



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
 NESPAK
 Development of Kartarpur Corridor

Reference # CED/TFL **33121** (Dr. Usman Akmal)

Dated: 22-04-2019

Reference of the request letter # SA-394/DKC/G.I-Pipe. Test/NA/68

Dated: 21-04-2019

Tension Test Report (Page – 1/2)

Date of Test 02-05-2019
 Gauge length 2 inches
 Description GI Pipe Steel Strip Tensile Test

| Sr. No. | Designation | Size of Strip | X Section Area | Yield load | Breaking Load | Yield Stress | Ultimate Stress | Elongation | % Elongation | Remarks |
|--|-------------|---------------|--------------------|------------|---------------|--------------|-----------------|------------|--------------|---------|
| | (inch) | (mm) | (mm ²) | (kg) | (kg) | (MPa) | (MPa) | (in) | | |
| 1 | 3.50 | 28.90x6.00 | 173.40 | 5700 | 8400 | 322.47 | 475.22 | 0.60 | 30.00 | |
| 2 | 3.50 | 29.00x6.00 | 174.00 | 5700 | 8200 | 321.36 | 462.31 | 0.50 | 25.00 | |
| - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | |
| Only Two Samples for Tensile Test | | | | | | | | | | |
| | | | | | | | | | | |
| Bend Test | | | | | | | | | | |
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Note:

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To,
Resident Engineer
NESPAK
Development of Kartarpur Corridor

Reference # CED/TFL **33121** (Dr. Usman Akmal)
Reference of the request letter # SA-394/DKC/G.I-Pipe. Test/NA/68

Dated: 22-04-2019
Dated: 21-04-2019

Weight & Size Test Report (Page – 2/2)

Date of Test 02-05-2019
Gauge length -----
Description Galvanized Angle Iron Weight and Size Test

| Sr. No. | Designation | Weight | Length | Weight per Unit Length | L-1 | L-2 | Thickness | Remark |
|---------------------------------|-------------------------------------|--------|--------|------------------------|-------|-------|-----------|--------|
| | (inch) | (g) | (mm) | (kg/m) | (mm) | (mm) | (mm) | |
| 1 | 1 ¹ / ₂ x3/16 | 166 | 58.65 | 2.83 | 28.00 | 29.25 | 4.50 | |
| - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | |
| Only One Sample for Test | | | | | | | | |

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To,
M/S Defence Housing Authority.
Lahore Cantt
(Infra Dev Works Prism-9, Pkg-II, III & IV)(M/s NLC)

Reference # CED/TFL **33138** (Dr. Usman Akmal)
Reference of the request letter # 408/241/E/Lab/537/1096

Dated: 24-04-2019
Dated: 18-04-2019

Tension Test Report (Page -1/2)

Date of Test 02-05-2019
Gauge length 8 inches
Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

| Sr. No. | Weight (lbs/ft) | Diameter/ size | | Area (in ²) | | Yield load (kg) | Breaking Load (kg) | Yield Stress (psi) | | Ultimate Stress (psi) | | Elongation (inch) | % Elongation | Remarks |
|--|--------------------|-------------------|------------------|----------------------------|--------|--------------------|--------------------------|-----------------------|--------|--------------------------|--------|----------------------|--------------|-------------|
| | | Nominal (#) | Actual (inch) | Nominal | Actual | | | Nominal | Actual | Nominal | Actual | | | |
| 1 | 0.372 | 3 | 0.373 | 0.11 | 0.109 | 3400 | 5600 | 68200 | 68450 | 112300 | 112800 | 1.00 | 12.5 | Kisan Steel |
| 2 | 0.371 | 3 | 0.373 | 0.11 | 0.109 | 3600 | 5700 | 72200 | 72700 | 114300 | 115100 | 1.00 | 12.5 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| Note: only two samples for tensile and one sample for bend test | | | | | | | | | | | | | | |
| Bend Test | | | | | | | | | | | | | | |
| #3 Bar Bend Test Through 180° is Satisfactory | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
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To,
M/S Defence Housing Authority.
Lahore Cantt
(Infra Dev Works Prism-9, Pkg-II, III & IV)(M/s NLC)

Reference # CED/TFL **33138** (Dr. Usman Akmal)
Reference of the request letter # 408/241/E/Lab/543/1150

