



**STRUCTURAL ENGINEERING DIVISION**  
**Test Floor Laboratory**  
**Department of Civil Engineering**  
**University of Engineering and Technology Lahore, 54890**  
**Pakistan. Ph: 92-42-99029202**

To,  
XEN  
GE (army)-II Kharian

Reference # CED/TFL **36245** (Dr. M Rizwan Riaz)  
Reference of the request letter # Nil

Dated: 18-03-2021

Dated: 18-03-2021

**Tension Test Report** (Page – 1/1)

Date of Test 25-03-2021  
Gauge length 2 inches  
Description Metal Strip Tensile Test

| Sr. No.                                   | Designation | Size of Strip | X Section Area     | Yield load | Breaking Load | Yield Stress | Ultimate Stress | Elongation | % Elongation | Remarks |
|---|-------------|---------------|--------------------|------------|---------------|--------------|-----------------|------------|--------------|---------|
|   | (mm)        | (mm)          | (mm <sup>2</sup> ) | (kg)       | (kg)          | (MPa)        | (MPa)           | (in)       |              |         |
| 1   | 4           | 25.55x3.90    | 99.65              | 4700       | 5600          | 462.71       | 551.32          | 0.50       | 25.00        |         |
| 2   | 5           | 25.70x5.00    | 128.50             | 5200       | 7300          | 396.98       | 557.30          | 0.60       | 30.00        |         |
| 3   | 6           | 25.70x5.90    | 151.63             | 6400       | 8900          | 414.06       | 575.80          | 0.55       | 27.50        |         |
| 4   | 8           | 25.80x7.90    | 203.82             | 7300       | 11400         | 351.35       | 548.69          | 0.60       | 30.00        |         |
|   | -           | -             | -                  | -          | -             | -            | -               | -          | -            |         |
| -   | -           | -             | -                  | -          | -             | -            | -               | -          | -            |         |
| <b>Only Four Samples for Tensile Test</b> |             |               |                    |            |               |              |                 |            |              |         |
| <b>Bend Test</b>                          |             |               |                    |            |               |              |                 |            |              |         |
|   |             |               |                    |            |               |              |                 |            |              |         |
|   |             |               |                    |            |               |              |                 |            |              |         |
|   |             |               |                    |            |               |              |                 |            |              |         |

**I/C Testing Laboratoires**  
**UET Lahore, Pakistan.**

Note:

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- 2- The above results pertain to sample /samples supplied to this laboratory.
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**STRUCTURAL ENGINEERING DIVISION**  
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**Department of Civil Engineering**  
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**Pakistan. Ph: 92-42-99029202**

To,  
 Director  
 Shahid Buildes (Pvt) Ltd  
 Construction of Proposed Trust School for Amir Town Harbanspura, Lahore

Reference # CED/TFL **36255** (Dr. M Rizwan Riaz) Dated: 22-03-2021  
 Reference of the request letter # SBL/2021/UET-TEDDS/1222 Dated: 22-03-2021

**Tension Test Report** (Page -1/1)

Date of Test 25-03-2021  
 Gauge length 8 inches  
 Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

| Sr. No.  | Weight<br>(lbs/ft) | Diameter/<br>Size |                  | Area<br>(in <sup>2</sup> ) |        | Yield load<br>(kg) | Breaking<br>Load<br>(kg) | Yield Stress<br>(psi) |        | Ultimate Stress<br>(psi) |        | Elongation<br>(inch) | % Elongation | Remarks         |
|--|--------------------|-------------------|------------------|----------------------------|--------|--------------------|--------------------------|-----------------------|--------|--------------------------|--------|----------------------|--------------|-----------------|
|  |                    | Nominal<br>(#)    | Actual<br>(inch) | Nominal                    | Actual |                    |                          | Nominal               | Actual | Nominal                  | Actual |                      |              |                 |
| 1  | 0.335              | 3                 | 0.354            | 0.11                       | 0.098  | 2800               | 4200                     | 56200                 | 62760  | 84200                    | 94200  | 1.30                 | 16.3         | Kanran<br>Steel |
| 2  | 0.332              | 3                 | 0.352            | 0.11                       | 0.098  | 2800               | 4100                     | 56200                 | 63270  | 82200                    | 92700  | 1.20                 | 15.0         |                 |
| -  | -                  | -                 | -                | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |                 |
| -  | -                  | -                 | -                | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |                 |
| -  | -                  | -                 | -                | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |                 |
| -  | -                  | -                 | -                | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |                 |
| <b>Note: only two samples for tensile and one sample for bend test</b> |                    |                   |                  |                            |        |                    |                          |                       |        |                          |        |                      |              |                 |
| Bend Test  |                    |                   |                  |                            |        |                    |                          |                       |        |                          |        |                      |              |                 |
| #3 Bar Bend Test Through 180° is Satisfactory                          |                    |                   |                  |                            |        |                    |                          |                       |        |                          |        |                      |              |                 |
|  |                    |                   |                  |                            |        |                    |                          |                       |        |                          |        |                      |              |                 |
|  |                    |                   |                  |                            |        |                    |                          |                       |        |                          |        |                      |              |                 |

