

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

To,

Engineer's Representative

**NESPAK** 

Package 1: Construction of Entrance Gate, Security Road, Boundary Wall and Watch Tower of Lahore Knowledge Park

Reference # CED/TFL **33022** (Dr. Waseem Abbas)

Reference of the request letter # 3957/13/MS/10/173

Dated: 08-04-2019

Dated: 03-04-2019

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

Date of Test 16-04-2019 Gauge length 2 inches

Description Angle Iron Steel Strip Tensile and Bend Test as per ASTM - A36

| Sr. No. | Dog.       | Designation | Size of Strip | X Section<br>Area | Yield load | Breaking<br>Load | Yield Stress | Ultimate<br>Stress | Elongation | % Elongation | Remarks |
|---------|------------|-------------|---------------|-------------------|------------|------------------|--------------|--------------------|------------|--------------|---------|
|         | (mm)       |             | (mm)          | $(mm^2)$          | (kg)       | (kg)             | (MPa)        | (MPa)              | (in)       |              |         |
| 1       | Angle Iron | 75x75x6     | 28.00x6.60    | 184.80            | 6400       | 10300            | 339.74       | 546.77             | 0.70       | 35.00        |         |
| 2       | Angle Iron | 75x75x6     | 27.80x6.40    | 177.92            | 7100       | 10600            | 391.47       | 584.45             | 0.60       | 30.00        |         |
| -       | Angle Iron | 125x125x9   | 27.90x12.20   | 340.38            | 11700      | 17700            | 337.20       | 510.13             | 0.80       | 40.00        |         |
| -       | Angle Iron | 125x125x9   | 28.20x12.30   | 346.86            | 12400      | 18600            | 350.70       | 526.05             | 0.65       | 32.50        |         |
| -       | -          | -           | -             | ı                 | -          | -                | -            | -                  | 1          | -            |         |
| -       |            | -           | -             | -                 | -          | -                | -            | -                  | -          | -            |         |
|         |            | Only        | Four Sample   | s for Tens        | sile and T | Гwo Samp         | les for B    | end Test           | -          |              |         |
|         |            |             |               | D                 | and Tast   | <u> </u>         |              |                    |            |              |         |

**Bend Test** 

Strip Taken from Angle Iron (75x75x6mm) Bend Test Through 180° is Satisfactory

Strip Taken from Angle Iron (125x125x9mm) 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



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

To,

Engineer's Representative

**NESPAK** 

Package 1: Construction of Entrance Gate, Security Road, Boundary Wall and Watch Tower of Lahore Knowledge Park

Reference # CED/TFL **33022** (Dr. Waseem Abbas)

Reference of the request letter # 3957/13/MS/10/173

Dated: 08-04-2019

Dated: 03-04-2019

## **Thickness Test Report** (Page – 2/2)

Date of Test 16-04-2019

Gauge length -----

Description Angle Iron Thickness Test

| Sr.<br>No. | (mm)        | (mm)           | Remark |
|------------|-------------|----------------|--------|
| 1          | 75x75x6     | 6.50           |        |
| 2          | 125x125x9   | 12.20          |        |
| -          | -           | -              |        |
| -          | -           | -              |        |
| -          | -           | -              |        |
| _          | -           | -              |        |
| _          | -           | -              |        |
| -          | -           | -              |        |
| -          | -           | -              |        |
|            | Only Two Sa | amples for Tes | st     |

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



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

To,

Engineer's Representative

**NESPAK** 

Package 1: Construction of Entrance Gate, Security Road, Boundary Wall and Watch Tower of Lahore Knowledge Park

Reference # CED/TFL **33048** (Dr. Waseem Abbas)

