

Naveed Iqbal Bhatti, PD

**Test Performed By:** Dr. /Engr. Nauman Khurram

HYSTAR Sourcing and Services.(106 Sites DHA PH: VI-VII-VIII and Extensions)

**Client Reference:** HST/NRTC-106Sites DHA/01/2024

**Dated:** 02-01-2024

**SOM Lab Ref:** CED/SOM/3455(Page-1/1)

**Dated:** 03-01-2024

**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     | 0.990  | 12      | 12.67      | 113             | 126             | 59.50      | 90.00         | 526                         | 473                          | 796                         | 715                          | 30.0       | 200          | 15.0            | Ittefaq Steel |
| 2     | 0.990  | 12      | 12.67      | 113             | 126             | 60.00      | 89.20         | 531                         | 476                          | 789                         | 708                          | 30.0       | 200          | 15.0            | Ittefaq Steel |
| 3     | 0.996  | 12      | 12.71      | 113             | 127             | 72.20      | 98.70         | 638                         | 570                          | 873                         | 778                          | 25.0       | 200          | 12.5            | Batala Steel  |
| 4     | 0.996  | 12      | 12.71      | 113             | 127             | 70.70      | 97.00         | 625                         | 558                          | 858                         | 765                          | 27.5       | 200          | 13.8            | Batala Steel  |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |               |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |               |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |               |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |               |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |               |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |               |

**BEND TEST:**

|      |  |   |
|------|--|---|
| 12mm | Sample bend through 180 degrees Satisfactorily without any crack | <b>Note:-</b><br><br>Only Sixteen 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)

Waqas Ali  
Variant Gulberg 2, Lahore.

Test Performed By: Dr. /Engr. Nauman Khurram

Client Reference: VA/29/128

SOM Lab

Ref: 3452 (Page-1/1)

Dated: 03-01-2024

Dated: 03-01-2024

Test: Tension Test & Bend Test

Test Specification:

ASTM-A-615

Gauge Length: 8 inch

Sample Type:

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     | 2.705  | 8       | 1.006      | 0.79            | 0.795           | 30.53      | 35.85         | 85230                       | 84700                        | 100090                      | 99460                        | 1.30       | 8.0          | 16.3            |         |
| 2     | 2.682  | 8       | 1.002      | 0.79            | 0.788           | 30.94      | 36.21         | 86370                       | 86590                        | 101080                      | 101340                       | 1.50       | 8.0          | 18.8            |         |
| 3     | 1.495  | 6       | 0.748      | 0.44            | 0.439           | 16.33      | 20.66         | 81860                       | 82040                        | 103570                      | 103810                       | 1.20       | 8.0          | 15.0            |         |
| 4     | 1.507  | 6       | 0.751      | 0.44            | 0.443           | 16.36      | 20.66         | 82010                       | 81450                        | 103570                      | 102870                       | 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 |
| # 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)

Muhammad Rafique

Test Performed By: Dr. /Engr. Nauman Khurram

General Manager NETRACON Tech.Lahore (Design Supply and Installation Of 220kV D/C T/B OHTL)

Client Reference: NTT-HO/ADB301C-R/SI-011

SOM Lab

Ref: 3453 (Page-1/1)

Dated: 01-01-2024

Dated: 01-01-2024

Test: Tension Test & Bend Test

Test Specification:

ASTM-A-615

Gauge Length: 8 inch

Sample Type:

Deformed Bar (Fazal 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     | 0.648  | 4       | 0.492      | 0.20            | 0.190           | 6.09       | 7.92          | 67110                       | 70640                        | 87340                       | 91940                        | 1.20       | 8.0          | 15.0            |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |

Witnessed By: Sohaib Ali (NESPAK,Sub Engineer)

**BEND TEST:**

|     |  |   |
|-----|--|---|
| # 4 | Sample bend through 180 degrees Satisfactorily without any crack | <b>Note:-</b><br><br>Only Two 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 Manager

Test Performed By: Dr. /Engr. Nauman Khurram

Muhammad Tariq United Life Style Lahore.(High-rise Building Skyscrapers at Johar Town Lahore)

Client Reference: ULS/2021/22-23/053

SOM Lab

Ref: 3454 (Page-1/1)

