



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

Ref: CED/TFL/12/2455

Dated: 15-12-2022

Dated of Test: 19-12-2022

To

**Assistant Director (QCD)**  
**WASA, LDA, Lahore**  
**(M/s Ali Rehman Punjab RCC Pipe Factory)**

**Subject: - CALIBRATION OF HYDRAULIC JACK WITH GAUGE**  
**(MARK: TFL/12/2455)**

Reference to your Letter No. QCD/2334-35, Dated: 28/11/2022 on the subject cited above. One Hydraulic Jack with Gauge as received by us has been calibrated. The results are tabulated as under:

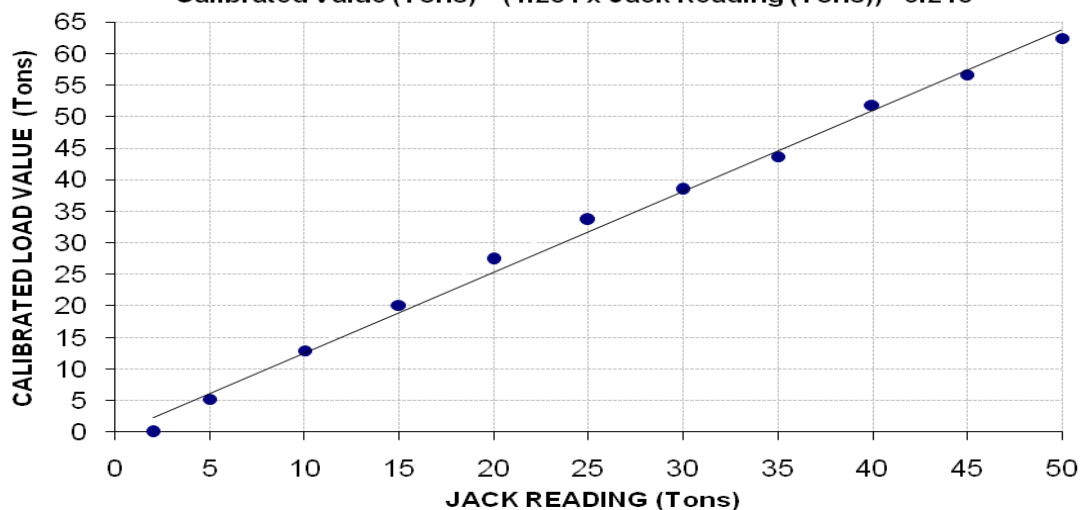
**Total Range : Zero - 80 (Ton)**  
**Calibrated Range : Zero - 50 (Ton)**

| Hydraulic Jack Reading (Ton) | 2     | 5 | 10   | 15    | 20    | 25    | 30    | 35    | 40    | 45    | 50    |       |
|------------------------------|-------|---|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Calibrated Load              | (kg)  | 0 | 4733 | 11733 | 18267 | 24933 | 30600 | 34933 | 39667 | 47067 | 51467 | 56667 |
|                              | (Ton) | 0 | 5.21 | 12.92 | 20.11 | 27.45 | 33.69 | 38.47 | 43.68 | 51.83 | 56.67 | 62.40 |

1000 kg = 1.1011 Ton

**Calibration Curve For Jack**

**Calibrated Value (Tons) = (1.281 x Jack Reading (Tons)) - 0.218**



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

Note:

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

To,

Deputy Manager Civil  
 Nishat Denim  
 "Construction of Dnim Plant Unit-67" Bhikki Sheikhrura

Reference # CED/TFL **2460** (Dr. Rizwan Azam)  
 Reference of the request letter # NML/Denim/009

Dated: 16-12-2022  
 Dated: 15-12-2022

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

Date of Test 19-12-2022  
 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>(mm) |        | 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  | 0.402              | 10                        | 9.85   | 0.12                       | 0.118  | 3700               | 5500                     | 67975                 | 69060  | 101044                   | 102700 | 1.10                 | 13.8         | Ittefaq Steel |
| 2  | 0.399              | 10                        | 9.81   | 0.12                       | 0.117  | 3700               | 5400                     | 67975                 | 69580  | 99207                    | 101600 | 1.50                 | 18.8         |               |
| -  | -                  | -                         | -      | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |               |
| -  | -                  | -                         | -      | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |               |
| -  | -                  | -                         | -      | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |               |
| -  | -                  | -                         | -      | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |               |
| <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                    |                    |                           |        |                            |        |                    |                          |                       |        |                          |        |                      |              |               |
|  |                    |                           |        |                            |        |                    |                          |                       |        |                          |        |                      |              |               |
|  |                    |                           |        |                            |        |                    |                          |                       |        |                          |        |                      |              |               |

