

RESTRICTED  
TEST REPORT

REPORT NO.: STRIDE/TP/18-010



SCIENCE AND TECHNOLOGY RESEARCH INSTITUTE FOR DEFENCE  
WEAPONS TECHNOLOGY DIVISION  
MINISTRY OF DEFENCE  
48100 BATU ARANG, SELANGOR, MALAYSIA  
TEL: 603-60352121 FAX: 603-60352134



|                    |                             |             |
|--------------------|-----------------------------|-------------|
| Job No.: BA/18-012 | Date of Issue : 30 May 2018 | Page 1 of 4 |
|--------------------|-----------------------------|-------------|

**Authority/Reference For Test :** Email dated 16th April 2018

**Item Type:** Ballistic Resistance Panel

**Client's Details :**

**Name :** Mr. James Tomas (Founder, Group CEO)  
STEC ARMOR BERHAD

**Nature of Test :** Performance Test

**Test Sample's Details :**

**Address :**

G-G-5, Connaught Avenue, No.38,  
Jalan 9, Taman Bukit Cheras,  
56000 Kuala Lumpur,

**Description :** Glass

**Quantity :** 1 Pieces

**Identification :** Car Windscreen

**Tel No :** 012-409 7749

**Description :** Glass

**Quantity :** 1 Pieces

**Identification :** Car Side Window

**Website:** www.stecarmorglass.com

**Description :** Armor Panel

**Quantity :** 1 Pieces

**Identification :** Polymer Shield

**Test Location :**

Ballistic Range and Laboratory  
Weapon Technology Division,  
48100, Batu Arang,  
Selangor. D.E.

**Test Specifications/Standard Referred :**

1. Ballistic Lab Testing Procedures
2. NIJ Std. 0108.01: Ballistic Resistant Protective Materials

**Test Weapon:**

Universal Test Gun (Prototipa)

**Measuring /Test Equipment & Materials :-**

1. Ballistic Precision Chronograph (Caldwell)
2. Relative Humidity/Temperature Data Logger (Rotronic)
3. Digital Platform Scale 32 kg (KUBOTA)
4. Measuring Tape
5. Ballistic Range Target Monitoring Systems

**Test Barrel:**

9 mm Test Barrel

**Ammunition:**

9 mm FMJ

Approved for Issue:

AB SUKOR BIN ZAKARIYA  
Director

Weapons Technology Division  
STRIDE, MinDef

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Item Type: Ballistic Resistance Panel

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**TEST RESULT**

**CLIENT DETAIL**

**STEC ARMOR BERHAD**  
G-G-5 Connaught Avenue, No.38,  
Jalan 9, Taman Bukit Cheras,  
56000 Kuala Lumpur.

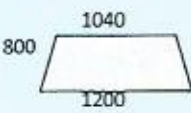
Date Received: 16.05.2018  
Via: Hand

Date Tested: 16.05.2018  
Returned: 16.05.2018

**TEST CONDITION**

Temperature: 29 °C  
Relative Humidity: 81 %

**ARMOUR DETAIL**

Type: Car Windscreen  
Size(mm):   
Manufacturer: STEC ARMOR BERHAD  
Material: Glass  
Nature: Laminated  
Layer Composition: NA  
Weight: 33.83 kg  
Reference No.: NA  
Marking: S1  
Ave. Thickness: 18.6 mm  
Strike Face: Front  
Conditions: Dry

**BALLISTIC THREAT**

Protection Level: NIJ Std 0108.01 Level II A (332 ±12 m/s)  
Caliber: 9 mm  
Obliquity: Zero  
Projectile Weight: 8.0 g (124 gr)  
Projectile Type: FMJ

**RANGE SET UP**

Range: 600 m covered  
Muzzle to Target: 5 m  
Velocity/Model: Chronograph / Caldwell

**WEAPON SET UP**

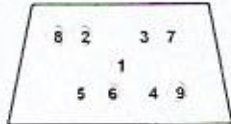
Barrel Length: 203.2 mm  
Barrel Serial No.: 1782  
Weapon Type: Universal Test Gun  
Model: Prototypa

**TEST PERSONNEL**

Coordinator: Firdaus  
Data record: Mastizah  
Gunner: Rosnazri

**AMMUNITION**

Lot No.: Lot 13 SME 7-13  
Charge Weight: 0.35 g

| Shot No. | Velocity | Energy | Notes | Observation   | Test Result   |
|----------|----------|--------|-------|---|---|
|          | (m/s)    | (j)    |       |   |   |
| 1        | 320      | 410    | e     | Glass back spall towards firer at least 1 m distance.<br><br>No penetration on the witness sheet. | <p>PASSED</p>  |
| 2        | 320      | 410    | e     |   |   |
| 3        | 319      | 407    | b, e  |   |   |
| 4        | 302      | 365    | b, e  |   |   |
| 5        | 295      | 348    | b, e  |   |   |
| 6        | 326      | 425    | e     |   |   |
| 7        | 299      | 358    | b, e  |   |   |
| 8        | 320      | 410    | e     |   |   |
| 9        | 335      | 449    | e     |   |   |

Notes: -  
- No penetrations allowed including the witness sheet.

