

Atif Aziz  
Manager Geotech Div  
Firm Decon International (Pvt) Ltd.  
(765 KV Double Circuit Transmission Lines From Mansehra To Islamabad Lot-II

Test Performed by: S. Asad Ali Gillani

Client Reference No.: FDIL-Main/536  
SOM Lab Ref: CED/SOM/1222 (Page 1/1)  
Test Type: Tensile Test & Hardness  
Sample Type: M.S Bolts  
Test Specification: ASTM – F-606

Dated: 15-05-2025  
Dated: 16-05-2025

Tensile Test Results

| Sample No. | Sample Type  | Tested Diameter of Bolt (mm) | Ultimate Load (kN) | Ultimate Tensile Stress (MPa) | % Elongation |
|------------|--------------|------------------------------|--------------------|-------------------------------|--------------|
| 1          | M.S Bolt M24 | 16.1                         | 191.0              | 938.7                         | 15.0         |
| 2          | M.S Bolt M24 | 16.2                         | 199.5              | 968.4                         | 17.5         |
| 3          | M.S Bolt M24 | 16.2                         | 179.5              | 871.3                         | 25.0         |
| 4          | M.S Bolt M24 | 16.2                         | 195.0              | 946.5                         | 20.0         |
| 5          | M.S Bolt M24 | 16.2                         | 175.2              | 850.4                         | 22.5         |

Hardness Test Details:

Machine used: Avery Rockwell Hardness Testing Machine  
(Minor Load: 10 Kgf      Major Load: 140.0 kgf      Scale: C

| Sample No. | Sample Type  | Hardness avg  |
|------------|--------------|---------------|
| 1          | M.S Bolt M24 | HR – 22.83– C |
| 2          | M.S Bolt M24 | HR – 24.0– C  |
| 3          | M.S Bolt M24 | HR – 25.83– C |
| 4          | M.S Bolt M24 | HR – 25.16– C |
| 5          | M.S Bolt M24 | HR – 25.33– C |

Note: Please always confirm the results on web [www.uet-civil.edu.pk](http://www.uet-civil.edu.pk)

Client Reference No.: Nil

Dated: 16-05-2025

SOM Lab Ref: CED/SOM/1223

Dated: 16-05-

2025

Test Type: Flexural Load Test

Test Standard: Non-standard test was performed as per requirement of the client [Application of load at the center of the FRP Grating-Mesh through steel plate of Size 275 x 275 mm]

Test Performed by: Dr. Asad Ali Gillani

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Anmbus Iqbal

Snr Manager Fiber Craft Industries (Pvt) Ltd

Lahore.

This is with reference to your above-mentioned letter and SOM receipt No. 1223 dated: 16-05-2025. The sample of FRP Grating-Mesh submitted in the Laboratory has been tested and the result is provided below.

Flexural Proof Load Test Result

| Sr. No | Sample Type                       | Unsupported Span (mm) | Proof Load (Tons) | Observations/Remarks                                                    |
|--------|-----------------------------------|-----------------------|-------------------|-------------------------------------------------------------------------|
| 1      | FRP Grating-Mesh<br>Size 19x19 mm | 300                   | 5                 | The sample remains satisfactory without any cracking at this proof load |

