

Majeed Associates Pvt. Ltd.
Sahiwal

Test Performed By: Dr. /Engr. Wasim Abbas

Client Reference: Nil
SOM Lab Ref: CED/SOM/5242(Page-1/1)
Test: Tension Test & Bend Test
Sample Type: M S Deformed Bar (AFCO Steel)

Dated: 01-11-2021
Dated: 02-11-2021
Test Specification: ASTM-A 615
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 | 3.636 | 25 | 24.28 | 491 | 463 | 232.70 | 304.20 | 474 | 503 | 620 | 658 | 35.0 | 200 | 17.5 | |
| 2 | 3.675 | 25 | 24.42 | 491 | 468 | 226.70 | 304.50 | 462 | 485 | 620 | 651 | 40.0 | 200 | 20.0 | |
| 3 | 2.490 | 20 | 20.10 | 314 | 317 | 161.50 | 213.50 | 514 | 510 | 680 | 674 | 30.0 | 200 | 15.0 | |
| 4 | 2.499 | 20 | 20.13 | 314 | 318 | 163.70 | 217.20 | 521 | 515 | 691 | 683 | 35.0 | 200 | 17.5 | |
| 5 | 1.007 | 12 | 12.78 | 113 | 128 | 70.20 | 89.20 | 621 | 548 | 789 | 696 | 27.5 | 200 | 13.8 | |
| 6 | 1.008 | 12 | 12.79 | 113 | 128 | 70.70 | 89.20 | 625 | 551 | 789 | 695 | 27.5 | 200 | 13.8 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |

BEND TEST:

| | | |
|------|--|--|
| 25mm | Sample bend through 180 degrees Satisfactorily without any crack | Note:- Only Nine Samples Received and Tested |
| 20mm | 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

Ahmed Ijaz

Test Performed By:

Dr. /Engr.

S. Asad Ali Gillani

Assistant Quantity Surveyor, LINKER Developers (Pvt.) Ltd., Lahore

Client Reference: Nil

Dated: 02-11-2021

SOM Lab Ref: CED/SOM/5245(Page-1/1)

Dated: 02-11-2021

Test: Tension Test & Bend Test

Test Specification: ASTM-A 615

Sample Type: M S Deformed Bar

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 | 3.793 | 25 | 24.80 | 491 | 483 | 252.70 | 324.00 | 515 | 524 | 660 | 671 | 32.5 | 200 | 16.3 | |
| 2 | 2.541 | 20 | 20.30 | 314 | 324 | 163.00 | 215.00 | 519 | 504 | 684 | 665 | 27.5 | 200 | 13.8 | |
| 3 | 1.613 | 16 | 16.17 | 201 | 205 | 95.50 | 134.00 | 475 | 465 | 666 | 653 | 30.0 | 200 | 15.0 | |
| 4 | 0.884 | 12 | 11.97 | 113 | 113 | 57.70 | 79.20 | 510 | 513 | 700 | 704 | 27.5 | 200 | 13.8 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |

Witnessed By: Muhammad Abdullah Abid

BEND TEST:

| | | |
|------|--|---|
| 25mm | Sample bend through 180 degrees Satisfactorily without any crack | Note:- Only Eight 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 Shahbaz
Imperium Hospitality (Pvt) Ltd. Lahore

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

Client Reference: IHPL/Steel/0139

SOM Lab 5238 & 5239(Page-

Ref: 1/3)

Dated: 01-11-2021

Dated: 02-11-2021

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 | 1.509 | 6 | 0.751 | 0.44 | 0.443 | 13.73 | 19.11 | 68830 | 68360 | 95800 | 95160 | 1.10 | 8.0 | 13.8 | |
| 2 | 1.496 | 6 | 0.748 | 0.44 | 0.440 | 14.55 | 20.15 | 72910 | 72910 | 101020 | 101020 | 1.20 | 8.0 | 15.0 | |
| 3 | 1.484 | 6 | 0.745 | 0.44 | 0.436 | 14.55 | 19.93 | 72910 | 73580 | 99890 | 100810 | 1.10 | 8.0 | 13.8 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

Witnessed By: Rafi Ullah (IHPL) & Ali Hasnain Khan

BEND TEST:

| | | |
|-----|--|--|
| # 6 | Sample bend through 180 degrees Satisfactorily without any crack | Note:- Only Five Samples Received and Tested |
| # 6 | Sample bend through 180 degrees Satisfactorily without any crack | |
| | | |
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Note: Please always confirm the results of above report on web www.uet-civil.edu.pk

