

Abdul Ghafar  
Project Manager Liberty Builders, Lahore

Test Performed By: Dr. /Engr. Nauman Khurram

Client Reference: ST/UET/ 20210108-A

SOM Lab

Ref: 3595(Page-1/1)

Dated: 08-01-2021

Dated: 08-01-2021

Test: Tension Test & Bend Test

Test Specification:

ASTM-A-615

Gauge Length: 8 inch

Sample Type:

Deformed Bar( Batala Premium)

| 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     | 2.571  | 8       | 0.981      | 0.79            | 0.756           | 24.43      | 35.65         | 68220                       | 71280                        | 99520                       | 103990                       | 1.40       | 8.0          | 17.5            |         |
| 2     | 2.616  | 8       | 0.990      | 0.79            | 0.769           | 24.26      | 35.04         | 67730                       | 69580                        | 97810                       | 100480                       | 1.50       | 8.0          | 18.8            |         |
| 3     | 2.602  | 8       | 0.987      | 0.79            | 0.765           | 24.49      | 36.49         | 68360                       | 70590                        | 101880                      | 105210                       | 1.50       | 8.0          | 18.8            |         |
| 4     | 1.488  | 6       | 0.746      | 0.44            | 0.437           | 16.87      | 22.48         | 84560                       | 85140                        | 112660                      | 113440                       | 1.60       | 8.0          | 20.0            |         |
| 5     | 1.466  | 6       | 0.741      | 0.44            | 0.431           | 15.97      | 21.83         | 80070                       | 81740                        | 109450                      | 111730                       | 1.50       | 8.0          | 18.8            |         |
| 6     | 1.500  | 6       | 0.749      | 0.44            | 0.441           | 16.43      | 21.99         | 82370                       | 82180                        | 110210                      | 109960                       | 1.10       | 8.0          | 13.8            |         |
| 7     | 0.661  | 4       | 0.497      | 0.20            | 0.194           | 6.93       | 8.92          | 76440                       | 78800                        | 98360                       | 101400                       | 1.00       | 8.0          | 12.5            |         |
| 8     | 0.665  | 4       | 0.498      | 0.20            | 0.195           | 6.98       | 9.12          | 77000                       | 78980                        | 100610                      | 103190                       | 1.00       | 8.0          | 12.5            |         |
| 9     | 0.671  | 4       | 0.501      | 0.20            | 0.197           | 6.57       | 9.04          | 72510                       | 73610                        | 99710                       | 101230                       | 1.10       | 8.0          | 13.8            |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |

**BEND TEST:**

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

Khalid Bashir

Test Performed By:

Dr. /Engr.

S. Asas Ali  
Gillani

Ittefaq Building Solution (Pvt) Ltd. Lahore (Project Name: ATS-02 )

Client Reference: IBS/ATS-02/ST-00

SOM Lab

Ref: 3596 (Page-1/1)

Dated: 04-01-2021

Dated: 08-01-2021

Test: Tension Test & Bend Test

Test Specification:

ASTM-A-615

Deformed

Gauge Length: 8 inch

Sample Type:

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     | 2.645  | 8       | 0.995      | 0.79            | 0.777           | 25.08      | 35.47         | 70010                       | 71180                        | 99030                       | 100690                       | 1.30       | 8.0          | 16.3            |         |
| 2     | 1.055  | 5       | 0.628      | 0.31            | 0.310           | 9.68       | 13.17         | 68900                       | 68900                        | 93700                       | 93700                        | 1.30       | 8.0          | 16.3            |         |
| 3     | 0.658  | 4       | 0.496      | 0.20            | 0.193           | 6.03       | 8.28          | 66550                       | 68960                        | 91280                       | 94590                        | 1.50       | 8.0          | 18.8            |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |

**BEND TEST:**

|     |  |  |
|-----|--|--|
| # 8 | Sample bend through 180 degrees Satisfactorily without any crack | <b>Note:-</b><br><br><b>Only Six Samples Received and Tested</b> |
| # 5 | 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)

Engr. Mustehson Ali Khan  
 Site Engineer, Flag Square Builder, Etihad Town Raiwind Road, Lahore

Test Performed By: Dr. /Engr.

