

Maj Adnan Khalid ®

**Test Performed By:** Dr. /Engr. M Irfan UI Hassan

Dy Dir MTL, Const of (U/G) External Elect Works Alongwith Street Light System Pak-E-3, (M/s DHA FWO)

**Client Reference:** 408/241/E/1022/498

**Dated:** 28-10-2020

**SOM Lab Ref:** CED/SOM/3209 (Page-1/1)

**Dated:** 03-11-2019

**Test:** Tension Test

**Test Specification:** ASTM-F-1554

**Sample Type:** J - Bolt

**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     | 4.116  | 25      | 25.83      | 491             | 524             | 178.00     | 261.50        | 363                         | 340                          | 533                         | 500                          | 55.0       | 200          | 27.5            |         |
| 2     | 4.091  | 25      | 25.76      | 491             | 521             | 204.00     | 305.20        | 416                         | 392                          | 622                         | 586                          | 47.5       | 200          | 23.8            |         |
| 3     | 4.013  | 25      | 25.51      | 491             | 511             | 205.00     | 300.70        | 418                         | 401                          | 613                         | 589                          | 47.5       | 200          | 23.8            |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               | -       |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               | -       |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               | -       |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               | -       |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               | -       |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               | -       |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               | -       |

**BEND TEST:**

|    |                        |                                                             |
|----|------------------------|-------------------------------------------------------------|
| -- | No Bend test performed | <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)

Javeed Raza  
House No. 101/Ravi Block Green Forts II, Near EME, Lahore

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

S. Asad Ali  
Gillani

**Client Reference:** Nil

**Dated:** 03-11-2020

**Test:** Tension Test & Bend Test

**Gauge Length:** 8 inch

**Test Specification:**

**Sample Type:**

**SOM Lab**

**Ref:** 3203(Page-1/1)

**Dated:** 03-11-2020

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     | 0.676  | 4       | 0.503      | 0.20            | 0.199           | 7.77       | 9.19          | 85660                       | 86090                        | 101390                      | 101900                       | 1.00       | 8.0          | 12.5            |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |

**Witnessed By:** Sohaib Ali, NESPAK

**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)

Engr. Bilal Yaqoob Virk.

**Test Performed By:**

Dr. /Engr. s. Asad Ali Gillani

Asstt: Executive Engineer-II, CCD. PAK PWD, Gujranwala

**Client Reference:** AEE-II/CCD/GA/Work/NHMP/P-I/LAB/01

**SOM Lab**

**Ref:** 3204(Page-1/1)

**Dated:** 29-10-2020

**Dated:** 03-11-2020

**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     | 1.420  | 6       | 0.729      | 0.44            | 0.417           | 14.90      | 20.34         | 74700                       | 78820                        | 101940                      | 107560                       | 1.00       | 8.0          | 12.5            |         |
| 2     | 1.494  | 6       | 0.748      | 0.44            | 0.439           | 16.13      | 20.66         | 80830                       | 81020                        | 103570                      | 103810                       | 1.10       | 8.0          | 13.8            |         |
| 3     | 1.013  | 5       | 0.616      | 0.31            | 0.298           | 9.09       | 12.35         | 64690                       | 67300                        | 87900                       | 91440                        | 1.40       | 8.0          | 17.5            |         |
| 4     | 1.020  | 5       | 0.618      | 0.31            | 0.300           | 9.45       | 12.95         | 67230                       | 69470                        | 92100                       | 95170                        | 1.20       | 8.0          | 15.0            |         |
| 5     | 0.666  | 4       | 0.500      | 0.20            | 0.196           | 6.37       | 8.51          | 70260                       | 71690                        | 93860                       | 95780                        | 1.30       | 8.0          | 16.3            |         |
| 6     | 0.660  | 4       | 0.497      | 0.20            | 0.194           | 6.27       | 8.41          | 69130                       | 71270                        | 92740                       | 95610                        | 1.00       | 8.0          | 12.5            |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |

**BEND TEST:**

|     |                                                                  |                                                            |
|-----|------------------------------------------------------------------|------------------------------------------------------------|
| # 6 | Sample bend through 180 degrees Satisfactorily without any crack | <b>Note:-</b><br><br>Only Nine Samples Received and Tested |
| # 5 | Sample bend through 180 degrees Satisfactorily without any crack |                                                            |
| # 4 | Sample bend through 180 degrees Satisfactorily without any crack |                                                            |
|     |                                                                  |                                                            |

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Gul Waqas Shahid  
Unirazz Services, Lahore

Test Performed By: Dr. /Engr.

