

Test Performed by: .Dr Asad Ali Gillani

Sikandar Butt  
METAL HOUSE  
Lahore

Client Reference No.: Nil

Dated: 21-03-2024

SOM Lab Ref: CED/SOM/3843-3844(Page 1/1)

Dated: 21-03-2024

Test Type: Tensile Test

Sample Type: Aluminum Strips

Gauge Length: 2 inches

### Tensile Test Results

| Sr. No. | Size of strip (mm) | X Section Area (mm <sup>2</sup> ) | Yield Load (kN) | Ultimate Load (kN) | Yield Stress (kN) | Ultimate Tensile Stress (MPa) | Elongation (inch) | % Elongation |
|---------|--------------------|-----------------------------------|-----------------|--------------------|-------------------|-------------------------------|-------------------|--------------|
| 1       | 26.5 x 5.00        | 132.50                            | 28.70           | 33.00              | 216.60            | 249.06                        | 0.20              | 10.00        |
| 2       | 26.5 x 5.00        | 132.50                            | 31.70           | 37.00              | 239.25            | 279.25                        | 0.20              | 10.00        |

Engr.Ejaz Ali Bukhari,RE

Test Performed By:

Dr. /Engr.

Asad Ali Gillani

ACC Site Office KPDI.(Const Of Kot Pindi Das Interchange On Lahore-Islamabad Motorway)

Client Reference: KPD/QAI/RE/23/94

Dated: 21-03-2024

SOM Lab Ref: CED/SOM/3845(Page-1/1)

Dated: 21-03-2024

Test: Tension Test & Bend Test

Test Specification: ASTM-A 615

Sample Type: Deformed Bar (AK Supreme)

Gauge Length: 200 mm

| 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) |            |              |                 |         |
|       | kg/m   | mm      | mm         | mm <sup>2</sup> | mm <sup>2</sup> | kN         | kN            | MPa                         | MPa                          | MPa                         | MPa                          | mm         | mm           | %               |         |
| 1     | 1.010  | 12      | 12.82      | 113             | 129             | 51.70      | 78.70         | 457                         | 401                          | 696                         | 611                          | 40.0       | 200          | 20.0            |         |
| 2     | 1.014  | 12      | 12.82      | 113             | 129             | 51.50      | 78.50         | 455                         | 399                          | 694                         | 608                          | 40.0       | 200          | 20.0            |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               | -       |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               | -       |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               | -       |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               | -       |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               | -       |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               | -       |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               | -       |

**BEND TEST:**

|      |  |   |
|------|--|---|
| 12mm | 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 [www.uet-civil.edu.pk](http://www.uet-civil.edu.pk)

Project Architect

Test Performed By:

Dr. /Engr.

Asad Ali Gillani

Ar. Saad Malik, Infinity Design Studio Sialkot Cantt.(Const Of MAW Industrial Site Sialkot)

Client Reference: Nil

Dated: 21-03-2024

SOM Lab Ref: CED/SOM/3846(Page-1/1)

Dated: 21-03-2024

Test: Tension Test & Bend Test

Test Specification: ASTM-A 615

Sample Type: Deformed Bar

Gauge Length: 200 mm

| 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) |            |              |                 |         |
|       | kg/m   | mm      | mm         | mm <sup>2</sup> | mm <sup>2</sup> | kN         | kN            | MPa                         | MPa                          | MPa                         | MPa                          | mm         | mm           | %               |         |
| 1     | 2.197  | 20      | 18.88      | 314             | 280             | 145.00     | 191.00        | 462                         | 518                          | 608                         | 683                          | 30.0       | 200          | 15.0            |         |
| 2     | 2.207  | 20      | 18.92      | 314             | 281             | 150.70     | 193.00        | 480                         | 537                          | 614                         | 687                          | 27.5       | 200          | 13.8            |         |
| 3     | 0.997  | 12      | 12.71      | 113             | 127             | 68.00      | 83.20         | 601                         | 536                          | 736                         | 656                          | 25.0       | 200          | 12.5            |         |
| 4     | 0.998  | 12      | 12.73      | 113             | 127             | 66.70      | 83.50         | 590                         | 525                          | 738                         | 657                          | 27.5       | 200          | 13.8            |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               | -       |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               | -       |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               | -       |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               | -       |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               | -       |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               | -       |

**BEND TEST:**

|      |  |   |
|------|--|---|
| 20mm | Sample bend through 180 degrees Satisfactorily without any crack | <b>Note:-</b><br><br>Only Six Samples Received and Tested |
| 12mm | 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)

Engineer Muhammad Irfan  
 Dy Dir Infra. DHA Gujranwala.(Sector L)

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

**Client Reference:** 111/15/DD/RS/Lab/Sec L /836

**SOM Lab**

**Ref:** 3841 (Page-1/1)

**Dated:** 20-03-2024

**Dated:** 21-03-2024

**Test:** Tension Test & Bend Test

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

**Gauge Length:** 8 inch

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

ASTM-A-615

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         | in <sup>2</sup> | in <sup>2</sup> | Tons       | Tons          | psi                         | psi                          | psi                         | psi                          | in         | in           | %               |         |
| 1     | 1.519  | 6       | 0.754      | 0.44            | 0.446           | 14.50      | 19.52         | 72660                       | 71680                        | 97850                       | 96530                        | 1.30       | 8.0          | 16.3            |         |
| 2     | 1.499  | 6       | 0.749      | 0.44            | 0.441           | 14.29      | 19.32         | 71640                       | 71470                        | 96830                       | 96610                        | 1.40       | 8.0          | 17.5            |         |
| 3     | 0.670  | 4       | 0.501      | 0.20            | 0.197           | 5.76       | 8.12          | 63510                       | 64480                        | 89590                       | 90960                        | 1.20       | 8.0          | 15.0            |         |
| 4     | 0.688  | 4       | 0.507      | 0.20            | 0.202           | 5.96       | 8.46          | 65760                       | 65110                        | 93300                       | 92380                        | 1.20       | 8.0          | 15.0            |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |

**BEND TEST:**

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

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Engr. Umar Waleed

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

Prime Builders & Developers Lahore.(Const Of Apartment Building at 45-B-I Gulberg-III Lahore)

**Client Reference:** PRIME/A/45-B/25

**SOM Lab**

**Ref:** 3842 (Page 1/1)

**Dated:** 21-03-2024

**Dated:** 21-03-2024

**Test:** Tension Test & Bend Test

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

**Gauge Length:** 8 inch

**Sample Type:** M S 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     | 2.662  | 8       | 0.998      | 0.79            | 0.782           | 26.73      | 34.37         | 74620                       | 75380                        | 95960                       | 96940                        | 1.40       | 8.0          | 17.5            |         |
| 2     | 2.658  | 8       | 0.997      | 0.79            | 0.781           | 26.88      | 34.40         | 75050                       | 75910                        | 96050                       | 97150                        | 1.30       | 8.0          | 16.3            |         |
| 3     | 0.668  | 4       | 0.500      | 0.20            | 0.196           | 5.86       | 9.60          | 64640                       | 65960                        | 105890                      | 108050                       | 1.20       | 8.0          | 15.0            |         |
| 4     | 0.664  | 4       | 0.498      | 0.20            | 0.195           | 5.91       | 9.55          | 65200                       | 66870                        | 105330                      | 108030                       | 1.20       | 8.0          | 15.0            |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |

**BEND TEST:**

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

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