S. Asas Ali  
Gillani

Client Reference: FBS/01/ST

SOM Lab

Ref: 3597 (Page-1/1)

Dated: 08-01-2021

Dated: 08-01-2021

Test: Tension Test & Bend Test

Test Specification:

ASTM-A-615

Deformed

Gauge Length: 8 inch

Sample Type:

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     | 2.590  | 8       | 0.984      | 0.79            | 0.761           | 29.51      | 37.38         | 82390                       | 85530                        | 104360                      | 108330                       | 1.20       | 8.0          | 15.0            |         |
| 2     | 2.629  | 8       | 0.992      | 0.79            | 0.773           | 25.86      | 36.60         | 72200                       | 73790                        | 102170                      | 104410                       | 1.10       | 8.0          | 13.8            |         |
| 3     | 1.460  | 6       | 0.739      | 0.44            | 0.429           | 16.28      | 22.58         | 81600                       | 83690                        | 113180                      | 116080                       | 1.10       | 8.0          | 13.8            |         |
| 4     | 1.526  | 6       | 0.755      | 0.44            | 0.448           | 19.54      | 23.45         | 97950                       | 96200                        | 117520                      | 115420                       | 1.10       | 8.0          | 13.8            |         |
| 5     | 0.673  | 4       | 0.502      | 0.20            | 0.198           | 7.16       | 9.28          | 78910                       | 79710                        | 102290                      | 103330                       | 1.00       | 8.0          | 12.5            |         |
| 6     | 0.686  | 4       | 0.507      | 0.20            | 0.202           | 6.70       | 8.87          | 73850                       | 73120                        | 97800                       | 96830                        | 1.00       | 8.0          | 12.5            |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |

**BEND TEST:**

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

T. M. Khan

Senior Admin Manager, Expert Advertising & Packaging (Pvt) Ltd. Lahore

Test Performed By:

Dr. /Engr.

S. Asas Ali  
Gillani

Client Reference: nil

Dated: 08-01-2021

Test: Tension Test & Bend Test

Test Specification:

SOM Lab

Ref:

3598 (Page-1/1)

Dated:

08-01-2021

ASTM-A-615

Deformed

Bar

Gauge Length:

8 inch

Sample Type:

| 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     | 2.621  | 8       | 0.990      | 0.79            | 0.770           | 25.05      | 32.01         | 69920                       | 71740                        | 89360                       | 91680                        | 1.50       | 8.0          | 18.8            |         |
| 2     | 1.432  | 6       | 0.732      | 0.44            | 0.421           | 13.76      | 19.08         | 68980                       | 72090                        | 95650                       | 99970                        | 1.50       | 8.0          | 18.8            |         |
| 3     | 0.655  | 4       | 0.494      | 0.20            | 0.192           | 5.96       | 8.18          | 65760                       | 68500                        | 90150                       | 93910                        | 1.30       | 8.0          | 16.3            |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |

**BEND TEST:**

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

Syed Salman Liaqat  
Resident Engineer, NESPAK (Pvt) Ltd., Jhall Road Flyover, Sahiwal

Test Performed By: Dr. /Engr.

S. Asad Ali  
Gillani

Client Reference: 4116/03/SSL/2020/81

Dated: 07-01-2021

Test: Tension Test & Bend Test

Gauge Length: 8 inch

Test Specification:

Sample Type:

SOM Lab

Ref: 3599(Page-1/1)

Dated: 05-01-2021

ASTM-A-615

Deformed Bar (SGI, Steel)

| S.No. | Weight | Dia.    |            | Area            |                 | Yield Load | Ultimate Load | Yield Stress                |                              | Ult. Stress                 |                              | Elongation | Gauge Length | %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     | 2.908  | 8       | 1.043      | 0.79            | 0.855           | 26.15      | 40.67         | 73000                       | 67450                        | 113550                      | 104920                       | 1.40       | 8.0          | 17.5        |         |
| 2     | 1.511  | 6       | 0.752      | 0.44            | 0.444           | 13.12      | 20.64         | 65760                       | 65170                        | 103470                      | 102540                       | 1.00       | 8.0          | 12.5        |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -           |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -           |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -           |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -           |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -           |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -           |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -           |         |

**BEND TEST:**

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

Sajid Khawaja  
Resident Engineer, EA Consulting (Pvt) Ltd.