Dated: 24-04-2019
Dated: 23-04-2019

Tension Test Report (Page -2/2)

Date of Test 02-05-2019
Gauge length 8 inches
Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

| Sr. No. | Weight (lbs/ft) | Diameter/ size | | Area (in ²) | | Yield load (kg) | Breaking Load (kg) | Yield Stress (psi) | | Ultimate Stress (psi) | | Elongation (inch) | % Elongation | Remarks |
|--|--------------------|-------------------|------------------|----------------------------|--------|--------------------|--------------------------|-----------------------|--------|--------------------------|--------|----------------------|--------------|-------------|
| | | Nominal (#) | Actual (inch) | Nominal | Actual | | | Nominal | Actual | Nominal | Actual | | | |
| 1 | 4.283 | 10 | 1.266 | 1.27 | 1.259 | 36200 | 62200 | 62900 | 63380 | 108000 | 109000 | 1.10 | 13.8 | Kisan Steel |
| 2 | 4.300 | 10 | 1.269 | 1.27 | 1.264 | 36400 | 62800 | 63200 | 63470 | 109000 | 109600 | 1.10 | 13.8 | |
| 3 | 5.343 | 11 | 1.414 | 1.56 | 1.571 | 46000 | 73800 | 65000 | 64560 | 104300 | 103600 | 1.40 | 17.5 | |
| 4 | 5.337 | 11 | 1.413 | 1.56 | 1.569 | 47400 | 74000 | 67000 | 66600 | 104600 | 104000 | 1.20 | 15.0 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| Note: only Four samples for tensile and two samples for bend test | | | | | | | | | | | | | | |
| Bend Test | | | | | | | | | | | | | | |
| #10 Bar Bend Test Through 180° is Satisfactory | | | | | | | | | | | | | | |
| #11 Bar Bend Test Through 180° is Satisfactory | | | | | | | | | | | | | | |

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To,
 Resident Engineer
 NESPAK – Zeeruk (Jv)
 CPEC (Western Route), Package-II, Isakhel

Reference # CED/TFL **33140** (Dr. M Rizwan Riaz)
 Reference of the request letter # RE/NESPAK/P-2/CPEC-WR/355

Dated: 24-04-2019
 Dated: 21-04-2019

Tension Test Report (Page – 1/5)

Date of Test 02-05-2019
 Gauge length 2 inches
 Description Steel Structure Steel Strip Tensile Test as per ASTM A-36

| Sr. No. | Designation | | Size of Strip | X Section Area | Yield load | Breaking Load | Yield Stress | Ultimate Stress | Elongation | % Elongation | Remarks |
|--|-------------|-----------------|---------------|----------------|------------|---------------|--------------|-----------------|------------|--------------|---------|
| | | | | | | | | | | | |
| 1 | H-Beam | 14"x14"x18x12mm | 26.50x18.20 | 482.30 | 12000 | 21000 | 244.08 | 427.14 | 0.90 | 45.00 | |
| 2 | | 14"x14"x18x12mm | 26.20x18.40 | 482.08 | 12600 | 21100 | 256.40 | 429.37 | 1.00 | 50.00 | |
| 3 | H-Beam | 6"x6" | 25.70x10.50 | 269.85 | 9500 | 17100 | 345.36 | 621.65 | 0.55 | 27.50 | |
| 4 | | 6"x6" | 25.60x10.40 | 266.24 | 9900 | 16700 | 364.78 | 615.34 | 0.70 | 35.00 | |
| 5 | I-Beam | 16"x6" | 25.60x12.50 | 320.00 | 10500 | 18000 | 321.89 | 551.81 | 0.65 | 32.50 | |
| 6 | | 16"x6" | 25.70x11.50 | 295.55 | 10100 | 17100 | 335.24 | 567.59 | 0.70 | 35.00 | |
| 7 | I-Beam | 14"x6" | 26.00x13.20 | 343.20 | 10300 | 18900 | 294.41 | 540.24 | 0.75 | 37.50 | |
| 8 | | 14"x6" | 25.80x13.00 | 335.40 | 10600 | 18200 | 310.04 | 532.33 | 0.75 | 37.50 | |
| 9 | MS Angle | 50x50x6.4mm | 24.00x7.10 | 170.40 | 5000 | 11100 | 287.85 | 639.03 | 0.55 | 27.50 | |
| 10 | | 50x50x6.4mm | 24.00x6.70 | 160.80 | 5500 | 10200 | 335.54 | 622.28 | 0.40 | 20.00 | |
| Only Ten Samples for Tensile Test | | | | | | | | | | | |
| Bend Test | | | | | | | | | | | |
| | | | | | | | | | | | |
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Pakistan. Ph: 92-42-99029202