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**Test Floor Laboratory**  
**Department of Civil Engineering**  
**University of Engineering and Technology Lahore, 54890**  
**Pakistan. Ph: 92-42-99029202**

To,  
M/S Sulman Developers  
Gulberg III, Lahore  
(Grand Square Mall)

Reference # CED/TFL **36258** (Dr. M Rizwan Riaz)  
Reference of the request letter # Nil

Dated: 22-03-2021  
Dated: 22-03-2021

**Tension Test Report** (Page -1/1)

Date of Test 25-03-2021  
Gauge length 8 inches  
Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

| Sr. No.  | Weight<br>(lbs/ft) | Diameter/<br>Size<br>(inch) |        | Area<br>(in <sup>2</sup> ) |        | Yield load<br>(kg) | Breaking<br>Load<br>(kg) | Yield Stress<br>(psi) |        | Ultimate Stress<br>(psi) |        | Elongation<br>(inch) | % Elongation | Remarks |
|--|--------------------|-----------------------------|--------|----------------------------|--------|--------------------|--------------------------|-----------------------|--------|--------------------------|--------|----------------------|--------------|---------|
|  |                    | Nominal                     | Actual | Nominal                    | Actual |                    |                          | Nominal               | Actual | Nominal                  | Actual |                      |              |         |
| 1  | 0.352              | 3/8                         | 0.363  | 0.11                       | 0.103  | 3800               | 4400                     | 76200                 | 80980  | 88200                    | 93800  | 0.75                 | 9.4          |         |
| 2  | 0.376              | 3/8                         | 0.375  | 0.11                       | 0.110  | 3900               | 4700                     | 78200                 | 77870  | 94200                    | 93900  | 0.80                 | 10.0         |         |
| -  | -                  | -                           | -      | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |         |
| -  | -                  | -                           | -      | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |         |
| -  | -                  | -                           | -      | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |         |
| -  | -                  | -                           | -      | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |         |
| <b>Note: only two samples for tensile and one sample for bend test</b> |                    |                             |        |                            |        |                    |                          |                       |        |                          |        |                      |              |         |
| Bend Test  |                    |                             |        |                            |        |                    |                          |                       |        |                          |        |                      |              |         |
| 3/8" Dia Bar Bend Test Through 180° is Satisfactory                    |                    |                             |        |                            |        |                    |                          |                       |        |                          |        |                      |              |         |
|  |                    |                             |        |                            |        |                    |                          |                       |        |                          |        |                      |              |         |
|  |                    |                             |        |                            |        |                    |                          |                       |        |                          |        |                      |              |         |

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**Test Floor Laboratory**  
**Department of Civil Engineering**  
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To,  
 Director  
 Planning & Development  
 KFUEIT, Rahim Yar Khan  
 Construction of Faculty Hostel 5 Nos at Khwaja Fareed University Engineering and Information  
 Technology Rahim Yar Khan

Reference # CED/TFL **36260** (Dr. M Rizwan Riaz)  
 Reference of the request letter # KFEEIT/P&D/0038