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

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

To,

Sub Divisional Officer  
 Public Health Engg: Sub Divin:  
 Kamalia  
 (Provision of Tuff Tiles / PCC and Sewerage in Pir Mahal City District bT.T. Singh)

Reference # CED/TFL **2461** (Dr. Rizan Azam)  
 Reference of the request letter # 152/K

Dated: 16-12-2022  
 Dated: 15-11-2022

**Tension Test Report** (Page -1/2)

Date of Test 19-12-2022  
 Gauge length 8 inches  
 Description Deformed Steel Bar Tensile and Bend Test

| 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  | 0.093              | 3/16                        | 0.186  | -----                      | 0.027  | 1040               | 1240                     | -----                 | 84300  | -----                    | 100600 | 0.70                 | 8.8          |         |
| -  | -                  | -                           | -      | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |         |
| -  | -                  | -                           | -      | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |         |
| -  | -                  | -                           | -      | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |         |
| -  | -                  | -                           | -      | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |         |
| -  | -                  | -                           | -      | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |         |
| <b>Note: only one samples for tensile and one sample for bend test</b> |                    |                             |        |                            |        |                    |                          |                       |        |                          |        |                      |              |         |
| Bend Test  |                    |                             |        |                            |        |                    |                          |                       |        |                          |        |                      |              |         |
| 3/16" Dia Bar Bend Test Through 180° is Satisfactory                   |                    |                             |        |                            |        |                    |                          |                       |        |                          |        |                      |              |         |
|  |                    |                             |        |                            |        |                    |                          |                       |        |                          |        |                      |              |         |

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

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

To,

Sub Divisional Officer  
 Public Health Engg: Sub Divin:  
 Kamalia  
 (Drainage, Sewerage, Soling . Resoling, Tuff Tiles, Drains and Bridges (Puliyian) in Tehsil  
 Kamalia & Tehsil Pir Mahal District bT.T. Singh)

Reference # CED/TFL **2461** (Dr. Rizan Azam)  
 Reference of the request letter # 265/K

Dated: 16-12-2022  
 Dated: 19-11-2022

**Tension Test Report** (Page -2/2)

Date of Test 19-12-2022  
 Gauge length 8 inches  
 Description Deformed Steel Bar Tensile and Bend Test

| 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  | 0.104              | 3/16                        | 0.198  | -----                      | 0.031  | 1040               | 1280                     | -----                 | 74750  | -----                    | 92000  | 1.40                 | 17.5         |         |
| -  | -                  | -                           | -      | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |         |
| -  | -                  | -                           | -      | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |         |
| -  | -                  | -                           | -      | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |         |
| -  | -                  | -                           | -      | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |         |
| -  | -                  | -                           | -      | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |         |
| <b>Note: only one samples for tensile and one sample for bend test</b> |                    |                             |        |                            |        |                    |                          |                       |        |                          |        |                      |              |         |
| Bend Test  |                    |                             |        |                            |        |                    |                          |                       |        |                          |        |                      |              |         |
| 3/16" Dia Bar Bend Test Through 180° is Satisfactory                   |                    |                             |        |                            |        |                    |                          |                       |        |                          |        |                      |              |         |
|  |                    |                             |        |                            |        |                    |                          |                       |        |                          |        |                      |              |         |

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To,  
 Dy. Manager Q.A & Q.C  
 PIEDMC  
 Chunian Aqua Business Park, Chunian

Reference # CED/TFL **2462** (Dr. Rizan Azam)  
 Reference of the request letter # PIE.CABP/QAQC/MSL/14

Dated: 16-12-2022  
 Dated: 14-12-2022

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

Date of Test 19-12-2022  
 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  | 0.366              | 3                 | 0.370            | 0.11                       | 0.108  | 3600               | 4900                     | 72200                 | 73750  | 98200                    | 100400 | 1.20                 | 15.0         | FF<br>Steel |
| 2  | 0.366              | 3                 | 0.370            | 0.11                       | 0.108  | 3600               | 4900                     | 72200                 | 73790  | 98200                    | 100500 | 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                          |                    |                   |                  |                            |        |                    |                          |                       |        |                          |        |                      |              |             |
|  |                    |                   |                  |                            |        |                    |                          |                       |        |                          |        |                      |              |             |
|  |                    |                   |                  |                            |        |                    |                          |                       |        |                          |        |                      |              |             |