To,
 Resident Engineer
 NESPAK – Zeeruk (Jv)
 CPEC (Western Route), Package-II, Isakhel

Reference # CED/TFL **33140** (Dr. M Rizwan Riaz)
 Reference of the request letter # RE/NESPAK/P-2/CPEC-WR/355

Dated: 24-04-2019
 Dated: 21-04-2019

Tension Test Report (Page – 2/5)

Date of Test 02-05-2019
 Gauge length 2 inches
 Description Steel Structure Steel Strip Tensile Test as per ASTM A-36

| Sr. No. | Designation | | Size of Strip | X Section Area | Yield load | Breaking Load | Yield Stress | Ultimate Stress | Elongation | % Elongation | Remarks |
|--|------------------|-------------|---------------|----------------|------------|---------------|--------------|-----------------|------------|--------------|---------|
| | | | | | | | | | | | |
| 1 | MS Angle | 38x38x6.4mm | 13.00x3.50 | 45.50 | 1700 | 2300 | 366.53 | 495.89 | 0.20 | 10.00 | |
| 2 | | 38x38x6.4mm | 13.20x3.50 | 46.20 | 1500 | 2600 | 318.51 | 552.08 | 0.15 | 7.50 | |
| 3 | C-Channel | 125x63mm | 25.60x4.00 | 102.40 | 3200 | 5500 | 306.56 | 526.90 | 0.60 | 30.00 | |
| 4 | | 125x63mm | 25.70x3.60 | 92.52 | 3100 | 5000 | 328.70 | 530.16 | 0.60 | 30.00 | |
| 5 | Corrugated Sheet | 22 SWG | 26.40x0.70 | 18.48 | ----- | 340 | ----- | 180.49 | 0.70 | 35.00 | |
| 6 | | 22 SWG | 26.30x0.70 | 18.41 | ----- | 560 | ----- | 298.40 | 0.70 | 35.00 | |
| 7 | Corrugated Sheet | 26 SWG | 26.50x0.50 | 13.25 | ----- | 200 | ----- | 148.08 | 0.50 | 25.00 | |
| 8 | | 26 SWG | 26.30x0.50 | 13.15 | ----- | 320 | ----- | 238.72 | 0.40 | 20.00 | |
| Only Eight Samples for Tensile Test | | | | | | | | | | | |
| Bend Test | | | | | | | | | | | |
| | | | | | | | | | | | |
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To,
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CPEC (Western Route), Package-II, Isakhel

Reference # CED/TFL **33140** (Dr. M Rizwan Riaz)
Reference of the request letter # RE/NESPAK/P-2/CPEC-WR/355

Dated: 24-04-2019
Dated: 21-04-2019

Weight & Size Test Report (Page – 3/5)

Date of Test 02-05-2019
Gauge length -----
Description H-Beam, I-Beam & C-Channel Weight and Size Test

| Sr. No. | Designation | | Weight | Length | Weight per Unit Length | Depth (d) | Flange Width (b _f) | Flange Thickness (t _f) | Web Thickness (t _w) | Remark |
|-----------------------------------|-------------|-----------------|--------|--------|------------------------|-----------|--------------------------------|------------------------------------|---------------------------------|--------|
| | (mm) | | (g) | (cm) | (kg/m) | mm | mm | mm | mm | |
| 1 | H-Beam | 6"x6" | 20000 | 60.20 | 33.22 | 1500.00 | 1501.00 | 10.70 | 8.50 | |
| 2 | H-Beam | 14"x14"x18x12mm | 78400 | 60.20 | 130.23 | 350.00 | 350.00 | 19.00 | 11.70 | |
| 3 | I-Beam | 16"x6" | 50350 | 55.20 | 91.21 | 405.00 | 152.00 | 25.100 | 12.100 | |
| 4 | I-Beam | 14"x6" | 54050 | 69.6 | 77.66 | 356.00 | 153.00 | 19.30 | 12.40 | |
| 5 | C-Channel | 125x63mm | 6300 | 60.80 | 10.36 | 125.00 | 66.00 | 7.00 | 4.40 | |
| - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | |
| Only Five Samples for Test | | | | | | | | | | |
| | | | | | | | | | | |