Reference of the request letter # 3957/13/MS/10/178

Dated: 11-04-2019

Dated: 10-04-2019

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

Date of Test 16-04-2019 Gauge length 2 inches

Description M.S Sheet Steel Strip Tensile and Bend Test as per ASTM - A36

| Sr. No. | (mm)      |      | Size of Strip                     | X Section<br>Area | Yield load | <b>Breaking Load</b> | Yield Stress | Ultimate<br>Stress | Elongation | % Elongation | Remarks |  |
|---------|-----------|------|-----------------------------------|-------------------|------------|----------------------|--------------|--------------------|------------|--------------|---------|--|
|         |           |      | (mm) $(mm)$ $(kg)$ $(kg)$ $(MPa)$ |                   | (MPa)      | (MPa) (in)           |              | 0,                 |            |              |         |  |
| 1       | M.S Sheet | 10   | 28.20x9.90                        | 279.18            | 8400       | 13600                | 295.16       | 477.89             | 0.75       | 37.50        |         |  |
| 2       | M.S Sheet | 10   | 28.20x9.90                        | 279.18            | 8600       | 13700                | 302.19       | 481.40             | 0.85       | 42.50        |         |  |
| -       | -         | -    | -                                 | -                 | -          | -                    | -            | -                  | -          | -            |         |  |
| -       | -         | -    | -                                 | -                 | -          | -                    | -            | -                  | -          | -            |         |  |
| -       | -         | -    | -                                 | -                 | -          | -                    | -            | -                  | -          | -            |         |  |
| -       | -         | -    | -                                 | -                 | -          | -                    | -            | -                  | -          | -            |         |  |
|         |           | Only | y Two Sampl                       | les for Tei       | nsile and  | One Sam              | ple for B    | end Test           | ;          |              |         |  |
|         | Bend Test |      |                                   |                   |            |                      |              |                    |            |              |         |  |

Strip Taken from M.S Sheet (10mm) 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



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

To,

Engineer's Representative

**NESPAK** 

Package 1: Construction of Entrance Gate, Security Road, Boundary Wall and Watch Tower of Lahore Knowledge Park

Reference # CED/TFL **33048** (Dr. Waseem Abbas)

Reference of the request letter # 3957/13/MS/10/178

Dated: 11-04-2019

Dated: 10-04-2019

## **Thickness Test Report** (Page – 2/2)

Date of Test 16-04-2019

Gauge length -----

Description M.S Sheet Thickness Test

| Sr.<br>No. | (mm) Designation | (mm)          | Remark |
|------------|------------------|---------------|--------|
| 1          | 10               | 9.90          |        |
|            | 10               | 7.50          |        |
| -          | -                | -             |        |
| -          | -                | -             |        |
| -          | -                | -             |        |
| -          | -                | -             |        |
| -          | -                | -             |        |
| -          | -                | -             |        |
| -          | -                | -             |        |
| -          | -                | -             |        |
|            | Only One S       | ample for Tes | t      |

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



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

To.

Engineer's Representative

**NESPAK** 

Package 1: Construction of Entrance Gate, Security Road, Boundary Wall and Watch Tower of Lahore Knowledge Park

Reference # CED/TFL **33049** (Dr. Waseem Abbas) Dated: 11-04-2019 Reference of the request letter # 3957/13/MS/10/179 Dated: 10-04-2019

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

Date of Test 16-04-2019 Gauge length 2 inches

Description Angle Iron Steel Strip Tensile and Bend Test as per ASTM - A36

| Sr. No. | Designation | )       | Size of Strip | X Section<br>Area | Yield load   | Breaking<br>Load | Yield Stress | Ultimate<br>Stress | Elongation | . Elongation | Remarks |
|---------|-------------|---------|---------------|-------------------|--------------|------------------|--------------|--------------------|------------|--------------|---------|
|         | (mn         | n)      | (mm)          | $(mm^2)$          | (kg)         | (kg)             | (MPa)        | (MPa)              | (in)       | %            |         |
| 1       | Amelo Tuon  | 75x75x9 | 28.10x9.40    | 264.14            | 9700         | 14600            | 360.25       | 542.24             | 0.70       | 35.00        |         |
| 2       | Angle Iron  | 75x75x9 | 28.20x9.50    | 267.90            | 9900         | 14400            | 362.52       | 527.30             | 0.70       | 35.00        |         |
| -       | -           | -       | -             | -                 | -            | -                | -            | -                  | -          | -            |         |
| -       | -           | -       | -             | -                 | -            | -                | -            | -                  | -          | -            |         |
| -       | -           | -       | -             | -                 | -            | -                | -            | -                  | -          | -            |         |
| -       | -           | -       | -             | -                 | -            | -                | -            | -                  | -          | -            |         |
|         |             | Only    | y Two Samp    | les for Tei       | nsile and    | One Sam          | ple for B    | end Test           | ,          |              |         |
|         |             |         |               | 1                 | <br>Rend Tes | <u> </u>         |              |                    |            |              |         |

Strip Taken from Angle Iron (75x75x9mm) 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.
- Sealed sample / Unsealed sample / Marked sample/Signed Samples