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

To,  
 Asst Dir Dev  
 Defence Housing Authority  
 Gujranwala  
 “Executive Block”

Reference # CED/TFL **2463** (Dr. Rizwan Azam)  
 Reference of the request letter # 111/15/AD/RS/Exec B/50

Dated: 16-12-2022  
 Dated: 16-12-2022

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

Date of Test 19-12-2022  
 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  | 3600               | 5400                     | 72200                 | 70700  | 108200                   | 106100 | 1.50                 | 18.8         | SJ<br>Steel |
| 2  | 0.375              | 3                 | 0.375            | 0.11                       | 0.110  | 3600               | 5600                     | 72200                 | 72030  | 112300                   | 112100 | 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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**Pakistan. Ph: 92-42-99029202**

To,  
 Planning & Coordination Engineer  
 REDO Engineering & Construction (Pvt) Ltd.  
 CPD Shed Civil Works Kasur

Reference # CED/TFL **2464** (Dr. Rizwan Azam)  
 Reference of the request letter # Nil

Dated: 16-12-2022  
 Dated: 16-12-2022

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

Date of Test 19-12-2022  
 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  | 0.374              | 3                 | 0.374            | 0.11                       | 0.110  | 3700               | 4700                     | 74200                 | 74200  | 94200                    | 94300  | 1.20                 | 15.0         |         |
| 2  | 0.374              | 3                 | 0.374            | 0.11                       | 0.110  | 3800               | 4700                     | 76200                 | 76220  | 94200                    | 94300  | 1.40                 | 17.5         |         |
| -  | -                  | -                 | -                | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |         |
| -  | -                  | -                 | -                | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |         |
| -  | -                  | -                 | -                | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |         |
| -  | -                  | -                 | -                | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |         |
| <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**  
**UET Lahore, Pakistan.**

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

To,  
 Construction Manager  
 Zameen Quadrangle  
 Construction of Zameen Quadrangle at Plot No. 49 Gulberg-V, Zafar Ali Road, Lahore

Reference # CED/TFL **2465** (Dr. Rizwan Azam)  
 Reference of the request letter # ZD/ZQ/GSW/041

Dated: 16-12-2022  
 Dated: 14-12-2022

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

Date of Test 19-12-2022  
 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  | 0.396              | 3                 | 0.385            | 0.11                       | 0.116  | 3200               | 5100                     | 64200                 | 60660  | 102200                   | 96700  | 1.40                 | 17.5         | SJ Steel |
| 2  | 0.363              | 3                 | 0.369            | 0.11                       | 0.107  | 3000               | 4900                     | 60200                 | 61970  | 98200                    | 101300 | 1.40                 | 17.5         |          |
| -  | -                  | -                 | -                | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |          |
| -  | -                  | -                 | -                | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |          |
| -  | -                  | -                 | -                | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |          |
| -  | -                  | -                 | -                | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |          |
| <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 Laboratoires**  
**UET Lahore, Pakistan.**

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- 2- The above results pertain to sample /samples supplied to this laboratory.
- 3- Sealed sample / Unsealed sample / Marked sample/Signed Samples





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

To,

Assistant Engineer  
 Local Govt. & Community Dev.  
 Civil Sub Division, Sahiwal  
 (Construction of Sher-e-Khamoshan Model Graveyard Tehsil & District Sahiwal)

Reference # CED/TFL **2466** (Dr. Rizan Azam)  
 Reference of the request letter # AE/LG&CD/SWL/129

Dated: 16-12-2022  
 Dated: 08-12-2022

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

Date of Test 19-12-2022  
 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  | 0.369              | 3/8                         | 0.371  | 0.11                       | 0.108  | 3800               | 4800                     | 76200                 | 77270  | 96200                    | 97700  | 0.90                 | 11.3         |         |
| 2  | 0.363              | 3/8                         | 0.369  | 0.11                       | 0.107  | 4000               | 4900                     | 80200                 | 82540  | 98200                    | 101200 | 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                    |                    |                             |        |                            |        |                    |                          |                       |        |                          |        |                      |              |         |
|  |                    |                             |        |                            |        |                    |                          |                       |        |                          |        |                      |              |         |