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To,
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NESPAK – Zeeruk (Jv)
CPEC (Western Route), Package-II, Isakhel

Reference # CED/TFL **33140** (Dr. M Rizwan Riaz)
Reference of the request letter # RE/NESPAK/P-2/CPEC-WR/355

Dated: 24-04-2019
Dated: 21-04-2019

Weight & Size Test Report (Page – 4/5)

Date of Test 02-05-2019
Gauge length -----
Description MS Angle Weight and Size Test

| Sr. No. | Designation | Weight | Length | Weight per Unit Length | L-1 | L-2 | Thickness (t) | Remark |
|----------------------------------|-------------|--------|--------|------------------------|-------|-------|---------------|--------|
| | (mm) | (g) | (cm) | (kg/m) | (mm) | (mm) | (mm) | |
| 1 | 50x50x6.40 | 5000 | 100.00 | 5.00 | 53.20 | 51.00 | 7.20 | |
| 2 | 38x38x6.40 | 1800 | 100.00 | 1.80 | 35.70 | 35.90 | 3.50 | |
| - | - | - | - | - | | - | - | |
| - | - | - | - | - | | - | - | |
| - | - | - | - | - | | - | - | |
| - | - | - | - | - | | - | - | |
| - | - | - | - | - | | - | - | |
| - | - | - | - | - | | - | - | |
| Only Two Samples for Test | | | | | | | | |
| | | | | | | | | |

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To,
Resident Engineer
NESPAK – Zeeruk (Jv)
CPEC (Western Route), Package-II, Isakhel

Reference # CED/TFL **33140** (Dr. M Rizwan Riaz)
Reference of the request letter # RE/NESPAK/P-2/CPEC-WR/355

Dated: 24-04-2019
Dated: 21-04-2019

Weight & Size Test Report (Page – 5/5)

Date of Test 02-05-2019
Gauge length -----
Description Corrugated Sheet Weight and Size Test

| Sr. No. | Designation | Weight | Length | Width (b) | Weight per Unit Area | Thickness (t) | Remark |
|----------------------------------|-------------|--------|--------|-----------|----------------------|---------------|--------|
| | (SWG) | (g) | (cm) | (cm) | (kg/m) | (mm) | |
| 1 | 26 | 2500 | 61.00 | 122.20 | 3.35 | 0.46 | |
| 2 | 22 | 4000 | 62.20 | 122.30 | 5.26 | 0.75 | |
| - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | |
| Only Two Samples for Test | | | | | | | |
| | | | | | | | |

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To,
Resident Engineer
Al-Imam Enterprises Pvt. Ltd
Construction of Gold Crest Mall and Residency Phase 4, DHA Lahore

Reference # CED/TFL **33154** (Dr. Usman Akmal)

Dated: 26-04-2019

Reference of the request letter # Al-Imam/01/GIGA/DHA/LHE/769

Dated: 26-04-2019

Weight & Size Test Report (Page – 1/1)

Date of Test 02-05-2019

Gauge length -----

Description MS Pipe Weight and Size Test

| Sr. No. | Designation | Weight | Length | Weight per Unit Length | External Diameter | Internal Diameter | Thickness | Remark |
|------------------------------------|-------------|--------|--------|------------------------|-------------------|-------------------|-----------|--------|
| | (inch) | (g) | (mm) | (kg/m) | (mm) | (mm) | (mm) | |
| 1 | 1.50 | 1171 | 296.00 | 3.96 | 48.20 | 40.80 | 3.70 | |
| 2 | 2.00 | 1528 | 294.70 | 5.18 | 60.80 | 52.80 | 4.00 | |
| 3 | 2.50 | 2465 | 296.30 | 8.32 | 73.30 | 63.30 | 5.00 | |
| - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | |
| Only Three Samples for Test | | | | | | | | |

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To,
M/S Pak Arab Services
Bahawalpur

Reference # CED/TFL **33160** (Dr. Usman Akmal)
Reference of the request letter # 117/19