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

To,

Engineer's Representative

**NESPAK** 

Package 1: Construction of Entrance Gate, Security Road, Boundary Wall and Watch Tower of Lahore Knowledge Park

Reference # CED/TFL **33049** (Dr. Waseem Abbas)

Reference of the request letter # 3957/13/MS/10/179

Dated: 11-04-2019

Dated: 10-04-2019

## **Thickness Test Report** (Page – 2/2)

Date of Test 16-04-2019

Gauge length -----

Description Angle Iron Thickness Test

| Sr.<br>No. | (mm)  Designation | (mm)          | Remark |
|------------|-------------------|---------------|--------|
| 1          | 75x75x9           | 9.45          |        |
| 1          | 1381389           | 9.45          |        |
| -          | -                 | -             |        |
| -          | -                 | -             |        |
| -          | -                 | -             |        |
| -          | -                 | -             |        |
| -          | -                 | -             |        |
| -          | -                 | -             |        |
| -          | -                 | -             |        |
| -          | -                 | -             |        |
|            | Only One S        | ample for Tes | t      |

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

# LAHOSE .

### 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 Riaz-ud-Din Engineering (Pvt) Ltd Walton Road, Lahore

Reference # CED/TFL **33060** (Dr. Waseem Abbas)

Reference of the request letter # Nil

Dated: 12-04-2019

Dated: 12-04-2019

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

Date of Test 16-04-2019 Gauge length 8 inches

Description J-Bolt Tensile Test

| Sr. No. | Weight |                 | neter/<br>ize | A<br>(m | rea<br>ım²) | Yield load | Breaking Load | Yield Stress<br>(MPa) | Ultimate Stress<br>(MPa) | Elongation | % Elongation | Remarks |
|---------|--------|-----------------|---------------|---------|-------------|------------|---------------|-----------------------|--------------------------|------------|--------------|---------|
|         | (kg/m) | Nominal<br>(mm) | Actual (mm)   | Nominal | Actual      | (kg)       | (kg)          | Actual                | Actual                   | (inch)     | %            |         |
| 1       | 5.603  | 30              | 30.14         |         | 713.7       | 29400      | 47600         | 404                   | 654                      | 1.7        | 21.3         |         |
| -       | -      | -               | -             | -       | -           | -          | -             | -                     | -                        | -          | -            |         |
| -       | -      | -               | -             | -       | -           | -          | -             | -                     | -                        | -          | -            |         |
| -       | ı      | -               | •             | -       | •           | -          |               | •                     | •                        | •          |              |         |
| -       | -      | -               | -             | -       | -           | -          | -             | -                     | -                        | -          | -            |         |
| -       | -      | -               | -             | -       | -           | -          | -             | -                     | -                        | -          | -            |         |
|         |        |                 |               | N       | lote: only  | one sar    | nple for      | tensile to            | est                      |            |              |         |
|         |        |                 |               |         |             |            |               |                       |                          |            |              |         |
|         |        |                 |               |         |             | Beno       | d Test        |                       |                          |            |              |         |
|         |        |                 |               |         |             |            |               |                       |                          |            |              |         |
|         |        |                 |               |         |             |            |               |                       |                          |            |              |         |
|         |        |                 |               |         |             |            |               |                       |                          |            |              |         |

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

## MEERING IN THE PROPERTY OF THE

### 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 Riaz-ud-Din Engineering (Pvt) Ltd Walton Road, Lahore

Reference # CED/TFL **33060** (Dr. Waseem Abbas)

Reference of the request letter # Nil

Dated: 12-04-2019

Dated: 12-04-2019

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

Date of Test 16-04-2019

Description J-Bolt Slippage Test

| Sr. No. | Dia  | Failure Load | Mode of Failure     | Remarks |
|---------|------|--------------|---------------------|---------|
|         | (mm) | (kg)         |                     |         |
| 1       | 30   | 29000        | Thread Failure      |         |
| -       | -    | -            | -                   |         |
| -       | •    | -            | -                   |         |
| -       | -    | -            | -                   |         |
| -       | -    | -            | -                   |         |
| -       | -    | -            | -                   |         |
|         |      | Note: only   | one sample for test |         |
|         |      |              |                     |         |

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

# CONERUIG TO SERVICE TO

### STRUCTURAL ENGINEERING DIVISION

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

To, Executive Engineer PASSCO Comp at Sukkur

Reference # CED/TFL **33068** (Dr. M Rizwan Riaz) Dated: 15-04-2019 Reference of the request letter # PASSCO/EE/Suk/19/04 Dated: 09-04-2019