Dated: 22-03-2021  
 Dated: 22-03-2021

**Tension Test Report** (Page -1/1)

Date of Test 25-03-2021  
 Gauge length 8 inches  
 Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

| Sr. No.   | Weight<br>(lbs/ft) | Diameter/<br>Size<br>(inch) |        | Area<br>(in <sup>2</sup> ) |        | Yield load<br>(kg) | Breaking<br>Load<br>(kg) | Yield Stress<br>(psi) |        | Ultimate Stress<br>(psi) |        | Elongation<br>(inch) | % Elongation | Remarks |
|---|--------------------|-----------------------------|--------|----------------------------|--------|--------------------|--------------------------|-----------------------|--------|--------------------------|--------|----------------------|--------------|---------|
|   |                    | Nominal                     | Actual | Nominal                    | Actual |                    |                          | Nominal               | Actual | Nominal                  | Actual |                      |              |         |
| 1   | 0.375              | 3                           | 0.375  | 0.11                       | 0.110  | 3500               | 4800                     | 70200                 | 70020  | 96200                    | 96100  | 1.30                 | 16.3         |         |
| -   | -                  | -                           | -      | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |         |
| -   | -                  | -                           | -      | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |         |
| -   | -                  | -                           | -      | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |         |
| -   | -                  | -                           | -      | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |         |
| -   | -                  | -                           | -      | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |         |
| <b>Note: only one sample for tensile and one sample for bend test</b> |                    |                             |        |                            |        |                    |                          |                       |        |                          |        |                      |              |         |
| Bend Test   |                    |                             |        |                            |        |                    |                          |                       |        |                          |        |                      |              |         |
| 3/8" Dia Bar Bend Test Through 180° is Satisfactory                   |                    |                             |        |                            |        |                    |                          |                       |        |                          |        |                      |              |         |
|   |                    |                             |        |                            |        |                    |                          |                       |        |                          |        |                      |              |         |

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To,  
 M/S Beacon Impex Private Limited  
 Faisalabad  
 (Construction of Multi Storey Building for Cutting & Knitting at Beacon Impex)(M/s M. Saleem Construction Company)

Reference # CED/TFL **36261** (Dr. M Rizwan Riaz)  
 Reference of the request letter # B.I/CIVIL/21-111

Dated: 22-03-2021  
 Dated: 18-03-2021

**Tension Test Report** (Page -1/1)

Date of Test 25-03-2021  
 Gauge length 8 inches  
 Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

| Sr. No.  | Weight<br>(lbs/ft) | Diameter/<br>Size |                  | Area<br>(in <sup>2</sup> ) |        | Yield load<br>(kg) | Breaking<br>Load<br>(kg) | Yield Stress<br>(psi) |        | Ultimate Stress<br>(psi) |        | Elongation<br>(inch) | % Elongation | Remarks  |
|--|--------------------|-------------------|------------------|----------------------------|--------|--------------------|--------------------------|-----------------------|--------|--------------------------|--------|----------------------|--------------|----------|
|  |                    | Nominal<br>(#)    | Actual<br>(inch) | Nominal                    | Actual |                    |                          | Nominal               | Actual | Nominal                  | Actual |                      |              |          |
| 1  | 0.375              | 3                 | 0.375            | 0.11                       | 0.110  | 3700               | 5000                     | 74200                 | 74030  | 100200                   | 100100 | 0.90                 | 11.3         | SJ Steel |
| 2  | 0.362              | 3                 | 0.368            | 0.11                       | 0.106  | 3600               | 4900                     | 72200                 | 74510  | 98200                    | 101500 | 1.00                 | 12.5         |          |
| -  | -                  | -                 | -                | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |          |
| -  | -                  | -                 | -                | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |          |
| -  | -                  | -                 | -                | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |          |
| -  | -                  | -                 | -                | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |          |
| <b>Note: only two samples for tensile and one sample for bend test</b> |                    |                   |                  |                            |        |                    |                          |                       |        |                          |        |                      |              |          |
| Bend Test  |                    |                   |                  |                            |        |                    |                          |                       |        |                          |        |                      |              |          |
| #3 Bar Bend Test Through 180° is Satisfactory                          |                    |                   |                  |                            |        |                    |                          |                       |        |                          |        |                      |              |          |
|  |                    |                   |                  |                            |        |                    |                          |                       |        |                          |        |                      |              |          |

**I/C Testing Laboratories**  
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**University of Engineering and Technology Lahore, 54890**  
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To,  
 Project Manager  
 CCECC-MATRACON-HABIB Joint Venture  
 Re-Construction & Up-Gradation of Main Runway (18L/36R) at Allama Iqbal International  
 Airport(AIAP), Lahore  
 (PAK Steel, Heat No. 7778)  
 Reference # CED/TFL **36262** (Dr. M Rizwan Riaz) Dated: 24-03-2021  
 Reference of the request letter # AIAP/CCECC-MATRACON-HABIB JV/2021/276 Dated: 22-03-2021