Dated: 29-04-2019
Dated: 29-04-2019

Tension Test Report (Page -1/1)

Date of Test 02-05-2019
Gauge length 8 inches
Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

| Sr. No. | Weight (lbs/ft) | Diameter/ Size (inch) | | Area (in ²) | | Yield load (kg) | Breaking Load (kg) | Yield Stress (psi) | | Ultimate Stress (psi) | | Elongation (inch) | % Elongation | Remarks |
|---|--------------------|-----------------------------|--------|----------------------------|--------|--------------------|--------------------------|-----------------------|--------|--------------------------|--------|----------------------|--------------|---------|
| | | Nominal | Actual | Nominal | Actual | | | Nominal | Actual | Nominal | Actual | | | |
| 1 | 0.370 | 3/8 | 0.372 | 0.11 | 0.109 | 2200 | 3100 | 44100 | 44530 | 62200 | 62800 | 1.90 | 23.8 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| Note: only one sample for tensile and one sample for bend test | | | | | | | | | | | | | | |
| Bend Test | | | | | | | | | | | | | | |
| 3/8" Dia Bar Bend Test Through 180° is Satisfactory | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |

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

To,
 Asim Riaz Hashmat Khan
 Lahore

Reference # CED/TFL **33161** (Dr. Usman Akmal)
 Reference of the request letter # Nil

Dated: 29-04-2019
 Dated: 29-04-2019

Tension Test Report (Page -1/1)

Date of Test 02-05-2019
 Gauge length 8 inches
 Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

| Sr. No. | Weight (lbs/ft) | Diameter/ Size | | Area (in ²) | | Yield load (kg) | Breaking Load (kg) | Yield Stress (psi) | | Ultimate Stress (psi) | | Elongation (inch) | % Elongation | Remarks |
|---|--------------------|-------------------|------------------|----------------------------|--------|--------------------|--------------------------|-----------------------|--------|--------------------------|--------|----------------------|--------------|---------|
| | | Nominal (#) | Actual (inch) | Nominal | Actual | | | Nominal | Actual | Nominal | Actual | | | |
| 1 | 0.371 | 3 | 0.373 | 0.11 | 0.109 | 3900 | 5000 | 78200 | 78830 | 100200 | 101100 | 1.00 | 12.5 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| Note: only one sample for tensile and one sample for bend test | | | | | | | | | | | | | | |
| Bend Test | | | | | | | | | | | | | | |
| #3 Bar Bend Test Through 180° is Satisfactory | | | | | | | | | | | | | | |
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I/C Testing Laboratories
UET Lahore, Pakistan.

Note:

- 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



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-Civil
 Kohinoor Textile Mills Limited
 Construction of Admin Block, Al-Aleem Medical College, Gulab Devi Chest Hospital Lahore

Reference # CED/TFL **33162** (Dr. Usman Akmal)
 Reference of the request letter # Nil

Dated: 29-04-2019
 Dated: 29-04-2019

Tension Test Report (Page -1/1)

Date of Test 02-05-2019
 Gauge length 8 inches
 Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

| Sr. No. | Weight (lbs/ft) | Diameter/ Size | | Area (in ²) | | Yield load (kg) | Breaking Load (kg) | Yield Stress (psi) | | Ultimate Stress (psi) | | Elongation (inch) | % Elongation | Remarks |
|--|--------------------|-------------------|------------------|----------------------------|--------|--------------------|--------------------------|-----------------------|--------|--------------------------|--------|----------------------|--------------|---------|
| | | Nominal (#) | Actual (inch) | Nominal | Actual | | | Nominal | Actual | Nominal | Actual | | | |
| 1 | 0.355 | 3 | 0.364 | 0.11 | 0.104 | 3200 | 4600 | 64200 | 67610 | 92200 | 97200 | 1.20 | 15.0 | |
| 2 | 0.353 | 3 | 0.364 | 0.11 | 0.104 | 3200 | 4600 | 64200 | 67930 | 92200 | 97700 | 1.20 | 15.0 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| Note: only two samples for tensile and one sample for bend test | | | | | | | | | | | | | | |
| Bend Test | | | | | | | | | | | | | | |
| #3 Dia 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,
 Director Projects
 Innovative Construction Company
 Construction of Imtiaz Super Market, Sialkot

