

STRUCTURAL ENGINEERING DIVISION

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

To,

M/S Defence Housing Authority.

Lahore Cantt

(Const. of OHWT & Tube Well X-Block Ph-III)(M/s N.A. Associates)

Reference # CED/TFL **32397** (Dr. Usman Akmal) Dated: 09-01-2019 Reference of the request letter # 408/241/E/Lab/401/629 Dated: 09-01-2019

Tension Test Report (Page -1/1)

Date of Test 10-01-2019 Gauge length 8 inches

Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

| Sr. No. | Diameter/ | | | rea n²) | Yield load | Breaking Load | | Stress si) | | e Stress si) | Elongation | % Elongation | Remarks | |
|---------|---|-------------|---------------|------------|------------|------------------|------|---------------|--------|-----------------|------------|--------------|---------|------------------|
| S | (lbs/ft) | Nominal (#) | Actual (inch) | Nominal | Actual | (kg) | (kg) | Nominal | Actual | Nominal | Actual | (inch) | % E | Re |
| 1 | 0.376 | 3 | 0.375 | 0.11 | 0.110 | 3400 | 5400 | 68200 | 67870 | 108200 | 107800 | 1.10 | 13.8 | Ittefaq Steel |
| 2 | 0.382 | 3 | 0.378 | 0.11 | 0.112 | 3450 | 5400 | 69200 | 67650 | 108200 | 105900 | 1.10 | 13.8 | Ittefaq Steel |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| | Note: only two samples for tensile and one sample for bend test | | | | | | | | | | | | | |
| | Bend Test | | | | | | | | | | | | | |
| #3 | #3 Bar Bend Test Through 180° is Satisfactory | | | | | | | | | | | | | |

I/C Testing Laboratoires UET Lahore, Pakistan.

- 1- You can See your reports On Internet in the following web site http://www.uet.edu.pk/faculties/facultiesinfo/civil/index.html?RID=testing_reports
- 2. The above results pertain to sample /samples supplied to this laboratory.
- 3- Sealed sample / Unsealed sample / Marked sample/Signed Samples



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

To, Executive Director Emerging Health International Construction of Noor Care Hospital, Rajanpur

Reference # CED/TFL **32389** (Dr. Usman Akmal)

Reference of the request letter # Nil

Dated: 09-01-2019

Dated: 07-01-2019

Tension Test Report (Page -1/1)

Date of Test 10-01-2019 Gauge length 8 inches

Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

| Sr. No. | r. No. Weight | | Diameter/ Size (inch) | | Size | | Size | | Size | | Size | | Size | | Size | | Size | | Size | | Size | | Size | | Size | | Size | | Size | | Size | | Size | | Size | | Size Area (in^2) | | | Yield load | Breaking Load | | Stress si) | | e Stress si) | Elongation | % Elongation | Remarks |
|---------|---|---------|-----------------------------|---------|----------|-----------|-----------|---------|-----------|-----------|--------|--------|------|----|------|--|------|--|------|--|------|--|------|--|------|--|------|--|------|--|------|--|------|--|------|--|--------------------|--|--|------------|------------------|--|---------------|--|-----------------|------------|--------------|---------|
| S | (lbs/ft) | Nominal | Actual | Nominal | Actual | (kg) | (kg) | Nominal | Actual | Nominal | Actual | (inch) | % E | Re | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 0.434 | 3/8 | 0.403 | 0.11 | 0.128 | 4800 | 5950 | 96200 | 82890 | 119300 | 102800 | 0.90 | 11.3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - | - | - | - | • | - | • | - | • | - | - | • | - | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - | - | - | - | • | - | • | - | • | - | - | - | - | • | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | N | ote: on | ly one s | sample fo | r tensile | and one | sample fo | or bend t | est | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Bend T | est | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3/8 | 3/8" Dia Bar Bend Test Through 180° is Satisfactory | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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STRUCTURAL ENGINEERING DIVISION

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To,
Garrison Engineer (A) Const
Lahore Cantt
(Oncology Department)(Karachi Steel)

Reference # CED/TFL **32399** (Dr. Usman Akmal) Dated: 09-01-2019 Reference of the request letter # 6000/XY/E6 Dated: 07-01-2019

Tension Test Report (Page -1/1)