Engr. Ahsan Masood  
Project Manager, ABS Developers Pvt Ltd Lahore

**Test Performed By:** Dr. /Engr. Asad Ali Gillani

**Client Reference:** Nil

**Dated:** Nil

**Test:** Tension Test & Bend Test

**Gauge Length:** 8 inch

### Test Specification:

**Sample Type:**

## SOM Lab

**Ref:** 1171 (Page-1/1)

**Dated:** 08-05-2025

ASTM-A-615

Deformed Bar

| S.No.                                                                                                                         | Weight                                                           | Dia.    |            | Area            |                 | Yield Load | Ultimate Load | Yield Stress                |                              | Ult. Stress                 |                                                             | Elongation | Gauge Length | %age Elongation | Remarks |
|-------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|---------|------------|-----------------|-----------------|------------|---------------|-----------------------------|------------------------------|-----------------------------|-------------------------------------------------------------|------------|--------------|-----------------|---------|
|                                                                                                                               |                                                                  | Nominal | Calculated | Nominal         | Calculated      |            |               | (according to nominal area) | (according to measured area) | (according to nominal area) | (according to measured area)                                |            |              |                 |         |
|                                                                                                                               | lb/ft                                                            | #       | in         | in <sup>2</sup> | in <sup>2</sup> | Tons       | Tons          | psi                         | psi                          | psi                         | psi                                                         | in         | in           | %               |         |
| 1                                                                                                                             | 2.637                                                            | 8       | 0.993      | 0.79            | 0.775           | 24.36      | 37.05         | 68020                       | 69330                        | 103450                      | 105450                                                      | 1.30       | 8.0          | 16.3            |         |
| 2                                                                                                                             | 2.622                                                            | 8       | 0.991      | 0.79            | 0.771           | 21.20      | 35.60         | 59200                       | 60650                        | 99380                       | 101830                                                      | 1.50       | 8.0          | 18.8            |         |
| -                                                                                                                             | -                                                                | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                                                           | -          | -            | -               |         |
| -                                                                                                                             | -                                                                | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                                                           | -          | -            | -               |         |
| -                                                                                                                             | -                                                                | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                                                           | -          | -            | -               |         |
| -                                                                                                                             | -                                                                | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                                                           | -          | -            | -               |         |
| -                                                                                                                             | -                                                                | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                                                           | -          | -            | -               |         |
| -                                                                                                                             | -                                                                | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                                                           | -          | -            | -               |         |
| -                                                                                                                             | -                                                                | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                                                           | -          | -            | -               |         |
| -                                                                                                                             | -                                                                | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                                                           | -          | -            | -               |         |
|                                                                                                                               |                                                                  |         |            |                 |                 |            |               |                             |                              |                             |                                                             |            |              |                 |         |
| <b><u>BEND TEST:</u></b>                                                                                                      |                                                                  |         |            |                 |                 |            |               |                             |                              |                             |                                                             |            |              |                 |         |
| # 8                                                                                                                           | Sample bend through 180 degrees Satisfactorily without any crack |         |            |                 |                 |            |               |                             |                              |                             | <b>Note:-</b><br><br>Only Three Samples Received and Tested |            |              |                 |         |
|                                                                                                                               |                                                                  |         |            |                 |                 |            |               |                             |                              |                             |                                                             |            |              |                 |         |
|                                                                                                                               |                                                                  |         |            |                 |                 |            |               |                             |                              |                             |                                                             |            |              |                 |         |
|                                                                                                                               |                                                                  |         |            |                 |                 |            |               |                             |                              |                             |                                                             |            |              |                 |         |
|                                                                                                                               |                                                                  |         |            |                 |                 |            |               |                             |                              |                             |                                                             |            |              |                 |         |
| Note: Please always confirm the results of above report on web <a href="http://www.uet-civil.edu.pk">www.uet-civil.edu.pk</a> |                                                                  |         |            |                 |                 |            |               |                             |                              |                             |                                                             |            |              |                 |         |

## Senior Manager Projects

IDAP Govt Of Punjab Lahore.(Immersive Wildlife Experience in Punjab)

**Test Performed By:**

**Dr. /Engr.**

Asad Ali Gillani

**Client Reference:** IWE Cinema/Site/IDAP/2025/05

**Dated:** 15-05-2025

## SOM Lab

**Ref:**

1224 (Page-1/1)

**Dated:**

16-05-2025

**Test:** Tension Test & Bend Test

### Test Specification:

ASTM-A-615

**Gauge Length:** 8 inch

**Sample Type:**

Deformed Bar

[illegible]

|  |  |
|--|--|
|  |  |
|--|--|

### BEND TEST:

|     |                                                                  |                                                               |
|-----|------------------------------------------------------------------|---------------------------------------------------------------|
| # 8 | Sample bend through 180 degrees Satisfactorily without any crack | <b>Note:-</b><br><br>Only Nine Samples<br>Received and Tested |
| # 6 | Sample bend through 180 degrees Satisfactorily without any crack |                                                               |
| # 4 | Sample bend through 180 degrees Satisfactorily without any crack |                                                               |
|     |                                                                  |                                                               |
|     |                                                                  |                                                               |

Note: Please always confirm the results of above report on web [www.uet-civil.edu.pk](http://www.uet-civil.edu.pk)