Reference # CED/TFL **33163** (Dr. Usman Akmal)
 Reference of the request letter # ICL/ISM/SKT/0419/04

Dated: 29-04-2019
 Dated: 29-04-2019

Tension Test Report (Page -1/1)

Date of Test 02-05-2019
 Gauge length 8 inches
 Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

| Sr. No. | Weight (lbs/ft) | Diameter/ Size (mm) | | Area (in ²) | | Yield load (kg) | Breaking Load (kg) | Yield Stress (psi) | | Ultimate Stress (psi) | | Elongation (inch) | % Elongation | Remarks |
|--|--------------------|---------------------------|--------|----------------------------|--------|--------------------|--------------------------|-----------------------|--------|--------------------------|--------|----------------------|--------------|---------|
| | | Nominal | Actual | Nominal | Actual | | | Nominal | Actual | Nominal | Actual | | | |
| 1 | 0.382 | 10 | 9.61 | 0.11 | 0.112 | 4000 | 5100 | 80200 | 78480 | 102200 | 100100 | 0.90 | 11.3 | |
| 2 | 0.387 | 10 | 9.66 | 0.11 | 0.114 | 4600 | 5600 | 92200 | 89230 | 112300 | 108700 | 0.90 | 11.3 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| Note: only two samples for tensile and one sample for bend test | | | | | | | | | | | | | | |
| Bend Test | | | | | | | | | | | | | | |
| 10mm Dia Bar Bend Test Through 180° is Satisfactory | | | | | | | | | | | | | | |
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Note:

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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

Ref: CED/TFL/04/33164

Dated: 29-04-19

To,
Executive Engineer
Highway Division
Rahim Yar Khan

(Construction of Flyover Bridge at Abbasia Town Railway Crossing (Part - A Bridge Portion Only -- Length - 2300 Rft)

Subject: - CALIBRATION OF PRESSURE GAUGE (MARK: TFL/04/33164) (Page -1/2)

Reference to your Letter No. 163, Dated: 6/04/2019 on the subject cited above. One Pressure Gauge No. AES-2501 as received by us has been calibrated. The results are tabulated as under:

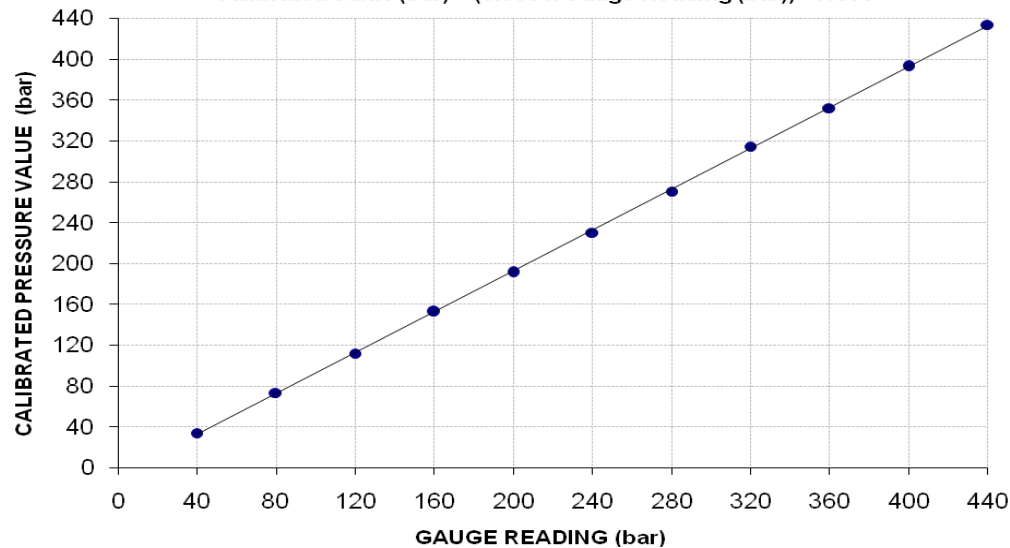
Total Range : Zero - 1000 (bar)
Calibrated Range : Zero - 440 (bar)

| | | | | | | | | | | | |
|------------------------------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Pressure Gauge Reading (bar) | 40 | 80 | 120 | 160 | 200 | 240 | 280 | 320 | 360 | 400 | 440 |
| Calibrated Load (kg) | 6800 | 14800 | 22600 | 30800 | 38600 | 46400 | 54600 | 63500 | 71000 | 79300 | 87500 |
| Calibrated Pressure (bar) | 33.68 | 73.30 | 111.94 | 152.55 | 191.19 | 229.82 | 270.44 | 314.52 | 351.67 | 392.78 | 433.39 |