Muhammad Shahbaz
Imperium Hospitality (Pvt) Ltd. Lahore

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

Client Reference: IHPL/Steel/0140

SOM Lab Ref: 5238 & 5239(Page-2/3)

Dated: 01-11-2021

Dated: 02-11-2021

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 | 0.662 | 4 | 0.498 | 0.20 | 0.195 | 6.63 | 9.33 | 73070 | 74940 | 102860 | 105490 | 1.10 | 8.0 | 13.8 | |
| 2 | 0.663 | 4 | 0.498 | 0.20 | 0.195 | 6.60 | 9.33 | 72730 | 74600 | 102860 | 105490 | 1.00 | 8.0 | 12.5 | |
| 3 | 0.653 | 4 | 0.494 | 0.20 | 0.192 | 5.68 | 7.82 | 62610 | 65220 | 86220 | 89810 | 0.90 | 8.0 | 11.3 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |

Witnessed By: Rafi Ullah (IHPL) & Ali Hasnain Khan

BEND TEST:

| | | |
|-----|--|--|
| # 4 | Sample bend through 180 degrees Satisfactorily without any crack | Note:- Only Five Samples Received and Tested |
| # 4 | Sample bend through 180 degrees Satisfactorily without any crack | |
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Note: Please always confirm the results of above report on web www.uet-civil.edu.pk

Muhammad Shahbaz
Imperium Hospitality (Pvt) Ltd. Lahore

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

Client Reference: IHPL/Steel/0137

SOM Lab Ref: 5238 & 5239(Page-3/3)

Dated: 01-11-2021

Dated: 02-11-2021

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 | 0.673 | 4 | 0.502 | 0.20 | 0.198 | 6.09 | 8.36 | 67110 | 67790 | 92180 | 93110 | 1.20 | 8.0 | 15.0 | |
| 2 | 0.668 | 4 | 0.500 | 0.20 | 0.196 | 6.27 | 8.69 | 69130 | 70540 | 95770 | 97730 | 1.40 | 8.0 | 17.5 | |
| 3 | 0.670 | 4 | 0.501 | 0.20 | 0.197 | 6.01 | 8.53 | 66320 | 67330 | 94090 | 95520 | 1.10 | 8.0 | 13.8 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |

Witnessed By: Rafi Ullah (IHPL) & Ali Hasnain Khan

BEND TEST:

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

Assistant Project Director

Test Performed By: Dr. /Engr. Wasim Abbas

PMU-SBP, LHR, Project Management Unit (PMU), Govt. of The Punjab, Sports Bord Punjab

Client Reference: APD/PMU/SBP/LHR/21/164

SOM Lab

Ref: 5240(Page-1/2)

Dated: 28-10-2021

Dated: 02-11-2021

Test: Tension 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 | 2.649 | 8 | 0.995 | 0.79 | 0.778 | 25.30 | 33.81 | 70630 | 71720 | 94400 | 95850 | 1.70 | 8.0 | 21.3 | |
| 2 | 1.506 | 6 | 0.751 | 0.44 | 0.443 | 13.17 | 18.83 | 66020 | 65570 | 94370 | 93730 | 1.30 | 8.0 | 16.3 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

BEND TEST:

| | | |
|-----|--|--|
| # 8 | Sample bend through 180 degrees Satisfactorily without any crack | Note:- Only Four 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

Assistant Project Director

Test Performed By: Dr. /Engr. Wasim Abbas

PMU-SBP, LHR, Project Management Unit (PMU), Govt. of The Punjab, Sports Bord Punjab

Client Reference: APD/PMU/SBP/LHR/21/163

SOM Lab

Ref: 5240(Page-2/2)

Dated: 28-10-2021

Dated: 02-11-2021

Test: Tension 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 | 0.655 | 4 | 0.494 | 0.20 | 0.192 | 6.27 | 8.31 | 69130 | 72010 | 91610 | 95430 | 1.20 | 8.0 | 15.0 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

BEND TEST:

| | | |
|-----|--|---|
| # 4 | Sample bend through 180 degrees Satisfactorily without any crack | Note:- Only Two Samples Received and Tested |
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Note: Please always confirm the results of above report on web www.uet-civil.edu.pk

Wahab and Company
65-G.T. Road, Shahdara Lahore

Test Performed By: Dr. /Engr. Wasim Abbas

Client Reference: Nil
Dated: 02-11-2021
Test: Tension Test
Gauge Length: 8 inch

SOM Lab
Ref: 5241(Page-1/1)
Dated: 02-11-2021
Test Specification: ASTM-A-615
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 | 1.442 | 6 | 0.735 | 0.44 | 0.424 | 14.70 | 19.57 | 73680 | 76460 | 98100 | 101810 | 1.20 | 8.0 | 15.0 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

BEND TEST:

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

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

Muhammad Shabbir
Construction Manager, Opal Deever Developers Pvt. Ltd. Lahore

Test Performed By: Dr. /Engr.