**Tension Test Report** (Page -1/1)

Date of Test 25-03-2021  
 Gauge length 8 inches  
 Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

| Sr. No.  | Weight<br>(lbs/ft) | Diameter/<br>Size<br>(inch) |        | Area<br>(in <sup>2</sup> ) |        | Yield load<br>(kg) | Breaking<br>Load<br>(kg) | Yield Stress<br>(psi) |        | Ultimate Stress<br>(psi) |        | Elongation<br>(inch) | % Elongation | Remarks |
|--|--------------------|-----------------------------|--------|----------------------------|--------|--------------------|--------------------------|-----------------------|--------|--------------------------|--------|----------------------|--------------|---------|
|  |                    | Nominal                     | Actual | Nominal                    | Actual |                    |                          | Nominal               | Actual | Nominal                  | Actual |                      |              |         |
| 1  | 0.422              | 10                          | 10.09  | 0.12                       | 0.124  | 4300               | 5300                     | 78998                 | 76420  | 97370                    | 94200  | 0.90                 | 11.3         |         |
| 2  | 0.421              | 10                          | 10.08  | 0.12                       | 0.124  | 4200               | 5200                     | 77161                 | 74780  | 95533                    | 92600  | 0.75                 | 9.4          |         |
| -  | -                  | -                           | -      | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |         |
| -  | -                  | -                           | -      | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |         |
| -  | -                  | -                           | -      | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |         |
| -  | -                  | -                           | -      | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |         |
| <b>Note: only two samples for tensile and one sample for bend test</b> |                    |                             |        |                            |        |                    |                          |                       |        |                          |        |                      |              |         |
| Bend Test  |                    |                             |        |                            |        |                    |                          |                       |        |                          |        |                      |              |         |
| 10mm Dia Bar Bend Test Through 180° is Satisfactory                    |                    |                             |        |                            |        |                    |                          |                       |        |                          |        |                      |              |         |
|  |                    |                             |        |                            |        |                    |                          |                       |        |                          |        |                      |              |         |

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**Pakistan. Ph: 92-42-99029202**

To,  
 Resident Engineer  
 Bahria Town Private Limited  
 Ali Villa at Bahria Town Multan Road Site Lahore

Reference # CED/TFL **36263** (Dr. Qasim Khan)  
 Reference of the request letter # QA/QC-Steel-2307

Dated: 24-03-2021  
 Dated: 19-03-2021

**Tension Test Report** (Page -1/1)

Date of Test 25-03-2021  
 Gauge length 8 inches  
 Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

| Sr. No.  | Weight<br>(lbs/ft) | Diameter/<br>Size |                  | Area<br>(in <sup>2</sup> ) |        | Yield load<br>(kg) | Breaking<br>Load<br>(kg) | Yield Stress<br>(psi) |        | Ultimate Stress<br>(psi) |        | Elongation<br>(inch) | % Elongation | Remarks         |
|--|--------------------|-------------------|------------------|----------------------------|--------|--------------------|--------------------------|-----------------------|--------|--------------------------|--------|----------------------|--------------|-----------------|
|  |                    | Nominal<br>(#)    | Actual<br>(inch) | Nominal                    | Actual |                    |                          | Nominal               | Actual | Nominal                  | Actual |                      |              |                 |
| 1  | 0.379              | 3                 | 0.376            | 0.11                       | 0.111  | 3300               | 5100                     | 66200                 | 65350  | 102200                   | 101000 | 1.20                 | 15.0         | Mughal<br>Steel |
| 2  | 0.376              | 3                 | 0.375            | 0.11                       | 0.110  | 3300               | 5100                     | 66200                 | 65840  | 102200                   | 101800 | 1.30                 | 16.3         |                 |
| -  | -                  | -                 | -                | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |                 |
| -  | -                  | -                 | -                | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |                 |
| -  | -                  | -                 | -                | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |                 |
| -  | -                  | -                 | -                | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |                 |
| <b>Note: only two samples for tensile and one sample for bend test</b> |                    |                   |                  |                            |        |                    |                          |                       |        |                          |        |                      |              |                 |
| Bend Test  |                    |                   |                  |                            |        |                    |                          |                       |        |                          |        |                      |              |                 |
| #3 Bar Bend Test Through 180° is Satisfactory                          |                    |                   |                  |                            |        |                    |                          |                       |        |                          |        |                      |              |                 |
|  |                    |                   |                  |                            |        |                    |                          |                       |        |                          |        |                      |              |                 |

