Professional **Test Performed By:** **Dr. /Engr.** Dr. Asad Ghalani

Construction Services (Pvt.) Ltd.Johar Town Lahore.(ABL PIA Road Lahore)

**Client Reference:** PCS/21/Eng-130-A **SOM Lab Ref:** 5282(Page-1/3)

**Dated:** 10-11-2021 **Dated:** 10-11-2021

**Test:** Tension Test & Bend Test **Test Specification:** ASTM-A-615

**Gauge Length:** 8 inch **Sample Type:** Deformed Bar

| S.No. | Weight | Dia. | | Area | | Yield Load | Ultimate Load | Yield Stress | | Ult. Stress | | Elongation | Gauge Length | %age Elongation | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Nominal | Calculated | Nominal | Calculated | | | (according to nominal area) | (according to measured area) | (according to nominal area) | (according to measured area) | | | | |
| | lb/ft | # | in | $in^2$ | $in^2$ | Tons | Tons | psi | psi | psi | psi | in | in | % | |
| 1 | 0.633 | 4 | 0.487 | 0.20 | 0.186 | 6.24 | 7.80 | 68800 | 73970 | 85990 | 92470 | 1.30 | 8.0 | 16.3 | |
| 2 | 0.669 | 4 | 0.501 | 0.20 | 0.197 | 6.78 | 8.15 | 74750 | 75890 | 89930 | 91300 | 1.10 | 8.0 | 13.8 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |

**BEND TEST:**

| | |
|---|---|
| -- | No Bend test performed |
| | |
| | |
| | |
| | |

**Note:-**

Only Two Samples Received and Tested

Note: Please always confirm the results of above report on web www.uet-civil.edu.pk

Professional **Test Performed By:** **Dr. /Engr.** Dr. Asad Ghalani

Construction Services (Pvt.) Ltd.Johar Town Lahore.(ABL PIA Road Lahore)

**Client Reference:** PCS/21/Eng-130-B **SOM Lab Ref:** 5282(Page-2/3)

**Dated:** 10-11-2021 **Dated:** 10-11-2021

**Test:** Tension Test & Bend Test **Test Specification:** ASTM-A-615

**Gauge Length:** 8 inch **Sample Type:** Deformed Bar

| S.No. | Weight | Dia. | | Area | | Yield Load | Ultimate Load | Yield Stress | | Ult. Stress | | Elongation | Gauge Length | %age Elongation | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Nominal | Calculated | Nominal | Calculated | | | (according to nominal area) | (according to measured area) | (according to nominal area) | (according to measured area) | | | | |
| | lb/ft | # | in | $in^2$ | $in^2$ | Tons | Tons | psi | psi | psi | psi | in | in | % | |
| 1 | 1.043 | 5 | 0.625 | 0.31 | 0.307 | 9.70 | 13.78 | 69040 | 69720 | 98050 | 99010 | 1.20 | 8.0 | 15.0 | |
| 2 | 1.044 | 5 | 0.625 | 0.31 | 0.307 | 10.01 | 14.17 | 71220 | 71910 | 100810 | 101790 | 1.10 | 8.0 | 13.8 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |

**BEND TEST:**

| | |
|---|---|
| -- | No Bend test performed |
| | |
| | |
| | |
| | |

**Note:-**

Only Two Samples Received and Tested

Note: Please always confirm the results of above report on web www.uet-civil.edu.pk

Professional **Test Performed By:** **Dr. /Engr.** Dr. Asad Ghalani

Construction Services (Pvt.) Ltd.Johar Town Lahore.(ABL PIA Road Lahore)

**Client Reference:** PCS/21/Eng-130-C **SOM Lab Ref:** 5282(Page-3/3)

**Dated:** 10-11-2021 **Dated:** 10-11-2021

**Test:** Tension Test & Bend Test **Test Specification:** ASTM-A-615

**Gauge Length:** 8 inch **Sample Type:** Deformed Bar

| S.No. | Weight | Dia. | | Area | | Yield Load | Ultimate Load | Yield Stress | | Ult. Stress | | Elongation | Gauge Length | %age Elongation | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Nominal | Calculated | Nominal | Calculated | | | (according to nominal area) | (according to measured area) | (according to nominal area) | (according to measured area) | | | | |
| | lb/ft | # | in | $in^2$ | $in^2$ | Tons | Tons | psi | psi | psi | psi | in | in | % | |
| 1 | 1.520 | 6 | 0.754 | 0.44 | 0.447 | 15.24 | 19.72 | 76390 | 75190 | 98870 | 97320 | 1.20 | 8.0 | 15.0 | |
| 2 | 1.511 | 6 | 0.752 | 0.44 | 0.444 | 15.65 | 20.18 | 78430 | 77730 | 101170 | 100260 | 1.20 | 8.0 | 15.0 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |

**BEND TEST:**

| | |
|---|---|
| -- | No Bend test performed |
| | |
| | |
| | |
| | |

**Note:-**

Only Two Samples Received and Tested

Note: Please always confirm the results of above report on web www.uet-civil.edu.pk

Syed Mohsin Ali **Test Performed By:** **Dr. /Engr.** Dr. Asad Ghalani
Resident Engineer, QA/QC Department, Bahria Town Lahore

**Client Reference:** QA/QC-steel-2420 **SOM Lab Ref:** 5283(Page-1/1)
**Dated:** 10-11-2021 **Dated:** 10-11-2021

**Test:** Tension Test & Bend Test **Test Specification:** ASTM-A-615
**Gauge Length:** 8 inch **Sample Type:** Deformed Bar (FF Steel)

| S.No. | Weight | Dia. | | Area | | Yield Load | Ultimate Load | Yield Stress | | Ult. Stress | | Elongation | Gauge Length | %age Elongation | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Nominal | Calculated | Nominal | Calculated | | | (according to nominal area) | (according to measured area) | (according to nominal area) | (according to measured area) | | | | |
| | lb/ft | # | in | $in^2$ | $in^2$ | Tons | Tons | psi | psi | psi | psi | in | in | % | |
| 1 | 1.461 | 6 | 0.739 | 0.44 | 0.429 | 14.22 | 19.11 | 71280 | 73110 | 95800 | 98260 | 1.10 | 8.0 | 13.8 | |
| 2 | 1.452 | 6 | 0.737 | 0.44 | 0.427 | 14.22 | 20.20 | 71280 | 73450 | 101270 | 104350 | 1.10 | 8.0 | 13.8 | |
| 3 | 0.668 | 4 | 0.500 | 0.20 | 0.196 | 6.37 | 8.72 | 70260 | 71690 | 96110 | 98070 | 1.10 | 8.0 | 13.8 | |
| 4 | 0.661 | 4 | 0.497 | 0.20 | 0.194 | 6.17 | 8.36 | 68010 | 70110 | 92180 | 95030 | 1.10 | 8.0 | 13.8 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |

**BEND TEST:**

| | |
|---|---|
| # 6 | Sample bend through 180 degrees Satisfactorily without any crack |
| # 4 | Sample bend through 180 degrees Satisfactorily without any crack |
| | |
| | |
| | |

**Note:-**

Only Six Samples Received and Tested

Note: Please always confirm the results of above report on web www.uet-civil.edu.pk

Wajid Mehmood
Resident Engineer, CM Div., Nespak (Pvt.) Ltd. Lahore

**Test Performed By:** **Dr. /Engr.** S. Asad Ali Gillani

**Client Reference:** 4047/13/WM/09-I/94
**Dated:** 10-11-2021

**SOM Lab Ref:** 5284(Page-1/1)
**Dated:** 10-11-2021

**Test:** Tension Test & Bend Test
**Test Specification:** ASTM-A-615 Deformed Bar (Zia Steel)

**Gauge Length:** 8 inch
**Sample Type:**

| S.No. | Weight | Dia. | | Area | | Yield Load | Ultimate Load | Yield Stress | | Ult. Stress | | Elongation | Gauge Length | %age Elongation | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Nominal | Calculated | Nominal | Calculated | | | (according to nominal area) | (according to measured area) | (according to nominal area) | (according to measured area) | | | | |
| | lb/ft | # | in | $in^2$ | $in^2$ | Tons | Tons | psi | psi | psi | psi | in | in | % | |
| 1 | 2.621 | 8 | 0.990 | 0.79 | 0.770 | 22.09 | 35.90 | 61670 | 63270 | 100230 | 102830 | 1.30 | 8.0 | 16.3 | |
| 2 | 2.643 | 8 | 0.995 | 0.79 | 0.777 | 22.02 | 35.95 | 61470 | 62500 | 100370 | 102050 | 1.50 | 8.0 | 18.8 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |

**Witnessed By:** Muhammad Imran (Sub-Engineer, Nespak), Job No.4047 LDA

**BEND TEST:**

| | |
|---|---|
| # 8 | Sample bend through 180 degrees Satisfactorily without any crack |
| # 8 | Sample bend through 180 degrees Satisfactorily without any crack |
| | |
| | |
| | |

**Note:-**

Only Four Samples Received and Tested

Note: Please always confirm the results of above report on web www.uet-civil.edu.pk

Ali Sufyan **Test Performed By:** **Dr. /Engr.** Dr. Asad Ghalani

Deputy Executive Officer works, Punjab Safe Cities Authority,Lahore

**Client Reference:** 11652/Works/PSCA/2021 **SOM Lab Ref:** 5285(Page-1/2)

**Dated:** 10-11-2021 **Dated:** 10-11-2021

**Test:** Tension Test & Bend Test **Test Specification:** ASTM-A-615

**Gauge Length:** 8 inch **Sample Type:** Deformed Bar

| S.No. | Weight | Dia. | | Area | | Yield Load | Ultimate Load | Yield Stress | | Ult. Stress | | Elongation | Gauge Length | %age Elongation | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Nominal | Calculated | Nominal | Calculated | | | (according to nominal area) | (according to measured area) | (according to nominal area) | (according to measured area) | | | | |
| | lb/ft | # | in | $in^2$ | $in^2$ | Tons | Tons | psi | psi | psi | psi | in | in | % | |
| 1 | 0.698 | 4 | 0.511 | 0.20 | 0.205 | 6.75 | 8.72 | 74420 | 72600 | 96110 | 93770 | 1.10 | 8.0 | 13.8 | |
| 2 | 0.703 | 4 | 0.513 | 0.20 | 0.207 | 7.10 | 9.04 | 78350 | 75700 | 99710 | 96340 | 1.20 | 8.0 | 15.0 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |

**BEND TEST:**

| | |
|---|---|
| # 4 | Sample bend through 180 degrees Satisfactorily without any crack |
| | |
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**Note:-**

Only Three Samples Received and Tested

Note: Please always confirm the results of above report on web www.uet-civil.edu.pk

Ali Sufyan **Test Performed By:** **Dr. /Engr.** Dr. Asad Ghalani

Deputy Executive Officer works, Punjab Safe Cities Authority,Lahore

**Client Reference:** 11653/Works/PSCA/2021 **SOM Lab Ref:** 5285(Page-2/2)

**Dated:** 10-11-2021 **Dated:** 10-11-2021

**Test:** Tension Test & Bend Test **Test Specification:** ASTM-A-615

**Gauge Length:** 8 inch **Sample Type:** Deformed Bar

| S.No. | Weight | Dia. | | Area | | Yield Load | Ultimate Load | Yield Stress | | Ult. Stress | | Elongation | Gauge Length | %age Elongation | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Nominal | Calculated | Nominal | Calculated | | | (according to nominal area) | (according to measured area) | (according to nominal area) | (according to measured area) | | | | |
| | lb/ft | # | in | $in^2$ | $in^2$ | Tons | Tons | psi | psi | psi | psi | in | in | % | |
| 1 | 0.699 | 4 | 0.511 | 0.20 | 0.205 | 8.69 | 10.14 | 95770 | 93440 | 111850 | 109120 | 1.10 | 8.0 | 13.8 | |
| 2 | 0.683 | 4 | 0.506 | 0.20 | 0.201 | 8.79 | 10.24 | 96900 | 96420 | 112970 | 112410 | 1.20 | 8.0 | 15.0 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |

**BEND TEST:**

| | |
|---|---|
| # 4 | Sample bend through 180 degrees Satisfactorily without any crack |
| | |
| | |
| | |
| | |

**Note:-**

Only Three Samples Received and Tested

Note: Please always confirm the results of above report on web www.uet-civil.edu.pk

M.Saleem **Test Performed By:** **Dr. /Engr.** Dr. Asad Ghalani

Construction Company , Engineers & Contractors, Sheikhupura (Extension Weaving Unit)