S. Asad Ali
Gillani

Client Reference: ZD/ZO/L/038

Dated: 01-11-2021

SOM Lab

Ref: 5243(Page-1/1)

Dated: 02-11-2021

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 | 0.673 | 4 | 0.502 | 0.20 | 0.198 | 7.16 | 9.50 | 78910 | 79710 | 104770 | 105820 | 1.10 | 8.0 | 13.8 | |
| 2 | 0.671 | 4 | 0.501 | 0.20 | 0.197 | 6.54 | 8.87 | 72170 | 73270 | 97800 | 99290 | 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 |
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| | | |

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

Malik Steel Sales Depot
Main Peco Road Badami Bagh Lahore

Test Performed By: Dr. /Engr. Wasim Abbas

Client Reference: Nil
Dated: 02-11-2021
Test: Tension Test
Gauge Length: 8 inch

SOM Lab
Ref: 5244(Page-1/1)
Dated: 02-11-2021
Test Specification: ASTM-A-615
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 | 0.660 | 4 | 0.497 | 0.20 | 0.194 | 5.12 | 7.70 | 56430 | 58180 | 84870 | 87500 | 1.40 | 8.0 | 17.5 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |

BEND TEST:

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

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

Asif Hayat

Test Performed By:

Dr. /Engr.

Wasim Abbas

Assistant Manager Projects, Infrastructure Development Authority (IDAP), Punjab

Client Reference: PD/IDAP/GOR-1/2021/SO/11

SOM Lab

Ref:

5246(Page-1/1)

Dated: 02-11-2021

Dated:

02-11-2021

Test: Tension Test

Test Specification:

ASTM-A-615

Gauge Length: 8 inch

Sample Type:

Deformed Bar (Siddiqui 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 | 1.475 | 6 | 0.743 | 0.44 | 0.433 | 13.10 | 20.92 | 65660 | 66720 | 104850 | 106540 | 1.40 | 8.0 | 17.5 | |
| 2 | 1.415 | 6 | 0.728 | 0.44 | 0.416 | 12.30 | 19.64 | 61670 | 65230 | 98460 | 104140 | 1.30 | 8.0 | 16.3 | |
| 3 | 0.668 | 4 | 0.500 | 0.20 | 0.196 | 5.52 | 8.94 | 60930 | 62170 | 98580 | 100600 | 1.00 | 8.0 | 12.5 | |
| 4 | 0.673 | 4 | 0.502 | 0.20 | 0.198 | 5.66 | 9.14 | 62390 | 63020 | 100830 | 101850 | 1.20 | 8.0 | 15.0 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |

BEND TEST:

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

Asif Hayat

Test Performed By:

Dr. /Engr.

Wasim Abbas

Assistant Manager Projects, Infrastructure Development Authority (IDAP), Punjab

Client Reference: PD/IDAP/GOR-1/2021/SO/11

SOM Lab

Ref:

5246(Page-1/1)

Dated: 02-11-2021

Dated:

02-11-2021

Test: Tension Test

Test Specification:

ASTM-A-615

Gauge Length: 8 inch

Sample Type:

Deformed Bar (Siddiqui 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 | 1.475 | 6 | 0.743 | 0.44 | 0.433 | 13.10 | 20.92 | 65660 | 66720 | 104850 | 106540 | 1.40 | 8.0 | 17.5 | |
| 2 | 1.415 | 6 | 0.728 | 0.44 | 0.416 | 12.30 | 19.64 | 61670 | 65230 | 98460 | 104140 | 1.30 | 8.0 | 16.3 | |
| 3 | 0.668 | 4 | 0.500 | 0.20 | 0.196 | 5.52 | 8.94 | 60930 | 62170 | 98580 | 100600 | 1.00 | 8.0 | 12.5 | |
| 4 | 0.673 | 4 | 0.502 | 0.20 | 0.198 | 5.66 | 9.14 | 62390 | 63020 | 100830 | 101850 | 1.20 | 8.0 | 15.0 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |

BEND TEST:

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

Talha Khalid Khan
A/XEN E&M, GE (AIR) Rafiqui (Site-I)

