

Intiaz Ahmad

Test Performed By:

Dr. /Engr.

S. Asad Ali Gillani

Project Manager, A.S. Enterprises, Engineers & Contractors, Lahore

Client Reference: USD/ASE/08

Dated: 18-06-2019

SOM Lab Ref: CED/SOM/979(Page-1/1)

Dated: 18-06-2019

Test: Tension Test & Bend Test

Test Specification: ASTM-A 615

Sample Type: M S Deformed Bar(AFCO Steel)

Gauge Length: 200 mm

| 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 | 3.702 | 25 | 24.52 | 491 | 472 | 289.00 | 371.70 | 589 | 613 | 757 | 788 | 20.0 | 200 | 10.0 | |
| 2 | 3.613 | 25 | 24.21 | 491 | 460 | 234.00 | 332.20 | 477 | 509 | 677 | 722 | 25.0 | 200 | 12.5 | |
| 3 | 2.426 | 20 | 19.84 | 314 | 309 | 158.50 | 201.00 | 505 | 513 | 640 | 651 | 30.0 | 200 | 15.0 | |
| 4 | 2.432 | 20 | 19.86 | 314 | 310 | 156.50 | 201.00 | 498 | 506 | 640 | 649 | 32.5 | 200 | 16.3 | |
| 5 | 1.571 | 16 | 15.96 | 201 | 200 | 115.00 | 140.00 | 572 | 575 | 696 | 700 | 25.0 | 200 | 12.5 | |
| 6 | 1.543 | 16 | 15.82 | 201 | 197 | 86.20 | 131.20 | 429 | 439 | 653 | 668 | 30.0 | 200 | 15.0 | |
| 7 | 0.883 | 12 | 11.97 | 113 | 112 | 62.50 | 77.00 | 553 | 556 | 681 | 685 | 25.0 | 200 | 12.5 | |
| 8 | 0.897 | 12 | 12.06 | 113 | 114 | 60.50 | 78.00 | 535 | 530 | 690 | 683 | 25.0 | 200 | 12.5 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |

BEND TEST:

| | | |
|------|--|--|
| 25mm | Sample bend through 180 degrees Satisfactorily without any crack | Note:- Only Twelve Samples Received and Tested |
| 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: Please always confirm the results of above report on web www.uet-civil.edu.pk

Muhammad Ghufuran Afzal

Test Performed By: Dr. /Engr.

S Asad Ali Gillani

Planning & Coordination Engineer, (Project Name: 227-230 New Muslim Town Lahore)

Client Reference: CD-19-Testing/NMT-004

SOM Lab

Ref: 973(Page-2/2)

Dated: 17-06-2019

Dated: 18-06-2019

Test: Tension Test & Bend Test

Test Specification:

ASTM-A-615

Gauge Length: 8 inch

Sample Type:

Deformed Bar(AFCCO 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 | 0.651 | 4 | 0.493 | 0.20 | 0.191 | 5.40 | 7.49 | 59580 | 62390 | 82620 | 86520 | 1.50 | 8.0 | 18.8 | |
| 2 | 0.647 | 4 | 0.492 | 0.20 | 0.190 | 5.40 | 7.46 | 59580 | 62710 | 82290 | 86620 | 1.50 | 8.0 | 18.8 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |

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

Muhammad Ghufuran Afzal

Test Performed By: Dr. /Engr.

S Asad Ali
Gillani

Planning & Coordination Engineer, (Project Name: 227-230 New Muslim Town Lahore)

Client Reference: CD-19-Testing/NMT-003

SOM Lab

Ref: 973(Page-1/2)

Dated: 17-06-2019

Dated: 18-06-2019

Test: Tension Test & Bend Test

Test Specification:

ASTM-A-615

Gauge Length: 8 inch

Sample Type:

Deformed Bar(AFCCO 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 | 2.565 | 8 | 0.980 | 0.79 | 0.754 | 26.91 | 35.34 | 75130 | 78720 | 98660 | 103380 | 1.40 | 8.0 | 17.5 | |
| 2 | 2.553 | 8 | 0.977 | 0.79 | 0.750 | 25.79 | 34.66 | 72000 | 75840 | 96760 | 101920 | 1.60 | 8.0 | 20.0 | |
| 3 | 0.654 | 4 | 0.494 | 0.20 | 0.192 | 4.99 | 6.93 | 55080 | 57380 | 76440 | 79620 | 1.60 | 8.0 | 20.0 | |
| 4 | 0.657 | 4 | 0.496 | 0.20 | 0.193 | 5.10 | 6.98 | 56210 | 58250 | 77000 | 79790 | 1.50 | 8.0 | 18.8 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |

BEND TEST:

| | | |
|-----|--|--|
| # 8 | Sample bend through 180 degrees Satisfactorily without any crack | Note:- Only Six Samples Received and Tested |
| # 4 | Sample bend through 180 degrees Satisfactorily without any crack | |
| | | |
| | | |

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

Syed Abdul Jabbar
GM Engineering, Cotton Web Limited, Lahore

Test Performed By: Dr. /Engr.