**I/C Testing Laboratoires**  
**UET Lahore, Pakistan.**

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**STRUCTURAL ENGINEERING DIVISION**  
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To,  
 Sub Divisional Officer  
 Highway Sub Division  
 Bhalwal  
 (Widening / Improvement / Construction of Road from Kot Momin to Salim Interchange along with Motorway M-2 I/C Link from Kot Momin Salim Road to 8/ASB to Bhikhi Road Length = 15.93 km in District Sargodha)  
 Reference # CED/TFL **36264** (Dr. M Rizwan Riaz) Dated: 24-03-2021  
 Reference of the request letter # 130/SB Dated: 15-03-2021

**Tension Test Report** (Page -1/1)

Date of Test 25-03-2021  
 Gauge length 8 inches  
 Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

| Sr. No.  | Weight<br>(lbs/ft) | Diameter/<br>Size<br>(inch) |        | Area<br>(in <sup>2</sup> ) |        | Yield load<br>(kg) | Breaking<br>Load<br>(kg) | Yield Stress<br>(psi) |        | Ultimate Stress<br>(psi) |        | Elongation<br>(inch) | % Elongation | Remarks |
|--|--------------------|-----------------------------|--------|----------------------------|--------|--------------------|--------------------------|-----------------------|--------|--------------------------|--------|----------------------|--------------|---------|
|  |                    | Nominal                     | Actual | Nominal                    | Actual |                    |                          | Nominal               | Actual | Nominal                  | Actual |                      |              |         |
| 1  | 0.368              | 3/8                         | 0.371  | 0.11                       | 0.108  | 2700               | 4100                     | 54100                 | 55090  | 82200                    | 83700  | 1.60                 | 20.0         |         |
| 2  | 0.366              | 3/8                         | 0.370  | 0.11                       | 0.107  | 2900               | 4500                     | 58200                 | 59480  | 90200                    | 92300  | 1.10                 | 13.8         |         |
| -  | -                  | -                           | -      | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |         |
| -  | -                  | -                           | -      | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |         |
| -  | -                  | -                           | -      | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |         |
| -  | -                  | -                           | -      | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |         |
| <b>Note: only two samples for tensile and one sample for bend test</b> |                    |                             |        |                            |        |                    |                          |                       |        |                          |        |                      |              |         |
| Bend Test  |                    |                             |        |                            |        |                    |                          |                       |        |                          |        |                      |              |         |
| 3/8" Dia Bar Bend Test Through 180° is Satisfactory                    |                    |                             |        |                            |        |                    |                          |                       |        |                          |        |                      |              |         |
|  |                    |                             |        |                            |        |                    |                          |                       |        |                          |        |                      |              |         |

**I/C Testing Laboratoires**  
**UET Lahore, Pakistan.**

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**STRUCTURAL ENGINEERING DIVISION**  
**Test Floor Laboratory**  
**Department of Civil Engineering**  
**University of Engineering and Technology Lahore, 54890**  
**Pakistan. Ph: 92-42-99029202**

To,  
 Assistant Project Director,  
 Air University Multan Campus  
 Infra-structure Development Phase-01

Reference # CED/TFL **36266** (Dr. M Rizwan Riaz)  
 Reference of the request letter # MUX/AUMC/ISD/2021/26

Dated: 24-03-2021  
 Dated: 12-03-2021

**Tension Test Report** (Page -1/1)

Date of Test 25-03-2021  
 Gauge length 8 inches  
 Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