Metroplan-Asian JV Site Office.(Estb Of NSICTR Lahore Phase-1,Pkg-B)

**Dr. /Engr.** Irfan Ul H assan

**Dated:** 14-05-2025

**Ref:** 1225 (Page-1/2)

**Dated:** 16-05-2025

### Test Specification:

ASTM-A-615

**Sample Type:** Deformed Bar (FF Steel)

|  |  |
|--|--|
|  |  |
|--|--|

|     |                                                                  |                                                              |
|-----|------------------------------------------------------------------|--------------------------------------------------------------|
| # 8 | Sample bend through 180 degrees Satisfactorily without any crack | <b>Note:-</b><br><br>Only Six Samples<br>Received and Tested |
| # 6 | Sample bend through 180 degrees Satisfactorily without any crack |                                                              |
|     |                                                                  |                                                              |
|     |                                                                  |                                                              |
|     |                                                                  |                                                              |

Note: Please always confirm the results of above report on web [www.uet-civil.edu.pk](http://www.uet-civil.edu.pk)

Metroplan-Asian JV Site Office.(Estb Of NSICTR Lahore Phase-1,Pkg-B)

**Dr. /Engr.** Irfan Ul H assan

**Dated:** 14-05-2025

**Ref:** 1225 (Page-2/2)

**Dated:** 16-05-2025

### Test Specification:

ASTM-A-615

**Sample Type:** Deformed Bar (Kamran Steel)

|  |  |
|--|--|
|  |  |
|--|--|

|     |                                                                  |                                                              |
|-----|------------------------------------------------------------------|--------------------------------------------------------------|
| # 6 | Sample bend through 180 degrees Satisfactorily without any crack | <b>Note:-</b><br><br>Only Six Samples<br>Received and Tested |
| # 6 | Sample bend through 180 degrees Satisfactorily without any crack |                                                              |
|     |                                                                  |                                                              |
|     |                                                                  |                                                              |
|     |                                                                  |                                                              |

Note: Please always confirm the results of above report on web [www.uet-civil.edu.pk](http://www.uet-civil.edu.pk)



MS Nespak Gujranwala.(Const Of Flyover at GT Road-Chan Da Qila Chowk)

**Dr. /Engr.** Irfan Ul Hassan

**Client Reference:** 4834/103/CQF/SM/Lab/14

13-05-2025

# SOM Lab

**Ref:** 1227 (Page-1/1)

1227 (Page-1/1)

**Test:** Tension Test & Bend Test

### Test Specification:

## ASTM-A-615

**Gauge Length:** 8 inch

**Sample Type:**

### Deformed Bar (FF Steel)

| S.No. | Weight | Dia.    |            | Area    |            | Yield Load | Ultimate Load | Yield Stress                |                              | Ult. Stress                 |                              | Elongation | Gauge Length | %age Elongation | Remarks |
|-------|--------|---------|------------|---------|------------|------------|---------------|-----------------------------|------------------------------|-----------------------------|------------------------------|------------|--------------|-----------------|---------|
|       |        | Nominal | Calculated | Nominal | Calculated |            |               | (according to nominal area) | (according to measured area) | (according to nominal area) | (according to measured area) |            |              |                 |         |
|       | lb/ft  | #       | in         | in²     | in²        | Tons       | Tons          | psi                         | psi                          | psi                         | psi                          | in         | in           | %               |         |
| 1     | 2.694  | 8       | 1.004      | 0.79    | 0.792      | 24.77      | 33.56         | 69160                       | 68980                        | 93680                       | 93450                        | 1.40       | 8.0          | 17.5            |         |
| 2     | 2.664  | 8       | 0.998      | 0.79    | 0.783      | 25.18      | 33.86         | 70290                       | 70920                        | 94540                       | 95380                        | 1.20       | 8.0          | 15.0            |         |
| -     | -      | -       | -          | -       | -          | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -       | -          | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -       | -          | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -       | -          | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -       | -          | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -       | -          | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -       | -          | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -       | -          | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
|       |        |         |            |         |            |            |               |                             |                              |                             |                              |            |              |                 |         |