Test Performed By: Dr. /Engr. Wasim Abbas

Client Reference: 6405/51/E-6
Dated: 28-10-2021
Test: Tension Test
Gauge Length: 8 inch

SOM Lab
Ref: 5247(Page-1/3)
Dated: 02-11-2021
Test Specification: ASTM-A-615
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 | 0.661 | 4 | 0.497 | 0.20 | 0.194 | 6.60 | 8.84 | 72730 | 74980 | 97460 | 100470 | 1.10 | 8.0 | 13.8 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |

BEND TEST:

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

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

Talha Khalid Khan
A/XEN E&M, GE (AIR) Rafiqui (Site-II)

Test Performed By: Dr. /Engr. Wasim Abbas

Client Reference: 6407/51/E-6
Dated: 28-10-2021
Test: Tension Test
Gauge Length: 8 inch

SOM Lab
Ref: 5247(Page-2/3)
Dated: 02-11-2021
Test Specification: ASTM-A-615
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 | 0.657 | 4 | 0.496 | 0.20 | 0.193 | 6.47 | 8.77 | 71380 | 73970 | 96670 | 100180 | 1.00 | 8.0 | 12.5 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

BEND TEST:

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

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

Talha Khalid Khan
A/XEN E&M, GE (AIR) Rafiqui (Site-III)

Test Performed By: Dr. /Engr. Wasim Abbas

Client Reference: 6408/57/E-6
Dated: 28-10-2021
Test: Tension Test
Gauge Length: 8 inch

SOM Lab
Ref: 5247(Page-3a/3)
Dated: 02-11-2021
Test Specification: ASTM-A-615
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 | 0.656 | 4 | 0.496 | 0.20 | 0.193 | 6.57 | 8.69 | 72510 | 75140 | 95770 | 99250 | 1.00 | 8.0 | 12.5 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |

BEND TEST:

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

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

Talha Khalid Khan
A/XEN E&M, GE (AIR) Rafiqui (Site-III)

Test Performed By: Dr. /Engr. Wasim Abbas

Client Reference: 6408/57/E-6
SOM Lab Ref: CED/SOM/5247(Page-3b/3)
Test: Tension Test & Bend Test
Sample Type: M S Deformed Bar

Dated: 28-10-2021
Dated: 02-11-2021
Test Specification: ASTM-A 615
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 | 1.580 | 16 | 16.00 | 201 | 201 | 111.70 | 130.70 | 556 | 556 | 650 | 651 | 35.0 | 200 | 17.5 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

BEND TEST:

| | | |
|------|--|---|
| 16mm | Sample bend through 180 degrees Satisfactorily without any crack | Note:- Only Two Samples Received and Tested |
| | | |
| | | |
| | | |

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

Tahir Mehmood
Chief

Test Performed By: Dr. /Engr. Wasim Abbas

Client Reference: PD/IDAP/GOR-1/2021/SO/11

SOM Lab 5254-5255(Page-1/1)
Ref:

Dated: 02-11-2021

Dated: 04-11-2021

Test: Tension Test

Test Specification: ASTM-A-615

Gauge Length: 8 inch

Sample Type: Deformed Bar (Siddiqui 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 | 1.475 | 8 | 0.743 | 0.79 | 0.433 | 13.10 | 20.92 | 36570 | 66720 | 58400 | 106540 | 1.40 | 8.0 | 17.5 | |
| 2 | 1.415 | 8 | 0.728 | 0.79 | 0.416 | 12.30 | 19.64 | 34350 | 65230 | 54840 | 104140 | 1.30 | 8.0 | 16.3 | |
| 3 | 0.668 | 6 | 0.500 | 0.44 | 0.196 | 5.52 | 8.94 | 27700 | 62170 | 44810 | 100600 | 1.00 | 8.0 | 12.5 | |
| 4 | 0.673 | 6 | 0.502 | 0.44 | 0.198 | 5.66 | 9.14 | 28360 | 63020 | 45840 | 101850 | 1.20 | 8.0 | 15.0 | |
| 5 | 0.662 | 4 | 0.498 | 0.20 | 0.195 | 6.29 | 9.48 | 69360 | 71140 | 104540 | 107220 | 1.20 | 8.0 | 15.0 | |
| 6 | 0.665 | 4 | 0.498 | 0.20 | 0.195 | 6.24 | 9.53 | 68800 | 70560 | 105100 | 107800 | 0.90 | 8.0 | 11.3 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |

Witnessed By: Faizan Siddiqui (Zaitoon)

BEND TEST:

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