| Sr. No.  | Weight<br>(lbs/ft) | Diameter/<br>size |                  | Area<br>(in <sup>2</sup> ) |        | Yield load<br>(kg) | Breaking<br>Load<br>(kg) | Yield Stress<br>(psi) |        | Ultimate Stress<br>(psi) |        | Elongation<br>(inch) | % Elongation | Remarks     |
|--|--------------------|-------------------|------------------|----------------------------|--------|--------------------|--------------------------|-----------------------|--------|--------------------------|--------|----------------------|--------------|-------------|
|  |                    | Nominal<br>(#)    | Actual<br>(inch) | Nominal                    | Actual |                    |                          | Nominal               | Actual | Nominal                  | Actual |                      |              |             |
| 1  | 0.380              | 3                 | 0.377            | 0.11                       | 0.112  | 3600               | 5000                     | 72200                 | 71010  | 100200                   | 98700  | 1.00                 | 12.5         | FF<br>Steel |
| 2  | 0.379              | 3                 | 0.376            | 0.11                       | 0.111  | 3500               | 5000                     | 70200                 | 69300  | 100200                   | 99000  | 1.10                 | 13.8         |             |
| -  | -                  | -                 | -                | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |             |
| -  | -                  | -                 | -                | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |             |
| -  | -                  | -                 | -                | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |             |
| -  | -                  | -                 | -                | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |             |
| <b>Note: only two samples for tensile and one sample for bend test</b> |                    |                   |                  |                            |        |                    |                          |                       |        |                          |        |                      |              |             |
| Bend Test  |                    |                   |                  |                            |        |                    |                          |                       |        |                          |        |                      |              |             |
| #3 Bar Bend Test Through 180° is Satisfactory                          |                    |                   |                  |                            |        |                    |                          |                       |        |                          |        |                      |              |             |
|  |                    |                   |                  |                            |        |                    |                          |                       |        |                          |        |                      |              |             |
|  |                    |                   |                  |                            |        |                    |                          |                       |        |                          |        |                      |              |             |

**I/C Testing Laboratoires**  
**UET Lahore, Pakistan.**

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**STRUCTURAL ENGINEERING DIVISION**  
**Test Floor Laboratory**  
**Department of Civil Engineering**  
**University of Engineering and Technology Lahore, 54890**  
**Pakistan. Ph: 92-42-99029202**

To,  
 Assistant Director - II  
 Building Research Station, Lahore  
 (M/S Ittehad Steel Industries, Islamabad)

Reference # CED/TFL **36267** (Dr. M Rizwan Riaz)  
 Reference of the request letter # 124-R/787

Dated: 24-03-2021  
 Dated: 22-03-2021

**Tension Test Report** (Page -1/1)

Date of Test 25-03-2021  
 Gauge length 8 inches  
 Description Deformed Steel Bar Tensile Test as per ASTM-A615

| Sr. No.                                       | Weight<br>(lbs/ft) | Diameter/<br>size |                  | Area<br>(in <sup>2</sup> ) |        | Yield load<br>(kg) | Breaking<br>Load<br>(kg) | Yield Stress<br>(psi) |        | Ultimate Stress<br>(psi) |        | Elongation<br>(inch) | % Elongation | Remarks |
|---|--------------------|-------------------|------------------|----------------------------|--------|--------------------|--------------------------|-----------------------|--------|--------------------------|--------|----------------------|--------------|---------|
|   |                    | Nominal<br>(#)    | Actual<br>(inch) | Nominal                    | Actual |                    |                          | Nominal               | Actual | Nominal                  | Actual |                      |              |         |
| 1   | 0.382              | 3                 | 0.378            | 0.11                       | 0.112  | 3200               | 4800                     | 64200                 | 62860  | 96200                    | 94300  | 1.50                 | 18.8         |         |
| -   | -                  | -                 | -                | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |         |
| -   | -                  | -                 | -                | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |         |
| -   | -                  | -                 | -                | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |         |
| -   | -                  | -                 | -                | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |         |
| -   | -                  | -                 | -                | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |         |
| <b>Note: only one sample for tensile test</b> |                    |                   |                  |                            |        |                    |                          |                       |        |                          |        |                      |              |         |
| Bend Test                                     |                    |                   |                  |                            |        |                    |                          |                       |        |                          |        |                      |              |         |
|   |                    |                   |                  |                            |        |                    |                          |                       |        |                          |        |                      |              |         |
|   |                    |                   |                  |                            |        |                    |                          |                       |        |                          |        |                      |              |         |
|   |                    |                   |                  |                            |        |                    |                          |                       |        |                          |        |                      |              |         |

**I/C Testing Laboratories**  
**UET Lahore, Pakistan.**

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**STRUCTURAL ENGINEERING DIVISION**  
**Test Floor Laboratory**  
**Department of Civil Engineering**  
**University of Engineering and Technology Lahore, 54890**  
**Pakistan. Ph: 92-42-99029202**

To,  
Project Manager  
Rasheed & Brothers  
Victoria Square Mall, Saddar, Rawalpindi

Reference # CED/TFL **36270** (Dr. Qasim Khan)  
Reference of the request letter # VS-RWP-LMC/RE/21-001