Dated: 03-01-2024

Dated: 03-01-2024

Test: Tension Test & Bend Test

Test Specification: ASTM-A-615

Gauge Length: 8 inch

Sample Type: 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     | 2.681  | 8       | 1.002      | 0.79            | 0.788           | 23.01      | 31.24         | 64230                       | 64400                        | 87230                       | 87450                        | 1.50       | 8.0          | 18.8            |         |
| 2     | 2.671  | 8       | 1.000      | 0.79            | 0.785           | 23.50      | 31.35         | 65600                       | 66020                        | 87510                       | 88070                        | 1.70       | 8.0          | 21.3            |         |
| 3     | 1.503  | 6       | 0.750      | 0.44            | 0.442           | 15.24      | 19.11         | 76390                       | 76040                        | 95800                       | 95370                        | 1.30       | 8.0          | 16.3            |         |
| 4     | 1.501  | 6       | 0.749      | 0.44            | 0.441           | 15.46      | 19.80         | 77510                       | 77340                        | 99230                       | 99000                        | 1.30       | 8.0          | 16.3            |         |
| 5     | 0.670  | 4       | 0.501      | 0.20            | 0.197           | 6.75       | 8.53          | 74420                       | 75550                        | 94090                       | 95520                        | 1.00       | 8.0          | 12.5            |         |
| 6     | 0.670  | 4       | 0.501      | 0.20            | 0.197           | 6.88       | 8.58          | 75880                       | 77030                        | 94650                       | 96090                        | 1.20       | 8.0          | 15.0            |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |

**BEND TEST:**

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

Qazi Abdul Majid,RE

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

Nespak Fsd.(Provision Of Exit Ramp/Flyover From Existing Abdullahpur Flyover,Faisalabad)

Client Reference: 3872/ERAF/QAM/23/038

SOM Lab

Ref: 3456 (Page-1/1)

Dated: 30-12-2023

Dated: 03-01-2024

Test: Tension Test & Bend Test

Test Specification:

ASTM-A-615

Gauge Length: 8 inch

Sample Type:

Deformed Bar (Aziz 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     | 2.670  | 8       | 1.000      | 0.79            | 0.785           | 22.88      | 37.07         | 63890                       | 64300                        | 103500                      | 104160                       | 1.20       | 8.0          | 15.0            |         |
| 2     | 2.672  | 8       | 1.000      | 0.79            | 0.785           | 23.11      | 37.18         | 64520                       | 64930                        | 103790                      | 104450                       | 1.30       | 8.0          | 16.3            |         |
| 3     | 1.502  | 6       | 0.749      | 0.44            | 0.441           | 12.54      | 19.47         | 62850                       | 62710                        | 97590                       | 97370                        | 1.20       | 8.0          | 15.0            |         |
| 4     | 1.499  | 6       | 0.749      | 0.44            | 0.441           | 12.66      | 19.95         | 63460                       | 63320                        | 99990                       | 99770                        | 1.30       | 8.0          | 16.3            |         |
| 5     | 0.677  | 4       | 0.503      | 0.20            | 0.199           | 6.60       | 8.82          | 72730                       | 73100                        | 97230                       | 97720                        | 1.20       | 8.0          | 15.0            |         |
| 6     | 0.675  | 4       | 0.502      | 0.20            | 0.198           | 6.24       | 8.99          | 68800                       | 69490                        | 99150                       | 100150                       | 1.20       | 8.0          | 15.0            |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |

**BEND TEST:**

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

Baig Constuction Co

Test Performed By:

Dr. /Engr.

Nauman Khurram

PM Baig Constuction Lahore.(Const. Of Chohan Hospital Jail Road Lahore)

**SOM Lab**

Client Reference: ST/UET/20220720

Ref:

3457 (Page-1/1)

Dated: 01-01-2024

Dated:

03-01-2024

Test: Tension Test & Bend Test

Test Specification:

ASTM-A-615

Gauge Length: 8 inch

Sample Type:

Deformed Bar (SJ 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     | 2.670  | 8       | 1.000      | 0.79            | 0.785           | 24.49      | 33.20         | 68360                       | 68790                        | 92690                       | 93280                        | 1.50       | 8.0          | 18.8            |         |
| 2     | 2.672  | 8       | 1.000      | 0.79            | 0.785           | 23.72      | 32.74         | 66220                       | 66650                        | 91410                       | 91990                        | 1.60       | 8.0          | 20.0            |         |
| 3     | 1.502  | 6       | 0.749      | 0.44            | 0.441           | 15.19      | 19.37         | 76130                       | 75960                        | 97080                       | 96860                        | 1.30       | 8.0          | 16.3            |         |
| 4     | 1.499  | 6       | 0.749      | 0.44            | 0.441           | 15.60      | 20.08         | 78180                       | 78000                        | 100660                      | 100430                       | 1.30       | 8.0          | 16.3            |         |
| 5     | 0.668  | 4       | 0.500      | 0.20            | 0.196           | 7.05       | 8.72          | 77790                       | 79380                        | 96110                       | 98070                        | 1.20       | 8.0          | 15.0            |         |
| 6     | 0.670  | 4       | 0.501      | 0.20            | 0.197           | 6.90       | 8.58          | 76100                       | 77260                        | 94650                       | 96090                        | 1.20       | 8.0          | 15.0            |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |

**BEND TEST:**

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