**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,

Resident Engineer  
 Associates Consulting Engineers ACE Limited  
 Construction Works of Residence Apartments / Buildings at New Campus of GC  
 University Lahore at KSK

Reference # CED/TFL **2467** (Dr. Rizan Azam)  
 Reference of the request letter # RE/GCU(KSK)/T-1020/12

Dated: 16-12-2022  
 Dated: 08-12-2022

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

Date of Test 19-12-2022  
 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  | 0.365              | 3                 | 0.369            | 0.11                       | 0.107  | 3400               | 5100                     | 68200                 | 69900  | 102200                   | 104900 | 1.20                 | 15.0         | SJ<br>Steel |
| 2  | 0.371              | 3                 | 0.372            | 0.11                       | 0.109  | 3400               | 5200                     | 68200                 | 68780  | 104200                   | 105200 | 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                          |                    |                   |                  |                            |        |                    |                          |                       |        |                          |        |                      |              |             |
|  |                    |                   |                  |                            |        |                    |                          |                       |        |                          |        |                      |              |             |

**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,  
 Ameen Firdous  
 Civil Engineer & Technologies  
 Prime Builders

Reference # CED/TFL **2470** (Dr. Irfan ul Hussan)  
 Reference of the request letter # PB-019/012/2022

Dated: 19-12-2022  
 Dated: 19-12-2022

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

Date of Test 19-12-2022  
 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   | 0.386              | 3                 | 0.380            | 0.11                       | 0.113  | 3360               | 5070                     | 67400                 | 65330  | 101600                   | 98600  | 1.30                 | 16.3         |         |
| 2   | 0.390              | 3                 | 0.382            | 0.11                       | 0.115  | 3360               | 5010                     | 67400                 | 64670  | 100400                   | 96500  | 1.50                 | 18.8         |         |
| -   | -                  | -                 | -                | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |         |
| -   | -                  | -                 | -                | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |         |
| -   | -                  | -                 | -                | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |         |
| -   | -                  | -                 | -                | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |         |
| <b>Note: only two samples for tensile and two samples for bend test</b> |                    |                   |                  |                            |        |                    |                          |                       |        |                          |        |                      |              |         |
| Bend Test   |                    |                   |                  |                            |        |                    |                          |                       |        |                          |        |                      |              |         |
| #3 Bar Bend Test Through 180° is Satisfactory                           |                    |                   |                  |                            |        |                    |                          |                       |        |                          |        |                      |              |         |
|   |                    |                   |                  |                            |        |                    |                          |                       |        |                          |        |                      |              |         |
|   |                    |                   |                  |                            |        |                    |                          |                       |        |                          |        |                      |              |         |

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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,

Sub Divisional Officer  
 Highway Sub Division  
 Depalpur  
 (Rehabilitation of Depalpur – Haveli Lakha Road via Bhuman Shah & Wasawala Length  
 = 24.50 km Tehsil Depalpur District Okara.)

Reference # CED/TFL 2474 (Dr. Rizan Azam)  
 Reference of the request letter # 441/D

Dated: 19-12-2022  
 Dated: 10-12-2022

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

Date of Test 19-12-2022  
 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   | 0.378              | 3                 | 0.376            | 0.11                       | 0.111  | 3600               | 4500                     | 72200                 | 71480  | 90200                    | 89400  | 1.00                 | 12.5         |         |
| 2   | 0.376              | 3                 | 0.375            | 0.11                       | 0.111  | 3900               | 4900                     | 78200                 | 77730  | 98200                    | 97700  | 1.00                 | 12.5         |         |
| -   | -                  | -                 | -                | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |         |
| -   | -                  | -                 | -                | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |         |
| -   | -                  | -                 | -                | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |         |
| -   | -                  | -                 | -                | -                          | -      | -                  | -                        | -                     | -      | -                        | -      | -                    | -            |         |
| <b>Note: only two samples for tensile and two samples for bend test</b> |                    |                   |                  |                            |        |                    |                          |                       |        |                          |        |                      |              |         |
| Bend Test   |                    |                   |                  |                            |        |                    |                          |                       |        |                          |        |                      |              |         |
| #3 Bar Bend Test Through 180° is Satisfactory                           |                    |                   |                  |                            |        |                    |                          |                       |        |                          |        |                      |              |         |
|   |                    |                   |                  |                            |        |                    |                          |                       |        |                          |        |                      |              |         |

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