### BEND TEST:

|     |                                                                  |                                                                |
|-----|------------------------------------------------------------------|----------------------------------------------------------------|
| # 8 | Sample bend through 180 degrees Satisfactorily without any crack | <b>Note:-</b><br><br>Only Three Samples<br>Received and Tested |
|     |                                                                  |                                                                |
|     |                                                                  |                                                                |
|     |                                                                  |                                                                |
|     |                                                                  |                                                                |

Note: Please always confirm the results of above report on web [www.uet-civil.edu.pk](http://www.uet-civil.edu.pk)

Snr Estate Engr Sundar Industrial Estate.(Dev Of Back Side Rescue Building Area Phase-2)

# SOM Lab

**Ref:** 1228 (Page-1/1)

**Dated:** 16-05-2025

**Test Specification:** ASTM-A-615

**Sample Type:** Deformed Bar (Moiz Steel)

| S.No.                                                                                                                         | Weight                                                           | Dia.    |            | Area            |                 | Yield Load | Ultimate Load | Yield Stress                |                              | Ult. Stress                 |                                                            | Elongation | Gauge Length | %age Elongation | Remarks |
|-------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|---------|------------|-----------------|-----------------|------------|---------------|-----------------------------|------------------------------|-----------------------------|------------------------------------------------------------|------------|--------------|-----------------|---------|
|                                                                                                                               |                                                                  | Nominal | Calculated | Nominal         | Calculated      |            |               | (according to nominal area) | (according to measured area) | (according to nominal area) | (according to measured area)                               |            |              |                 |         |
|                                                                                                                               | lb/ft                                                            | #       | in         | in <sup>2</sup> | in <sup>2</sup> | Tons       | Tons          | psi                         | psi                          | psi                         | psi                                                        | in         | in           | %               |         |
| 1                                                                                                                             | 1.501                                                            | 6       | 0.749      | 0.44            | 0.441           | 13.86      | 16.74         | 69490                       | 69330                        | 83900                       | 83710                                                      | 1.40       | 8.0          | 17.5            |         |
| 2                                                                                                                             | 1.494                                                            | 6       | 0.748      | 0.44            | 0.439           | 11.90      | 16.69         | 59630                       | 59770                        | 83640                       | 83830                                                      | 1.20       | 8.0          | 15.0            |         |
| 3                                                                                                                             | 0.595                                                            | 4       | 0.472      | 0.20            | 0.175           | 5.96       | 7.75          | 65760                       | 75160                        | 85430                       | 97640                                                      | 1.20       | 8.0          | 15.0            |         |
| 4                                                                                                                             | 0.596                                                            | 4       | 0.472      | 0.20            | 0.175           | 5.96       | 7.75          | 65760                       | 75160                        | 85430                       | 97640                                                      | 1.40       | 8.0          | 17.5            |         |
| -                                                                                                                             | -                                                                | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                                                          | -          | -            | -               |         |
| -                                                                                                                             | -                                                                | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                                                          | -          | -            | -               |         |
| -                                                                                                                             | -                                                                | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                                                          | -          | -            | -               |         |
| -                                                                                                                             | -                                                                | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                                                          | -          | -            | -               |         |
| -                                                                                                                             | -                                                                | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                                                          | -          | -            | -               |         |
| -                                                                                                                             | -                                                                | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                                                          | -          | -            | -               |         |
|                                                                                                                               |                                                                  |         |            |                 |                 |            |               |                             |                              |                             |                                                            |            |              |                 |         |
| <b><u>BEND TEST:</u></b>                                                                                                      |                                                                  |         |            |                 |                 |            |               |                             |                              |                             |                                                            |            |              |                 |         |
| # 6                                                                                                                           | Sample bend through 180 degrees Satisfactorily without any crack |         |            |                 |                 |            |               |                             |                              |                             | <b>Note:-</b><br><br>Only Four Samples Received and Tested |            |              |                 |         |
| # 4                                                                                                                           | Sample bend through 180 degrees Satisfactorily without any crack |         |            |                 |                 |            |               |                             |                              |                             |                                                            |            |              |                 |         |
|                                                                                                                               |                                                                  |         |            |                 |                 |            |               |                             |                              |                             |                                                            |            |              |                 |         |
|                                                                                                                               |                                                                  |         |            |                 |                 |            |               |                             |                              |                             |                                                            |            |              |                 |         |
|                                                                                                                               |                                                                  |         |            |                 |                 |            |               |                             |                              |                             |                                                            |            |              |                 |         |
| Note: Please always confirm the results of above report on web <a href="http://www.uet-civil.edu.pk">www.uet-civil.edu.pk</a> |                                                                  |         |            |                 |                 |            |               |                             |                              |                             |                                                            |            |              |                 |         |