Dated: 25-03-2021  
Dated: 25-03-2021

**Tension Test Report** (Page – 1/2)

Date of Test 25-03-2021  
Gauge length 640 mm  
Description Steel Strand Tensile Test as per ASTM A-416-94a

| Sr. No.                         | Nominal Diameter | Nominal Weight | Measured weight | Yield strength clause (6.3) |        | Breaking strength clause (6.2) |        | Young's Modulus of Elasticity "E" | % Elongation | Remarks / Coil No. |
|---------------------------------|------------------|----------------|-----------------|-----------------------------|--------|--------------------------------|--------|-----------------------------------|--------------|--------------------|
|                                 | (mm)             | (kg/km)        | (kg/km)         | (kg)                        | (kN)   | (kg)                           | (kN)   | GPa                               |              |                    |
| 1                               | 12.70<br>(1/2")  | 775.0          | 786.0           | 17200                       | 168.73 | 19200                          | 188.35 | 199                               | >3.50        | xx                 |
| -                               | -                | -              | -               | -                           | -      | -                              | -      | -                                 | -            |                    |
| -                               | -                | -              | -               | -                           | -      | -                              | -      | -                                 | -            |                    |
| -                               | -                | -              | -               | -                           | -      | -                              | -      | -                                 | -            |                    |
| -                               | -                | -              | -               | -                           | -      | -                              | -      | -                                 | -            |                    |
| -                               | -                | -              | -               | -                           | -      | -                              | -      | -                                 | -            |                    |
| <b>Only one sample for Test</b> |                  |                |                 |                             |        |                                |        |                                   |              |                    |

Note:

1. Modulus of Elasticity is based on nominal steel area of the steel strand vide clause 13.3 of ASTM – A416a
2. Load versus percentage strain graphs are attached

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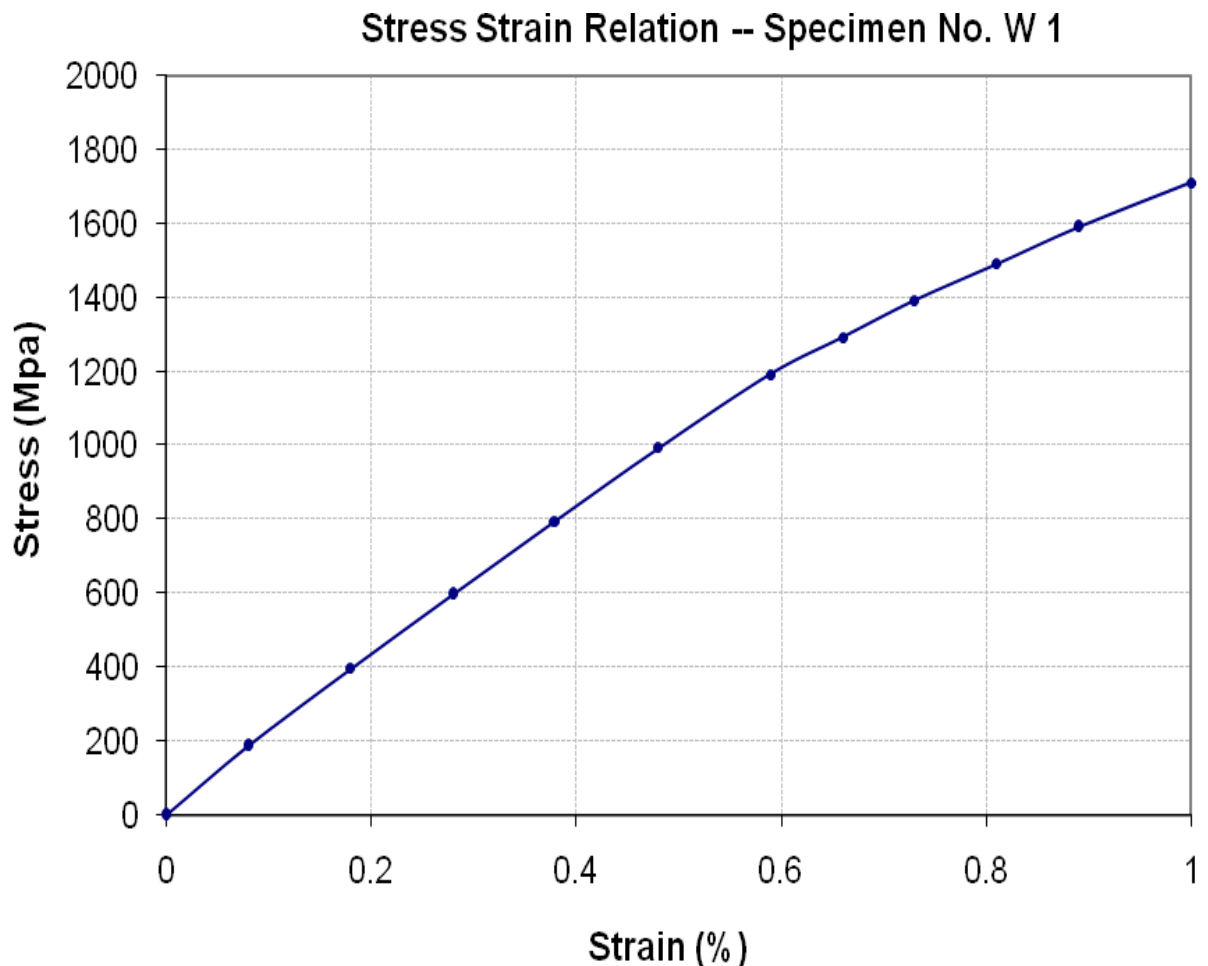
**STRUCTURAL ENGINEERING DIVISION**  
**Test Floor Laboratory**  
**Department of Civil Engineering**  
**University of Engineering and Technology Lahore, 54890**  
**Pakistan. Ph: 92-42-99029202**