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

Date of Test 16-04-2019 Gauge length 8 inches

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

| Sr. No. | Weight   | Si      | neter/<br>ze<br>ch) |         | rea<br>n²) | Yield load | Breaking<br>Load |         | Stress<br>si) | Ultimat<br>(p |        | Elongation | % Elongation | Remarks |
|---------|----------|---------|---------------------|---------|------------|------------|------------------|---------|---------------|---------------|--------|------------|--------------|---------|
|         | (lbs/ft) | Nominal | Actual              | Nominal | Actual     | (kg)       | (kg)             | Nominal | Actual        | Nominal       | Actual | (inch)     | % E          | R       |
| 1       | 0.366    | 3/8     | 0.370               | 0.11    | 0.107      | 2400       | 3400             | 48100   | 49240         | 68200         | 69800  | 1.10       | 13.8         |         |
| 2       | 0.362    | 3/8     | 0.368               | 0.11    | 0.106      | 2200       | 3400             | 44100   | 45600         | 68200         | 70500  | 1.50       | 18.8         |         |
| -       | •        | -       | -                   | •       | -          | -          | •                | -       | -             | -             | •      | -          | 1            |         |
| -       |          | -       | -                   | •       | -          | -          | -                | -       | -             | -             | -      | -          |              |         |
| -       | •        | -       | -                   | •       | -          | -          | -                | -       | -             | -             | -      | -          | •            |         |
| -       | -        | -       | -                   | •       | -          | -          | -                | -       | -             | -             | -      | -          | •            |         |
|         |          |         | No                  | ote: on | ly two s   | amples f   | or tensile       | and one | sample f      | or bend t     | test   |            |              |         |
|         |          |         |                     |         |            |            |                  |         |               |               |        |            |              |         |
|         |          |         |                     |         |            |            | Bend T           | 'est    |               |               |        |            |              |         |

3/8" Dia 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



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

To, 122 Quarring & Carpetting Battalion Engineers Bani Afghan Camp Care of Signal Centre (FW Chaklala)

Reference # CED/TFL **33070** (Dr. M Rizwan Riaz)

Reference of the request letter # 607/CM

Dated: 15-04-2019

Dated: 13-04-2019

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

Date of Test 16-04-2019 Gauge length 8 inches

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

| Sr. No. | Weight   | Si      | neter/<br>ze<br>m) |         | rea<br>n²) | Yield load | Breaking<br>Load |         | Stress<br>si) |         | e Stress<br>si) | Elongation | % Elongation | Remarks |
|---------|----------|---------|--------------------|---------|------------|------------|------------------|---------|---------------|---------|-----------------|------------|--------------|---------|
| S       | (lbs/ft) | Nominal | Actual             | Nominal | Actual     | (kg)       | (kg)             | Nominal | Actual        | Nominal | Actual          | (inch)     | <b>3</b> %   | R       |
| 1       | 0.395    | 10      | 9.77               | 0.11    | 0.116      | 3500       | 4900             | 70200   | 66440         | 98200   | 93100           | 1.30       | 16.3         |         |
| 2       | 0.396    | 10      | 9.78               | 0.11    | 0.116      | 3400       | 4800             | 68200   | 64370         | 96200   | 90900           | 1.10       | 13.8         |         |
| -       |          | -       | -                  | -       | -          | -          | -                | -       | -             | -       | -               | -          | -            |         |
| -       | -        | -       | -                  | -       | -          | -          | -                | -       | -             | -       | -               | -          | -            |         |
| -       | -        | -       | -                  | -       | -          | -          | -                | -       | -             | -       | -               | -          | -            |         |
| -       | -        | -       | -                  | -       | -          | -          | -                | -       | -             | -       | -               | -          | -            |         |
|         |          |         | N                  | ote: on | ly two s   | amples f   | or tensile       | and one | sample f      | or bend | test            |            |              |         |
|         |          |         |                    |         |            |            |                  |         |               |         |                 |            |              |         |
|         |          |         |                    |         |            |            | Bend T           | est     |               |         |                 |            |              |         |
| 10ı     | nm Dia   | Bar Bei | nd Test            | Throug  | h 180° i   | s Satisfac | ctory            |         |               |         |                 |            |              |         |
|         |          |         |                    |         |            |            |                  |         |               |         |                 |            |              |         |