The Ram Area use for Calibration = 198 cm²

Calibration Curve for Pressure Gauge No. AES-2501

Calibrated Value (bar) = (0.999 x Gauge Reading (bar)) - 7.636



I/C Testing Laboratories
UET Lahore, Pakistan.

Note:

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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

Ref: CED/TFL/04/33164

Dated: 29-04-19

To,
Executive Engineer
Highway Division
Rahim Yar Khan

(Construction of Flyover Bridge at Abbasia Town Railway Crossing (Part - A Bridge Portion Only -- Length - 2300 Rft)

Subject: - CALIBRATION OF PRESSURE GAUGE (MARK: TFL/04/33164) (Page -2/2)

Reference to your Letter No. 163, Dated: 6/04/2019 on the subject cited above. One Pressure Gauge No. AES-2502 as received by us has been calibrated. The results are tabulated as under:

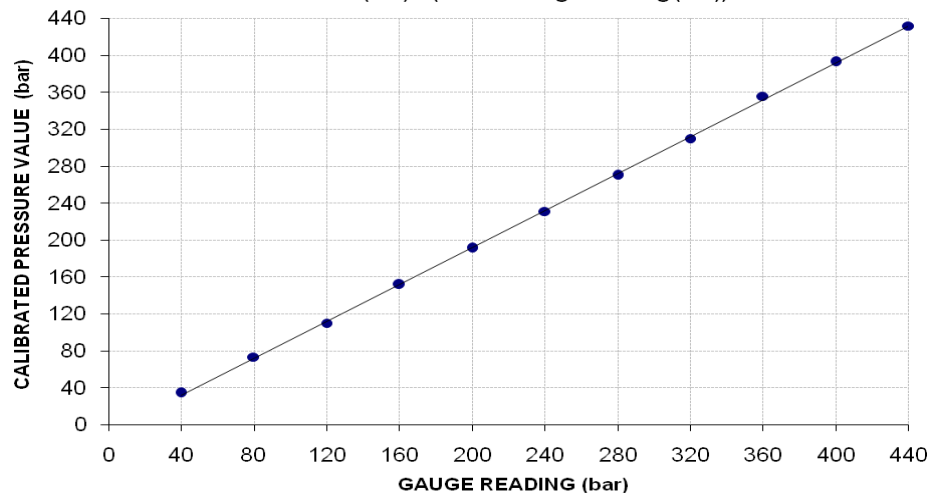
Total Range : Zero - 1000 (bar)
Calibrated Range : Zero - 440 (bar)

| Pressure Gauge Reading (bar) | 40 | 80 | 120 | 160 | 200 | 240 | 280 | 320 | 360 | 400 | 440 |
|------------------------------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Calibrated Load (kg) | 6900 | 14800 | 22200 | 30600 | 38600 | 46600 | 54500 | 62500 | 71800 | 79300 | 87200 |
| Calibrated Pressure (bar) | 34.18 | 73.30 | 109.96 | 151.56 | 191.19 | 230.81 | 269.94 | 309.56 | 355.63 | 392.78 | 431.90 |

The Ram Area use for Calibration = 198 cm²

Calibration Curve for Pressure Gauge No. AES-2502

Calibrated Value (bar) = (0.999 × Gauge Reading (bar)) - 8.014



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,
 M/S Defence Housing Authority.
 Lahore Cantt
 (Const. of OHWT with Tubewell Sector-P DHA Ph-1)(M/s Zoriaz Eng)

Reference # CED/TFL **33166** (Dr. Usman Akmal)
 Reference of the request letter # 408/241/E/Lab/547/06A

Dated: 30-04-2019
 Dated: 29-04-2019

Tension Test Report (Page -1/1)