Test Performed By: Dr. /Engr.

S. Asad Ali  
Gillani

Client Reference: EA/FGEHA/LHE/068

SOM Lab

Ref: 3600(Page-1/1)

Dated: 08-01-2021

Dated: 08-01-2021

Test: Tension Test & Bend Test

Test Specification:

ASTM-A-615

Deformed

Gauge Length: 8 inch

Sample Type:

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     | 2.618  | 8       | 0.990      | 0.79            | 0.769           | 22.40      | 34.10         | 62520                       | 64230                        | 95190                       | 97790                        | 1.60       | 8.0          | 20.0            |         |
| 2     | 2.630  | 8       | 0.992      | 0.79            | 0.773           | 22.85      | 34.53         | 63810                       | 65210                        | 96390                       | 98510                        | 1.70       | 8.0          | 21.3            |         |
| 3     | 2.626  | 8       | 0.991      | 0.79            | 0.772           | 22.55      | 34.35         | 62950                       | 64420                        | 95900                       | 98140                        | 1.80       | 8.0          | 22.5            |         |
| 4     | 1.530  | 6       | 0.757      | 0.44            | 0.450           | 14.55      | 18.76         | 72910                       | 71290                        | 94020                       | 91930                        | 1.50       | 8.0          | 18.8            |         |
| 5     | 1.463  | 6       | 0.740      | 0.44            | 0.430           | 14.80      | 18.62         | 74190                       | 75920                        | 93350                       | 95520                        | 1.30       | 8.0          | 16.3            |         |
| 6     | 1.451  | 6       | 0.736      | 0.44            | 0.426           | 15.46      | 19.24         | 77510                       | 80060                        | 96420                       | 99590                        | 1.50       | 8.0          | 18.8            |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |

**BEND TEST:**

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

Syed Tasawur Hussain Naqvi  
Assistant Executive Engineer-III, CCD. PAK PWD, Gujranwala

Test Performed By: Dr. /Engr.

S. Asad Ali  
Gillani

Client Reference: AEE-II/CCD/GA/Work/NHMP/P-I/Lab/19

SOM Lab

Ref: 3602(Page-1/1)

Dated: 28-12-2020

Dated: 08-01-2021

Test: Tension Test & Bend Test

Test Specification:

ASTM-A-615

Deformed

Gauge Length: 8 inch

Sample Type:

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     | 2.684  | 8       | 1.002      | 0.79            | 0.789           | 28.82      | 37.33         | 80450                       | 80550                        | 104210                      | 104350                       | 1.50       | 8.0          | 18.8            |         |
| 2     | 2.669  | 8       | 0.999      | 0.79            | 0.784           | 25.91      | 32.62         | 72340                       | 72900                        | 91070                       | 91760                        | 1.50       | 8.0          | 18.8            |         |
| 3     | 1.497  | 6       | 0.748      | 0.44            | 0.440           | 14.65      | 20.80         | 73430                       | 73430                        | 104230                      | 104230                       | 1.20       | 8.0          | 15.0            |         |
| 4     | 1.501  | 6       | 0.749      | 0.44            | 0.441           | 14.70      | 20.80         | 73680                       | 73510                        | 104230                      | 104000                       | 1.10       | 8.0          | 13.8            |         |
| 5     | 1.051  | 5       | 0.627      | 0.31            | 0.309           | 10.57      | 13.66         | 75210                       | 75450                        | 97180                       | 97490                        | 1.10       | 8.0          | 13.8            |         |
| 6     | 1.047  | 5       | 0.626      | 0.31            | 0.308           | 10.60      | 13.81         | 75420                       | 75910                        | 98270                       | 98910                        | 1.00       | 8.0          | 12.5            |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |

**BEND TEST:**

|     |  |   |
|-----|--|---|
| # 8 | Sample bend through 180 degrees Satisfactorily without any crack | <b>Note:-</b><br><br><b>Only Nine Samples Received and Tested</b> |
| # 6 | Sample bend through 180 degrees Satisfactorily without any crack |   |
| # 5 | 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)