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

# NEE RING THE PROPERTY OF THE P

### 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

 $(Const\ of\ Kanal\ Villas\ at\ DRGCC\ Ph-III,\ DHA\ Ph-VII)(M/s\ Construct)$ 

Reference # CED/TFL **3372** (Dr. M Rizwan Riaz) Dated: 15-04-2019 Reference of the request letter # 408/241/E/Lab/527/107 Dated: 15-04-2019

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

Date of Test 16-04-2019 Gauge length 8 inches

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

| Sr. No. | Weight   |             | neter/<br>ze  |           | rea<br>n²) | Yield load | Breaking<br>Load |         | (psi)    |         | te Stress<br>si) | Elongation | % Elongation | Remarks         |
|---------|--|-------------|---------------|-----------|------------|------------|------------------|---------|----------|---------|------------------|------------|--------------|-----------------|
| S       | (lbs/ft)   | Nominal (#) | Actual (inch) | Nominal   | Actual     | (kg)       | (kg)             | Nominal | Actual   | Nominal | Actual           | (inch)     | % E          | R               |
| 1       | 0.362  | 3           | 0.368         | 0.11      | 0.106      | 3400       | 4500             | 68200   | 70370    | 90200   | 93200            | 1.40       | 17.5         | ın              |
| 2       | 0.361  | 3           | 0.368         | 0.11      | 0.106      | 3400       | 4600             | 68200   | 70580    | 92200   | 95500            | 1.10       | 13.8         | Kamran<br>Steel |
| -       | -  | -           | -             | -         | -          | -          | -                | -       | -        | -       | -                | -          | -            | K               |
| -       | -  | -           | -             | -         | -          | -          | -                | -       | -        | -       | -                | -          | -            |                 |
| -       | -  | -           | -             | -         | -          | -          | -                | -       | -        | -       | -                | -          | -            |                 |
| -       | -  | -           | -             | -         | -          | -          | -                | -       | -        | -       | -                | -          | -            |                 |
|         |  |             | N             | ote: on   | ly two s   | amples f   | or tensile       | and one | sample f | or bend | test             | 1          | ı            |                 |
| #2      | Bend Test  #3 Bar Bend Test Through 180° is Satisfactory |             |               |           |            |            |                  |         |          |         |                  |            |              |                 |
| #3      | Bar Ben  | a rest      | ınrougn       | 1 180° 18 | s Satisfa  | ctory      |                  |         |          |         |                  |            |              |                 |

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

# LAHOSE .

### 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 Katarpur Corridor
(RECO)

Reference # CED/TFL **33073** (Dr. Waseem Abbas)

Reference of the request letter # SA-394/DKC/B Test/NA/55

Dated: 15-04-2019

Dated: 14-04-2019

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

Date of Test 16-04-2019 Gauge length 8 inches

Description Anchor Bolt Tensile Test as per ASTM- F1554

| Sr. No. | Weight |                 | neter/<br>ize | A<br>(n | rea<br>nm²) | Yield load | Breaking Load | Yield Stress<br>(MPa) | Ultimate Stress<br>(MPa) | Elongation | % Elongation | Remarks |
|---------|--------|-----------------|---------------|---------|-------------|------------|---------------|-----------------------|--------------------------|------------|--------------|---------|
|         | (kg/m) | Nominal<br>(mm) | Actual (mm)   | Nominal | Actual      | (kg)       | (kg)          | Actual                | Actual                   | (inch)     | %            | •       |
| 1       | 5.612  | 30              | 30.17         |         | 714.9       | 24400      | 36400         | 335                   | 499                      | 2.3        | 28.8         |         |
| -       | -      | -               | -             | -       | -           | -          | -             | -                     | -                        | -          | -            |         |
| -       | -      | -               | -             | -       | -           | -          | -             | -                     | -                        | -          | -            |         |
| -       | -      | -               | -             | -       | -           | -          | -             | -                     | -                        | -          | -            |         |
| -       | -      | -               | -             | -       | -           | -          | -             | -                     | -                        | -          | -            |         |
| -       | -      | -               | -             | -       | -           | -          | -             | -                     | -                        | -          | -            |         |
|         |        |                 |               | N       | lote: only  | one sar    | nple for      | tensile to            | est                      |            |              |         |
|         |        |                 |               |         |             |            |               |                       |                          |            |              |         |
|         |        |                 |               |         |             | Beno       | d Test        |                       |                          |            |              |         |
|         |        |                 |               |         |             |            |               |                       |                          |            |              |         |
|         |        |                 |               |         |             |            |               |                       |                          |            |              |         |
|         |        |                 |               |         |             |            |               |                       |                          |            |              |         |