**Footnotes:**

- a Excessive velocity
- b Insufficient velocity
- c Too close to prior impact
- d Too close to edge
- e Partial penetration
- f Complete penetration

Approved Signatory:

  
AZMI MINAL

Head of Ballistic Section  
Weapon Technology Division, STRIDE

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**TEST RESULT**

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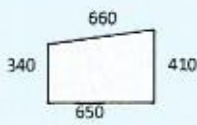
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Via: Hand

Date Tested: 16.05.2018  
Returned: 16.05.2018

**TEST CONDITION**

Temperature: 29 °C  
Relative Humidity: 81 %

**ARMOUR DETAIL**

Type: Car Side window  
Size(mm):   
Manufacturer: STEC ARMOR BERHAD  
Material: Glass  
Nature: Laminated  
Layer Composition: NA  
Weight: 4.750 kg  
Reference No.: NA  
Marking: S2  
Ave. Thickness: 10.6 mm  
Strike Face: Front  
Conditions: Dry

**BALLISTIC THREAT**

Protection Level: NIJ Std 0108.01 Level II A (332 ±12 m/s)  
Caliber: 9 mm  
Obliquity: Zero  
Projectile Weight: 8.0 g (124 gr)  
Projectile Type: FMJ

**RANGE SET UP**

Range: 600 m covered  
Muzzle to Target: 5 m  
Velocity/Model: Chronograph / Caldwell

**WEAPON SET UP**

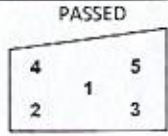
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Barrel Serial No.: 1782  
Weapon Type: Universal Test Gun  
Model: Prototypa

**TEST PERSONNEL**

Coordinator: Firdaus  
Data record: Mastizah  
Gunner: Rosnazri

**AMMUNITION**

Lot No.: Lot 13 SME 7-13  
Charge w/t: 0.35g

| Shot No.  | Velocity | Energy | Notes | Observation   | Test Result   |
|---|----------|--------|-------|---|---|
|   | (m/s)    | (j)    |       |   |   |
| 1   | 371      | 551    | a, e  | Glass back spall towards firer at least 1 m distance.<br><br>No penetration on the witness sheet. | PASSED<br> |
| 2   | 331      | 438    | e     |   |   |
| 3   | 333      | 444    | e     |   |   |
| 4   | 324      | 420    | e     |   |   |
| 5   | 327      | 428    | e     |   |   |
| <b>Notes: -</b><br>- No penetrations allowed including the witness sheet. |          |        |       |   |   |

**Footnotes:**

- a Excessive velocity
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- c Too close to prior impact
- d Too close to edge
- e Partial penetration
- f Complete penetration

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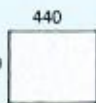
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Via: Hand

Date Tested: 16.05.2018  
Returned: 16.05.2018

**TEST CONDITION**

Temperature: 29 °C  
Relative Humidity: 81 %

**ARMOUR DETAIL**

Type: Shield Panel  
Size(mm): 500  440  
Manufacturer: STEC ARMOR BERHAD  
Material: Polymer Shield  
Nature: Composite  
Layer Composition: NA  
Weight: 0.735 kg  
Reference No.: NA  
Marking: S3  
Ave. Thickness: 4 mm (with cover 4.8 mm)  
Strike Face: Front  
Conditions: Dry

**BALLISTIC THREAT**

Protection Level: NIJ Std 0108.01 Level II A (332 ±12 m/s)  
Caliber: 9 mm  
Obliquity: Zero  
Projectile Weight: 8.0 g (124 gr)  
Projectile Type: FMJ

**RANGE SET UP**

Range: 600 m covered  
Muzzle to Target: 5 m  
Velocity/Model: Chronograph / Caldwell

**WEAPON SET UP**


Barrel Length: 203.2 mm  
Barrel Serial No.: 1782  
Weapon Type: Universal Test Gun  
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**TEST PERSONNEL**

Coordinator: Firdaus  
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**AMMUNITION**

Lot No.: Lot 13 SME 7-13  
Charge w/t: 0.35g

| Shot No.   | Velocity | Energy | Notes | Observation | Test Result   |
|--|----------|--------|-------|-------------|---|
|  | (m/s)    | (j)    |       |             |   |
| 1  | 320      | 410    | e     | -NA-        | PASSED<br> |
| 2  | 321      | 412    | e     |             |   |
| 3  | 334      | 446    | e     |             |   |
| 4  | 331      | 438    | e     |             |   |
| 5  | 333      | 444    | e     |             |   |
| <b>Notes: -</b><br>- No penetrations allowed including the witness sheet |          |        |       |             |   |

**Footnotes:**

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