Date of Test 02-05-2019
 Gauge length 8 inches
 Description Deformed Steel Bar Tensile Test as per ASTM-A615

| Sr. No. | Weight (lbs/ft) | Diameter/ size | | Area (in ²) | | Yield load (kg) | Breaking Load (kg) | Yield Stress (psi) | | Ultimate Stress (psi) | | Elongation (inch) | % Elongation | Remarks |
|--|--------------------|-------------------|------------------|----------------------------|--------|--------------------|--------------------------|-----------------------|--------|--------------------------|--------|----------------------|--------------|-----------|
| | | Nominal (#) | Actual (inch) | Nominal | Actual | | | Nominal | Actual | Nominal | Actual | | | |
| 1 | 0.369 | 3 | 0.371 | 0.11 | 0.108 | 3000 | 4800 | 60200 | 61020 | 96200 | 97700 | 1.10 | 13.8 | S.J Steel |
| 2 | 0.366 | 3 | 0.370 | 0.11 | 0.108 | 3000 | 4900 | 60200 | 61400 | 98200 | 100300 | 1.20 | 15.0 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| Note: only two samples for tensile test | | | | | | | | | | | | | | |
| Bend Test | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
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I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:

- 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.
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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,
 Site Engineer
 BKRY Lahore
 Construction of BKRY 30-km Ferozpur Road Lahore

Reference # CED/TFL **33167** (Dr. Usman Akmal)
 Reference of the request letter # TBL/19/011

Dated: 30-04-2019
 Dated: 29-04-2019

Tension Test Report (Page -1/1)

Date of Test 02-05-2019
 Gauge length 8 inches
 Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

| Sr. No. | Weight (lbs/ft) | Diameter/ Size (inch) | | Area (in ²) | | Yield load (kg) | Breaking Load (kg) | Yield Stress (psi) | | Ultimate Stress (psi) | | Elongation (inch) | % Elongation | Remarks |
|---|--------------------|-----------------------------|--------|----------------------------|--------|--------------------|--------------------------|-----------------------|--------|--------------------------|--------|----------------------|--------------|---------|
| | | Nominal | Actual | Nominal | Actual | | | Nominal | Actual | Nominal | Actual | | | |
| 1 | 0.379 | 3/8 | 0.376 | 0.11 | 0.111 | 3100 | 4800 | 62200 | 61410 | 96200 | 95100 | 1.40 | 17.5 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| Note: only one sample for tensile and one sample for bend test | | | | | | | | | | | | | | |
| Bend Test | | | | | | | | | | | | | | |
| 3/8" Dia Bar Bend Test Through 180° is Satisfactory | | | | | | | | | | | | | | |
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Note:

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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
 G3 Engineering Consultants (Pvt) Ltd
 Consultancy Services for Design and Resident Type Supervision of The Scheme Construction of
 The Cantonment Board Medical College Near Old CGH Sarfraz Rafiqi Road, Lahore Cantt

Reference # CED/TFL **33168** (Dr. Usman Akmal)
 Reference of the request letter # G3/224/RE-7

Dated: 30-04-2019
 Dated: 30-04-2019

Tension Test Report (Page -1/1)

Date of Test 02-05-2019
 Gauge length 8 inches
 Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

| Sr. No. | Weight (lbs/ft) | Diameter/ Size (inch) | | Area (in ²) | | Yield load (kg) | Breaking Load (kg) | Yield Stress (psi) | | Ultimate Stress (psi) | | Elongation (inch) | % Elongation | Remarks |
|--|--------------------|-----------------------------|--------|----------------------------|--------|--------------------|--------------------------|-----------------------|--------|--------------------------|--------|----------------------|--------------|---------|
| | | Nominal | Actual | Nominal | Actual | | | Nominal | Actual | Nominal | Actual | | | |
| 1 | 0.368 | 3/8 | 0.371 | 0.11 | 0.108 | 3500 | 4450 | 70200 | 71290 | 89200 | 90700 | 0.90 | 11.3 | |
| 2 | 0.364 | 3/8 | 0.369 | 0.11 | 0.107 | 4000 | 4900 | 80200 | 82290 | 98200 | 100900 | 0.90 | 11.3 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| Note: only two samples for tensile and one sample for bend test | | | | | | | | | | | | | | |
| Bend Test | | | | | | | | | | | | | | |
| 3/8" Dia Bar Bend Test Through 180° is Satisfactory | | | | | | | | | | | | | | |
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