S. Asad Ali  
Gillani

Client Reference: USPL/PMALL/2892-93

SOM Lab

Ref: 3205(Page-1/1)

Dated: 02-11-2020

Dated: 03-11-2020

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     | 2.554  | 8       | 0.978      | 0.79            | 0.751           | 24.03      | 32.62         | 67080                       | 70560                        | 91070                       | 95800                        | 1.50       | 8.0          | 18.8            |         |
| 2     | 2.539  | 8       | 0.975      | 0.79            | 0.746           | 24.43      | 32.69         | 68220                       | 72240                        | 91270                       | 96650                        | 1.40       | 8.0          | 17.5            |         |
| 3     | 1.549  | 6       | 0.761      | 0.44            | 0.455           | 11.74      | 16.92         | 58860                       | 56920                        | 84820                       | 82020                        | 1.40       | 8.0          | 17.5            |         |
| 4     | 1.550  | 6       | 0.762      | 0.44            | 0.456           | 11.69      | 16.87         | 58610                       | 56550                        | 84560                       | 81600                        | 1.00       | 8.0          | 12.5            |         |
| 5     | 0.689  | 4       | 0.507      | 0.20            | 0.202           | 6.22       | 8.15          | 68570                       | 67890                        | 89930                       | 89040                        | 1.50       | 8.0          | 18.8            |         |
| 6     | 0.690  | 4       | 0.508      | 0.20            | 0.203           | 6.17       | 8.28          | 68010                       | 67000                        | 91280                       | 89930                        | 1.30       | 8.0          | 16.3            |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |

Witnessed By: Sohaib Ali, NESPAK

**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)

Muhammad Affan  
Project Manager, ICON Residencia, Lahore

Test Performed By: Dr. /Engr. S. Asas Ali Gillani

Client Reference: IV-13

SOM Lab

Ref: 3207 (Page-1/1)

Dated: 02-11-2020

Dated: 03-11-2020

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     | 2.626  | 8       | 0.991      | 0.79            | 0.772           | 25.18      | 35.88         | 70290                       | 71930                        | 100170                      | 102510                       | 1.00       | 8.0          | 12.5            |         |
| 2     | 2.606  | 8       | 0.988      | 0.79            | 0.766           | 24.67      | 34.22         | 68870                       | 71030                        | 95530                       | 98530                        | 1.50       | 8.0          | 18.8            |         |
| 3     | 1.473  | 6       | 0.743      | 0.44            | 0.433           | 13.88      | 19.16         | 69590                       | 70720                        | 96060                       | 97610                        | 1.40       | 8.0          | 17.5            |         |
| 4     | 1.471  | 6       | 0.742      | 0.44            | 0.432           | 13.40      | 18.67         | 67190                       | 68440                        | 93610                       | 95340                        | 1.50       | 8.0          | 18.8            |         |
| 5     | 0.659  | 4       | 0.497      | 0.20            | 0.194           | 5.96       | 8.41          | 65760                       | 67800                        | 92740                       | 95610                        | 1.50       | 8.0          | 18.8            |         |
| 6     | 0.653  | 4       | 0.494      | 0.20            | 0.192           | 5.98       | 8.38          | 65990                       | 68740                        | 92400                       | 96250                        | 1.30       | 8.0          | 16.3            |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |

**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)

Director Development

Test Performed By: Dr. /Engr.

S. Asad Ali  
Gillani

Punjab Employees Social Security Institution (Head Office) 3/A, Gulberg-V, Lahore

Client Reference: SS. DC/777

SOM Lab

Ref: 3211(Page-1/1)

Dated: 03-11-2020

Dated: 03-11-2020

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     | 0.681  | 4       | 0.505      | 0.20            | 0.200           | 7.19       | 8.84          | 79250                       | 79250                        | 97460                       | 97460                        | 1.20       | 8.0          | 15.0            |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |

**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)

Muhammad Faizan  
Project Engineer, NETRACON Technologies (Pvt) Ltd. Lahore

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

S. Asad Ali  
Gillani

**Client Reference:** NTT-HO/FSDW-GS/031

**Dated:** 03-11-2020

**SOM Lab**

**Ref:** 3212(Page-1/1)

**Dated:** 03-11-2020

**Test:** Tension Test & Bend Test

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

ASTM-A-615

**Gauge Length:** 8 inch

**Sample Type:** Deformed Bar

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     | 0.641  | 4       | 0.489      | 0.20            | 0.188           | 6.47       | 8.46          | 71380                       | 75940                        | 93300                       | 99260                        | 1.30       | 8.0          | 16.3            |         |
| 2     | 0.652  | 4       | 0.494      | 0.20            | 0.192           | 6.29       | 8.36          | 69360                       | 72250                        | 92180                       | 96020                        | 1.50       | 8.0          | 18.8            |         |
| 3     | 0.648  | 4       | 0.492      | 0.20            | 0.190           | 6.68       | 8.63          | 73630                       | 77500                        | 95210                       | 100220                       | 1.40       | 8.0          | 17.5            |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |
| -     | -      | -       | -          | -               | -               | -          | -             | -                           | -                            | -                           | -                            | -          | -            | -               |         |

**Witnessed By:** Sohaib Ali, NESPAK

**BEND TEST:**

|     |                                                                  |                                                           |
|-----|------------------------------------------------------------------|-----------------------------------------------------------|
| # 4 | 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 |                                                           |
| # 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)