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

# LAHOSE NAC

### 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 Katarpur Corridor
(AABCO)

Reference # CED/TFL **33074** (Dr. Waseem Abbas)

Reference of the request letter # SA-394/DKC/B Test/NA/54

Dated: 15-04-2019

Dated: 14-04-2019

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

Date of Test 16-04-2019 Gauge length 8 inches

Description Anchor Bolt Tensile Test as per ASTM- F1554

| Sr. No.                                | Weight              |    | neter/<br>ize | A<br>(m | rea<br>nm²) | Yield load | Breaking Load | Yield Stress<br>(MPa) | Ultimate Stress<br>(MPa) | Elongation | % Elongation | Remarks |
|--|---------------------|----|---------------|---------|-------------|------------|---------------|-----------------------|--------------------------|------------|--------------|---------|
|  | (kg/m) Nominal (mm) |    | Actual (mm)   | Nominal | Actual      | (kg)       | (kg)          | Actual                | Actual                   | (inch)     | %            | I       |
| 1                                      | 6.217               | 32 | 31.75         |         | 792.0       | 22400      | 36200         | 277                   | 448                      | 2.3        | 28.8         |         |
| 1                                      | -                   | -  |               | -       | -           | -          | -             | -                     | -                        | -          | -            |         |
|  | -                   | -  | -             | -       | -           | -          | -             | -                     | -                        | -          | -            |         |
| •                                      | •                   | -  | •             | -       | •           | -          | -             | -                     | •                        | -          | -            |         |
| -                                      | -                   | -  | -             | -       | -           | -          | -             | -                     | -                        | -          | -            |         |
| -                                      | -                   | -  | -             | -       | -           | -          | -             | -                     | -                        | -          | -            |         |
| Note: only one sample for tensile test |                     |    |               |         |             |            |               |                       |                          |            |              |         |
| Don't Total                            |                     |    |               |         |             |            |               |                       |                          |            |              |         |
| Bend Test                              |                     |    |               |         |             |            |               |                       |                          |            |              |         |
|  |                     |    |               |         |             |            |               |                       |                          |            |              |         |
|  |                     |    |               |         |             |            |               |                       |                          |            |              |         |

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

# LAHOSE .

### 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 Katarpur Corridor (MKB)

Reference # CED/TFL **33075** (Dr. Waseem Abbas)

Reference of the request letter # SA-394/DKC/B Test/NA/56

Dated: 15-04-2019

Dated: 14-04-2019

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

Date of Test 16-04-2019 Gauge length 8 inches

Description Anchor Bolt Tensile Test as per ASTM- F1554

| Sr. No.    | Weight                                 | Diameter/<br>size |             | er/ Area (mm²) |        | Yield load | Breaking Load | Yield Stress<br>(MPa) | Ultimate Stress<br>(MPa) | Elongation | % Elongation | Remarks |
|------------|--|-------------------|-------------|----------------|--------|------------|---------------|-----------------------|--------------------------|------------|--------------|---------|
|            | (kg/m) Nominal                         |                   | Actual (mm) | Nominal        | Actual | (kg)       | (kg)          | Actual                | Actual                   | (inch)     | %            | I       |
| 1          | 6.259                                  | 32                | 31.86       |                | 797.4  | 23400      | 36600         | 288                   | 450                      | 2.7        | 33.8         |         |
| -          | -                                      | -                 | -           | -              |        | -          | -             | -                     | -                        | -          | -            |         |
| -          | -                                      | -                 | -           | -              | -      | -          | -             | -                     | -                        | -          | -            |         |
| -          | -                                      | -                 | •           | -              | •      | -          | -             | •                     | •                        | -          | -            |         |
| -          | -                                      | -                 | -           | -              | -      | -          | -             | -                     | -                        | -          | -            |         |
| -          | -                                      | -                 | -           | -              | -      | -          | -             | -                     | -                        | -          | -            |         |
|            | Note: only one sample for tensile test |                   |             |                |        |            |               |                       |                          |            |              |         |
| Don't Tree |  |                   |             |                |        |            |               |                       |                          |            |              |         |
| Bend Test  |  |                   |             |                |        |            |               |                       |                          |            |              |         |
|            |  |                   |             |                |        |            |               |                       |                          |            |              |         |
|            |  |                   |             |                |        |            |               |                       |                          |            |              |         |