**Client Reference:** Nil **SOM Lab Ref:** 5286(Page-1/1)

**Dated:** 10-11-2021 **Dated:** 10-11-2021

**Test:** Tension Test & Bend Test **Test Specification:** ASTM-A-615

**Gauge Length:** 8 inch **Sample Type:** Deformed Bar

| S.No. | Weight | Dia. | | Area | | Yield Load | Ultimate Load | Yield Stress | | Ult. Stress | | Elongation | Gauge Length | %age Elongation | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Nominal | Calculated | Nominal | Calculated | | | (according to nominal area) | (according to measured area) | (according to nominal area) | (according to measured area) | | | | |
| | lb/ft | # | in | $in^2$ | $in^2$ | Tons | Tons | psi | psi | psi | psi | in | in | % | |
| 1 | 1.469 | 6 | 0.742 | 0.44 | 0.432 | 14.22 | 19.08 | 71280 | 72600 | 95650 | 97420 | 1.40 | 8.0 | 17.5 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |

**BEND TEST:**

| | |
|---|---|
| # 6 | Sample bend through 180 degrees Satisfactorily without any crack |
| | |
| | |
| | |
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**Note:-**

Only Two Samples Received and Tested

Note: Please always confirm the results of above report on web www.uet-civil.edu.pk

CM Engineering Pvt. Ltd., **Test Performed By:** **Dr. /Engr.** S. Asad Ali Gillani

CMPAK Project Site ID: 43520, 42951, 43522, 43482, 43474

**Client Reference:** CME/Steel/CMPAK/311 **SOM Lab Ref:** 5281(Page-1/1)

**Dated:** 08-11-2021 **Dated:** 10-11-2021

**Test:** Tension Test & Bend Test **Test Specification:** ASTM-A 615

**Guage Length:** 200 mm **Sample Type:** M S Deformed bar

| S.No. | Weight | Dia. | | Area | | Yield Load | Ultimate Load | Yield Stress | | Ult. Stress | | Elongation | Gauge Length | %age Elongation | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Nominal | Calculated | Nominal | Calculated | | | (according to nominal area) | (according to measured area) | (according to nominal area) | (according to measured area) | | | | |
| | kg/m | mm | mm | $mm^2$ | $mm^2$ | kN | kN | MPa | MPa | MPa | MPa | mm | mm | % | |
| 1 | 3.971 | 25 | 25.38 | 491 | 506 | 255.50 | 326.90 | 520 | 505 | 666 | 647 | 35.0 | 200 | 17.5 | |
| 2 | 3.963 | 25 | 25.35 | 491 | 505 | 246.70 | 316.50 | 502 | 489 | 645 | 627 | 37.5 | 200 | 18.8 | |
| 3 | 2.224 | 20 | 18.99 | 314 | 283 | 153.00 | 189.00 | 487 | 540 | 602 | 668 | 27.5 | 200 | 13.8 | |
| 4 | 2.223 | 20 | 18.99 | 314 | 283 | 157.70 | 192.50 | 502 | 557 | 613 | 680 | 27.5 | 200 | 13.8 | |
| 5 | 1.560 | 16 | 15.91 | 201 | 199 | 103.00 | 128.50 | 512 | 519 | 639 | 647 | 37.5 | 200 | 18.8 | |
| 6 | 1.545 | 16 | 15.83 | 201 | 197 | 101.20 | 126.20 | 503 | 515 | 628 | 642 | 35.0 | 200 | 17.5 | |
| 7 | 1.005 | 12 | 12.77 | 113 | 128 | 55.20 | 82.50 | 488 | 432 | 730 | 645 | 35.0 | 200 | 17.5 | |
| 8 | 0.987 | 12 | 12.65 | 113 | 126 | 55.20 | 80.70 | 488 | 440 | 714 | 642 | 37.5 | 200 | 18.8 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |

**BEND TEST:**

| | |
|---|---|
| 25mm | Sample bend through 180 degrees Satisfactorily without any crack |
| 20mm | Sample bend through 180 degrees Satisfactorily without any crack |
| 16mm | Sample bend through 180 degrees Satisfactorily without any crack |
| 12mm | Sample bend through 180 degrees Satisfactorily without any crack |

**Note:-**

Only Twelve Samples Received and Tested

Note: Please always confirm the results of above report on web www.uet-civil.edu.pk