**Dr. /Engr.** Irfan Ul Hassan

# SOM Lab

Ref: 1229 (Page-1/1)

**Test Specification:** ASTM-A-615

### Deformed Bar

[illegible]

### BEND TEST:

|     |                                                                  |                                                               |
|-----|------------------------------------------------------------------|---------------------------------------------------------------|
| # 6 | Sample bend through 180 degrees Satisfactorily without any crack | <b>Note:-</b><br><br>Only Four Samples<br>Received and Tested |
| # 4 | Sample bend through 180 degrees Satisfactorily without any crack |                                                               |
|     |                                                                  |                                                               |
|     |                                                                  |                                                               |
|     |                                                                  |                                                               |

Note: Please always confirm the results of above report on web [www.uet-civil.edu.pk](http://www.uet-civil.edu.pk)

Muhammad Nadeem Akhtar **Test Performed By:** Dr. /Engr. Irfan Ul Hassan  
RE Nespak Lahore.(Re-Const/Rehb of G.T Rd From Quaid-E-Azam Interchange To Wagha Border Lhr)

Muhammad Nadeem Akhtar **Test Performed By:** Dr. /Engr. Irfan Ul Hassan  
RE Nespak Lahore.(Re-Const/Rehb of G.T Rd From Quaid-E-Azam Interchange To Wagha Border Lhr)

Muhammad Nadeem Akhtar **Test Performed By:** Dr. /Engr. Irfan Ul Hassan  
RE Nespak Lahore.(Re-Const/Rehb of G.T Rd From Quaid-E-Azam Interchange To Wagha Border Lhr)

**Ref:** 1230 (Page-1/1)

**Ref:** 1230 (Page-1)  
**Dated:** 16-05-2025

**Test Specification:** ASTM-A-615

**Sample Type:** Deformed Bar (Kamran Steel)

| S.No. | Weight | Dia.    |            | Area    |            | Yield Load | Ultimate Load | Yield Stress                |                              | Ult. Stress                 |                              | Elongation | Gauge Length | %age Elongation | Remarks |
|-------|--------|---------|------------|---------|------------|------------|---------------|-----------------------------|------------------------------|-----------------------------|------------------------------|------------|--------------|-----------------|---------|
|       |        | Nominal | Calculated | Nominal | Calculated |            |               | (according to nominal area) | (according to measured area) | (according to nominal area) | (according to measured area) |            |              |                 |         |
|       | lb/ft  | #       | in         | in²     | in²        | Tons       | Tons          | psi                         | psi                          | psi                         | psi                          | in         | in           | %               |         |
| 1     | 1.500  | 6       | 0.749      | 0.44    | 0.441      | 12.84      | 18.27         | 64380                       | 64240                        | 91560                       | 91360                        | 1.50       | 8.0          | 18.8            |         |
| 2     | 1.501  | 6       | 0.749      | 0.44    | 0.441      | 12.79      | 18.42         | 64130                       | 63980                        | 92330                       | 92120                        | 1.60       | 8.0          | 20.0            |         |
| -     | -      | -       | -          | -       | -          | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -       | -          | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -       | -          | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -       | -          | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -       | -          | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -       | -          | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -       | -          | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -       | -          | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
|       |        |         |            |         |            |            |               |                             |                              |                             |                              |            |              |                 |         |

**BEND TEST:**

|     |                                                                  |                                                                |
|-----|------------------------------------------------------------------|----------------------------------------------------------------|
| # 6 | Sample bend through 180 degrees Satisfactorily without any crack | <b>Note:-</b><br><br>Only Three Samples<br>Received and Tested |
|     |                                                                  |                                                                |
|     |                                                                  |                                                                |
|     |                                                                  |                                                                |
|     |                                                                  |                                                                |

Note: Please always confirm the results of above report on web [www.uet-civil.edu.pk](http://www.uet-civil.edu.pk)