To,  
Project Manager  
Rasheed & Brothers  
Victoria Square Mall, Saddar, Rawalpindi

Reference # CED/TFL **36270** (Dr. Qasim Khan)  
Reference of the request letter # VS-RWP-LMC/RE/21-001

Dated: 25-03-2021  
Dated: 25-03-2021

**Graph** (Page – 2/2)



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**University of Engineering and Technology Lahore, 54890**  
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To,  
 Construction Manager  
 Zameen Aurum  
 Construction of Zameen Aurum at Plot No. 15 Block, Gulberg-III, Main Feroze Pur Road,  
 Lahore

Reference # CED/TFL **36273** (Dr. Asad Ali)  
 Reference of the request letter # ZD/ZA/STR008

Dated: 25-03-2021  
 Dated: 25-03-2021

**Tension Test Report** (Page -1/1)

Date of Test 25-03-2021  
 Gauge length 8 inches  
 Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

| Sr. No.  | Weight<br>(lbs/ft) | Diameter/<br>Size |                  | Area<br>(in <sup>2</sup> ) |        | Yield load<br>(kg) | Breaking<br>Load<br>(kg) | Yield Stress<br>(psi) |        | Ultimate Stress<br>(psi) |        | Elongation<br>(inch) | % Elongation | Remarks |
|--|--------------------|-------------------|------------------|----------------------------|--------|--------------------|--------------------------|-----------------------|--------|--------------------------|--------|----------------------|--------------|---------|
|  |                    | Nominal<br>(#)    | Actual<br>(inch) | Nominal                    | Actual |                    |                          | Nominal               | Actual | Nominal                  | Actual |                      |              |         |
| 1  | 0.382              | 3                 | 0.378            | 0.11                       | 0.112  | 3260               | 4740                     | 65400                 | 63950  | 95000                    | 93000  | 1.20                 | 15.0         |         |
| 2  | 0.374              | 3                 | 0.374            | 0.11                       | 0.110  | 3360               | 4890                     | 67400                 | 67290  | 98000                    | 98000  | 1.30                 | 16.3         |         |
| -  | -                  | -                 | -                | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |         |
| -  | -                  | -                 | -                | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |         |
| -  | -                  | -                 | -                | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |         |
| -  | -                  | -                 | -                | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |         |
| <b>Note: only two samples for tensile and one sample for bend test</b> |                    |                   |                  |                            |        |                    |                          |                       |        |                          |        |                      |              |         |
| Bend Test  |                    |                   |                  |                            |        |                    |                          |                       |        |                          |        |                      |              |         |
| #3 Bar Bend Test Through 180° is Satisfactory                          |                    |                   |                  |                            |        |                    |                          |                       |        |                          |        |                      |              |         |
|  |                    |                   |                  |                            |        |                    |                          |                       |        |                          |        |                      |              |         |

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