S. Asad Ali
Gillani

Client Reference: CW/Admin/10126

SOM Lab

Ref: 974(Page-1/2)

Dated: 31-05-2019

Dated: 18-06-2019

Test: Tension Test

Test Specification:

ASTM-A-615

Deformed

Gauge Length: 8 inch

Sample Type:

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 | 2.620 | 8 | 0.990 | 0.79 | 0.770 | 25.40 | 35.73 | 70920 | 72760 | 99750 | 102340 | 1.30 | 8.0 | 16.3 | |
| 2 | 2.618 | 8 | 0.990 | 0.79 | 0.769 | 23.87 | 34.30 | 66650 | 68470 | 95760 | 98380 | 1.40 | 8.0 | 17.5 | |
| 3 | 1.468 | 6 | 0.741 | 0.44 | 0.431 | 15.90 | 20.51 | 79710 | 81370 | 102800 | 104950 | 1.10 | 8.0 | 13.8 | |
| 4 | 1.482 | 6 | 0.745 | 0.44 | 0.436 | 14.68 | 20.18 | 73580 | 74250 | 101170 | 102100 | 1.10 | 8.0 | 13.8 | |
| 5 | 0.656 | 4 | 0.496 | 0.20 | 0.193 | 5.73 | 8.82 | 63180 | 65470 | 97230 | 100760 | 1.20 | 8.0 | 15.0 | |
| 6 | 0.664 | 4 | 0.498 | 0.20 | 0.195 | 5.73 | 8.94 | 63180 | 64800 | 98580 | 101110 | 1.10 | 8.0 | 13.8 | |
| 7 | 0.665 | 4 | 0.498 | 0.20 | 0.195 | 5.78 | 8.94 | 63740 | 65370 | 98580 | 101110 | 1.00 | 8.0 | 12.5 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |

BEND TEST:

| | | |
|-----|--|---|
| # 8 | Sample bend through 180 degrees Satisfactorily without any crack | Note:- Only Nine Samples Received and Tested |
| # 6 | Sample bend through 180 degrees Satisfactorily without any crack | |
| | | |
| | | |

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

Syed Abdul Jabbar
GM Engineering, Cotton Web Limited, Lahore

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

Client Reference: CW/Admin/10126

SOM Lab

Ref: 974(Page-2/2)

Dated: 31-05-2019

Dated: 18-06-2019

Test: Tension Test

Test Specification:

ASTM-A-615

Deformed

Gauge Length: 8 inch

Sample Type:

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 | 2.696 | 8 | 1.004 | 0.79 | 0.792 | 27.65 | 34.63 | 77180 | 76990 | 96670 | 96430 | 1.70 | 8.0 | 21.3 | |
| 2 | 2.691 | 8 | 1.004 | 0.79 | 0.791 | 27.44 | 34.45 | 76610 | 76510 | 96190 | 96070 | 1.50 | 8.0 | 18.8 | |
| 3 | 1.438 | 6 | 0.734 | 0.44 | 0.423 | 18.96 | 22.40 | 95040 | 98860 | 112260 | 116770 | 1.00 | 8.0 | 12.5 | |
| 4 | 1.441 | 6 | 0.734 | 0.44 | 0.423 | 16.97 | 20.51 | 85070 | 88490 | 102800 | 106940 | 1.20 | 8.0 | 15.0 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |

BEND TEST:

| | | |
|-----|--|---|
| # 8 | Sample bend through 180 degrees Satisfactorily without any crack | Note:- Only Six Samples Received and Tested |
| # 6 | Sample bend through 180 degrees Satisfactorily without any crack | |
| | | |
| | | |

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

Amjad Saeed
Resident Engineer, NESPAK (Pvt) Ltd Ltd Lahore

Test Performed By: Dr. /Engr.

