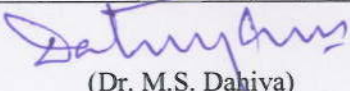
B) DIMENSIONS

Sr. No.	Armour Type	Length (cm)	Breadth (cm)	Thickness (cm)
1	BRSP	62.00	62.00	1.2

C) BALLISTICS EVALUATION DATA

Shot No	Fair/Unfair	Angle of Firing	Velocity (m/sec)	Perforated/No Perforation
01	Fair	90°	862.366	No Perforation
02	Fair	90°	856.091	No Perforation
03	Fair	90°	864.603	No Perforation
04	Fair	90°	853.752	No Perforation
05	Fair	90°	862.664	No Perforation
06	Fair	90°	854.263	No Perforation

Trial Officers, IFS, Gandhinagar

 (S. G. Khandelwal)	 (H. P. Sanghvi)	 (H. J. Trivedi)
 (Dr. M.S. Dahiya) Director IFS, GFSU, Gandhinagar		
Manufacturer's Representative(s) witnessed the trials		
Mr. Akshay Shingweker, Dy. Manager, R & D, Essar Steel India Ltd., Hazira, Surat		

COMPLIANCE TEST -05

A) BASIC DETAILS

IFS Test Sample ID:	IFS-15-BRSP-79-ESSAR-05	Trial Date:	27/11/2015
Armour Type:	Bullet Resistant Steel Plate	BRSP ID:	QK0476213H-5, 12mm
Type of Firearm:	SLR No.: 18058124	Type of Ammunition:	7.62 X 51 mm
BFS Acceptance Criteria:	Not Applicable	Weight of BRSP:	35.85 kg
Reference Velocity:	860 ± 15 m/s	Distance:	10 m
Room Temperature:	25.1°C	Humidity:	52.0%

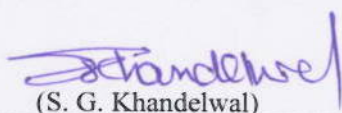
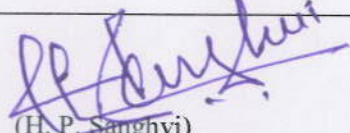
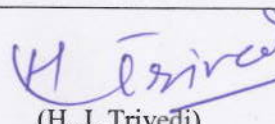
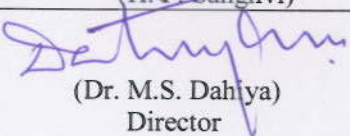
B) DIMENSIONS

Sr. No.	Armour Type	Length (cm)	Breadth (cm)	Thickness (cm)
1	BRSP	62.00	62.00	1.22

C) BALLISTICS EVALUATION DATA

Shot No	Fair/ Unfair	Angle of Firing	Velocity (m/sec)	Perforated/ No Perforation
01	Fair	90°	847.889	No Perforation
02	Fair	90°	850.340	No Perforation
03	Fair	90°	859.476	No Perforation
04	Fair	90°	857.780	No Perforation
05	Fair	90°	875.964	No Perforation
06	Fair	90°	860.141	No Perforation

Trial Officers, IFS, Gandhinagar

 (S. G. Khandelwal)	 (H. P. Sanghvi)	 (H. J. Trivedi)
 (Dr. M.S. Dahya) Director IFS, GFSU, Gandhinagar		
Manufacturer's Representative(s) witnessed the trials		
Mr. Akshay Shingweker, Dy. Manager, R & D, Essar Steel India Ltd., Hazira, Surat		

COMPLIANCE TEST -06

A) BASIC DETAILS

IFS Test Sample ID:	IFS-15-BRSP-79-ESSAR-06	Trial Date:	27/11/2015
Armour Type:	Bullet Resistant Steel Plate	BRSP ID:	QK0476213H-6, 12mm
Type of Firearm:	SLR No.: 18058124	Type of Ammunition:	7.62 X 51 mm
BFS Acceptance Criteria:	Not Applicable	Weight of BRSP:	35.87 kg
Reference Velocity:	860 ± 15 m/s	Distance:	10 m
Room Temperature:	25.1°C	Humidity:	52.0%

B) DIMENSIONS

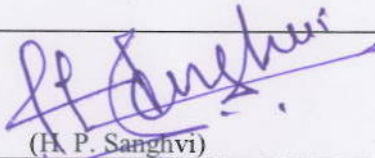
Sr. No.	Armour Type	Length (cm)	Breadth (cm)	Thickness (cm)
1	BRSP	62.00	62.00	1.2

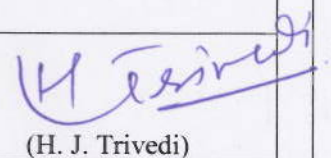
C) BALLISTICS EVALUATION DATA

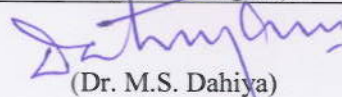
Shot No	Fair/Unfair	Angle of Firing	Velocity (m/sec)	Perforated/No Perforation
01	Fair	90°	863.036	No Perforation
02	Fair	90°	876.347	No Perforation
03	Fair	90°	863.931	No Perforation
04	Fair	90°	862.366	No Perforation
05	Fair	90°	863.036	No Perforation
06	Fair	90°	855.798	No Perforation

Trial Officers, IFS, Gandhinagar


(S. G. Khandelwal)


(H. P. Sanghvi)


(H. J. Trivedi)


(Dr. M.S. Dahiya)
Director
IFS, GFSU,
Gandhinagar

Manufacturer's Representative(s) witnessed the trials

Mr. Akshay Shingweker,
Dy. Manager, R & D,
Essar Steel India Ltd., Hazira, Surat