Date of Test 10-01-2019 Gauge length 8 inches

Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

| Sr. No. Weight | | Diameter/ Size | | | | | $egin{array}{c} { m Yield\ load} \\ { m Breaking} \\ { m Load} \\ \end{array}$ | | Breaking Load | Yield Stress (psi) | | Ultimate Stress (psi) | | Elongation | % Elongation | Remarks |
|-------------------|---|-------------------|---------------|---------|----------|----------|--|---------|------------------|-----------------------|--------|--------------------------|------------|------------|--------------|---------|
| S | (1J/sqI) | Nominal (#) | Actual (inch) | Nominal | Actual | (kg) | (kg) | Nominal | Actual | Nominal | Actual | (inch) | ∃ % | R | | |
| 1 | 0.371 | 3 | 0.373 | 0.11 | 0.109 | 2900 | 4500 | 58200 | 58560 | 90200 | 90900 | 1.30 | 16.3 | | | |
| 2 | 0.369 | 3 | 0.372 | 0.11 | 0.109 | 2850 | 4500 | 57200 | 57870 | 90200 | 91400 | 1.40 | 17.5 | | | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | |
| - | - | - | | • | - | - | - | - | - | - | - | - | • | | | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | |
| | | | N | ote: on | ly two s | amples f | or tensile | and one | sample f | or bend | test | | | | | |
| | | | | | | | | | | | | | | | | |
| | Bend Test | | | | | | | | | | | | | | | |
| #3 | #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.

Resident Engineer, Cardiology

AZ Engineering Associates, Multan Resideny, Multan

Construction of New OPD & Inpatient Block CPE Institute of Cardiology Multan (Group No. 1)

Reference # CED/TFL **32400** (Dr. Usman Akmal)

Reference of the request letter # RE/AZEA/Multan/414

Dated: 09-01-2019

Dated: 07-01-2019

Tension Test Report (Page -1/1)

Date of Test 10-01-2019 Gauge length 8 inches

Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

| Sr. No. | Weight | Diameter/ Size (inch) | | Area (in²) | | Yield load | Breaking Load | Yield Stress (psi) | | Ultimate Stres (psi) | | Elongation | % Elongation | Remarks |
|---------|---|-----------------------|---------|---------------|------------|------------|------------------|-----------------------|----------|-------------------------|--------|------------|--------------|---------|
| S | (lbs/ft) | Nominal | Actual | Nominal | Actual | (kg) | (kg) | Nominal | Actual | Nominal | Actual | (inch) | % E | Ŗ |
| 1 | 0.379 | 3/8 | 0.376 | 0.11 | 0.111 | 3200 | 4900 | 64200 | 63370 | 98200 | 97100 | 1.20 | 15.0 | |
| 2 | 0.401 | 3/8 | 0.387 | 0.11 | 0.118 | 3600 | 5400 | 72200 | 67350 | 108200 | 101100 | 0.80 | 10.0 | |
| 3 | 0.376 | 3/8 | 0.375 | 0.11 | 0.111 | 3400 | 5200 | 68200 | 67740 | 104200 | 103700 | 0.80 | 10.0 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| | | | Note | e: only | three sa | amples fo | r tensile | and thre | e sample | s for ben | d test | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | Bend T | est | | | | | | |
| 3/8 | " Dia Ba | ır Bend | Test Th | rough | 180° is \$ | Satisfacto | ry | | | | | | | |
| 3/8 | 3/8" Dia Bar Bend Test Through 180° is Satisfactory | | | | | | | | | | | | | |
| 3/8 | 3/8" Dia 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, Resident Engineer Mascon Associates (Pvt) Ltd Musfir Khana (Badami Bagh Fruit & Veg. Market)

Reference # CED/TFL **32402** (Dr. Usman Akmal) Dated: 09-01-2019 Reference of the request letter # MASC-RE/PG/18/5038 Dated: 09-01-2019

Tension Test Report (Page -1/1)

Date of Test 10-01-2019 Gauge length 8 inches

Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

| Sr. No. | Diameter/ | | | rea n ²) | Yield load | Breaking Load | | Stress si) | | e Stress si) | Elongation | % Elongation | Remarks | |
|---------|-----------|-------------|---------------|-------------------------|------------|------------------|------------|---------------|----------|-----------------|------------|--------------|---------|----|
| S | (lbs/ft) | Nominal (#) | Actual (inch) | Nominal | Actual | (kg) | (kg) | Nominal | Actual | Nominal | Actual | (inch) | % E | Re |
| 1 | 0.363 | 3 | 0.368 | 0.11 | 0.107 | 4100 | 5100 | 82200 | 84780 | 102200 | 105500 | 0.80 | 10.0 | |
| 2 | 0.367 | 3 | 0.370 | 0.11 | 0.108 | 4400 | 5300 | 88200 | 90020 | 106200 | 108500 | 0.90 | 11.3 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| | | | N | ote: on | ly two s | amples f | or tensile | and one | sample f | or bend t | test | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | Bend T | est | | | | | | |
| #3 | Bar Ben | d Test | Γhrough | 180° is | s Satisfa | ctory | | | | | | | | |
| | | | | | | | | | | | | | | |

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