S. Asad Ali
Gillani

Client Reference: 3994/103/AS/02/103

Dated: 17-06-2019

SOM Lab

Ref: 976(Page-1/1)

Dated: 18-06-2019

Test: Tension Test & Bend Test

Test Specification:

ASTM-A-615

Gauge Length: 8 inch

Sample Type:

Deformed Bar (Kisan 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 | 2.648 | 8 | 0.995 | 0.79 | 0.778 | 29.17 | 36.36 | 81450 | 82700 | 101510 | 103080 | 1.00 | 8.0 | 12.5 | |
| 2 | 2.640 | 8 | 0.994 | 0.79 | 0.776 | 25.64 | 33.25 | 71570 | 72870 | 92830 | 94510 | 1.30 | 8.0 | 16.3 | |
| 3 | 1.473 | 6 | 0.743 | 0.44 | 0.433 | 15.70 | 20.69 | 78690 | 79960 | 103720 | 105400 | 1.10 | 8.0 | 13.8 | |
| 4 | 1.485 | 6 | 0.745 | 0.44 | 0.436 | 16.11 | 20.95 | 80730 | 81470 | 105000 | 105960 | 1.00 | 8.0 | 12.5 | |
| 5 | 0.675 | 4 | 0.502 | 0.20 | 0.198 | 7.56 | 9.04 | 83410 | 84250 | 99710 | 100710 | 1.00 | 8.0 | 12.5 | |
| 6 | 0.666 | 4 | 0.500 | 0.20 | 0.196 | 7.39 | 8.97 | 81500 | 83160 | 98920 | 100940 | 1.20 | 8.0 | 15.0 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |

BEND TEST:

| | | |
|-------------|--|---|
| # 8 | Sample bend through 180 degrees Satisfactorily without any crack | Note:- Only Twelve Samples Received and Tested |
| # 8 | Sample bend through 180 degrees Satisfactorily without any crack | |
| # 6 | Sample bend through 180 degrees Satisfactorily without any crack | |
| # 6 | Sample bend through 180 degrees Satisfactorily without any crack | |
| # 4(S. 5,6) | Sample bend through 180 degrees Satisfactorily without any crack | |

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

Maj Adnan khalid®

Test Performed By: Dr. /Engr.

S. asad Ali
Gillani

Dy Dir MTL, External Elec Works (U/G) IVY Green Sector-Z, - DHA , Ph-VIII - (M/S NLC)

SOM Lab

Client Reference: 408/241/E/Lab/608/503

Ref: 977(Page-1/1)

Dated: 17-06-2019

Dated: 18-06-2019

Test: Tension Test & Bend Test

Test Specification:

ASTM-A-615

Deformed Bar (SJ

Gauge Length: 8 inch

Sample Type:

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 | 1.519 | 6 | 0.754 | 0.44 | 0.446 | 13.46 | 19.16 | 67450 | 66540 | 96060 | 94770 | 1.00 | 8.0 | 12.5 | |
| 2 | 1.514 | 6 | 0.753 | 0.44 | 0.445 | 14.17 | 20.34 | 71020 | 70230 | 101940 | 100790 | 1.00 | 8.0 | 12.5 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |

BEND TEST:

| | | |
|-----|--|--|
| # 6 | 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

Muhammad Din
Sub Div. Officer Multan PASSCO Div. Multan.

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

Client Reference: PASSCO/EE/MTN/19/129

SOM Lab

Ref: 978 (Page-1/1)

Dated: 03-06-2019

Dated: 18-06-2019

Test: Tension Test & Bend Test

Test Specification:

ASTM-A-615

Deformed

Gauge Length: 8 inch

Sample Type:

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 | 2.589 | 8 | 0.984 | 0.79 | 0.761 | 23.26 | 33.23 | 64940 | 67420 | 92770 | 96310 | 1.50 | 8.0 | 18.8 | |
| 2 | 2.593 | 8 | 0.985 | 0.79 | 0.762 | 23.14 | 33.13 | 64600 | 66980 | 92490 | 95890 | 1.40 | 8.0 | 17.5 | |
| 3 | 0.653 | 4 | 0.494 | 0.20 | 0.192 | 4.66 | 7.08 | 51370 | 53510 | 78130 | 81380 | 1.50 | 8.0 | 18.8 | |
| 4 | 0.657 | 4 | 0.496 | 0.20 | 0.193 | 4.66 | 7.10 | 51370 | 53240 | 78350 | 81190 | 1.40 | 8.0 | 17.5 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |

BEND TEST:

| | | |
|-----|--|---|
| # 8 | Sample bend through 180 degrees Satisfactorily without any crack | Note:- Only Six Samples Received and Tested |
| # 4 | Sample bend through 180 degrees Satisfactorily without any crack | |
| | | |
| | | |

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