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

# THE RIGINAL PROPERTY OF THE PR

### 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
Liberty Builders
Construction of Zee Avenue Project, 17-A, Cooper Road, Lahore
(SJ Steel)

Reference # CED/TFL **33078** (Dr. Waseem Abbas)

Reference of the request letter # CONC-20190416

Dated: 16-04-2019

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

Date of Test 16-04-2019 Gauge length 8 inches

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

| Sr. No.   | Weight  | Diam<br>si:    | neter/<br>ze     |         | rea<br>1 <sup>2</sup> ) | Yield load | Breaking<br>Load |         | Stress<br>si) |         | Ultimate Stress<br>(psi) |        | % Elongation | Remarks |
|---|---|----------------|------------------|---------|-------------------------|------------|------------------|---------|---------------|---------|--------------------------|--------|--------------|---------|
|   | (lbs/ft)                                      | Nominal<br>(#) | Actual<br>(inch) | Nominal | Actual                  | (kg)       | (kg)             | Nominal | Actual        | Nominal | Actual                   | (inch) | Э%           | R       |
| 1   | 0.360   | 3              | 0.367            | 0.11    | 0.106                   | 4000       | 5000             | 80200   | 83280         | 100200  | 104100                   | 0.90   | 11.3         |         |
| 2   | 0.371   | 3              | 0.372            | 0.11    | 0.109                   | 4400       | 5300             | 88200   | 89030         | 106200  | 107300                   | 0.90   | 11.3         |         |
|   | -   | -              | •                | -       | -                       | -          | -                | -       | -             | -       | -                        | -      | -            |         |
|   |   | -              |                  | -       | -                       | -          | -                | -       | -             | -       | -                        | -      | -            |         |
|   |   | -              |                  | -       | -                       | -          | -                | -       | -             | -       | -                        | -      | -            |         |
| -   | -   | -              | -                | -       | -                       | -          | -                | -       | -             | -       | -                        | -      | -            |         |
| 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

# LAHOSE V

### STRUCTURAL ENGINEERING DIVISION

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

To,
Manager Quality Control
Ravi Green Engineering (Pvt) Ltd
Construction of Flag Poles at DHA Bahawalpur 20 meter & 45meter
(CTE (Pvt) Ltd)(P-643)

Reference # CED/TFL **33079** (Dr. Waseem Abbas)

Reference of the request letter # RG/MT/UET/2628

Dated: 16-04-2019

**Tension Test Report** (Page – 1/1)

Date of Test 16-04-2019 Gauge length 8 inches

Description Carbon Steel Plate Steel Strip Tensile Test as per ASTM A36

| Sr. No.                          | Designation |      | Size of Strip | X Section Area | Yield load | Breaking<br>Load | Yield Stress | Ultimate Stress | Elongation | % Elongation | Remarks |  |
|----------------------------------|-------------|------|---------------|----------------|------------|------------------|--------------|-----------------|------------|--------------|---------|--|
|                                  | (mm         | (mm) | $(mm^2)$      | (kg)           | (kg)       | (MPa)            | (MPa)        | (in)            |            |              |         |  |
| 1                                | P643-T20-1  | 20   | 39.90x20.65   | 823.94         | 26500      | 39600            | 315.52       | 471.49          | 2.50       | 31.25        |         |  |
| -                                | -           | -    | -             | -              | -          | -                | -            | -               | -          | -            |         |  |
| -                                | -           | -    | -             | -              | -          | -                | -            | •               | -          | -            |         |  |
| -                                | -           | -    | -             | -              | -          | -                | -            | -               | -          | -            |         |  |
| -                                | -           | -    | -             | -              | -          | -                | -            | -               | -          | -            |         |  |
| -                                | -           | -    | -             | -              | -          | -                | -            | -               | -          | -            |         |  |
| Only One Sample for Tensile Test |             |      |               |                |            |                  |              |                 |            |              |         |  |
|                                  | Bend Test   |      |               |                |            |                  |              |                 |            |              |         |  |
|                                  |             |      |               |                |            |                  |              |                 |            |              |         |  |

Witness by M Hinan Chaudhary (CTE)

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