

Munsaf Ali

Test Performed By:

Dr. /Engr.

S.Asad Ali Gillani

Manager Construction Civil, Sitara Chemical Industries Ltd. Faislabad

Client Reference: No

Dated: 09-06-2021

SOM Lab Ref: CED/SOM/4431 (Page-1/1)

Dated: 09-06-2021

Test: ONLY BEND TEST

Test Specification: ASTM-A-615

Sample Type: 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 | 3.836 | 25 | 24.95 | 491 | 489 | 215.50 | 340.00 | 439 | 441 | 693 | 696 | 37.5 | 200 | 18.8 | |
| 2 | 4.065 | 25 | 25.68 | 491 | 518 | 215.00 | 311.00 | 438 | 416 | 634 | 601 | 35.0 | 200 | 17.5 | |
| 3 | 2.441 | 20 | 19.90 | 314 | 311 | 134.20 | 205.70 | 427 | 432 | 655 | 662 | 37.5 | 200 | 18.8 | |
| 4 | 2.440 | 20 | 19.89 | 314 | 311 | 133.50 | 205.70 | 425 | 430 | 655 | 662 | 42.5 | 200 | 21.3 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

BEND TEST:

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

Engr. Shahid R. Zaidi

Test Performed By:

Dr. /Engr.

S. Asad Ali Gillani

Project Manager, CCECC MATRACON - HABIB JOINT VENTURE. Lahore

Client Reference: AIAP/CCECC-MATRACON-HABIB JV/2021/424

Dated:

08-06-2021

SOM Lab Ref: CED/SOM/4432 (Page-1/1)

Dated:

44445

Test: Tension Test & Bend Test

Test Specification:

BS-4449

Sample Type: Deformed Bar(PAK Steel Mill Islamabad)

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 | 0.982 | 12 | 12.62 | 113 | 125 | 67.20 | 85.50 | 594 | 538 | 756 | 684 | 27.5 | 200 | 13.8 | 7478 |
| 2 | 0.987 | 12 | 12.65 | 113 | 126 | 71.70 | 88.70 | 634 | 571 | 784 | 706 | 30.0 | 200 | 15.0 | 7489 |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

BEND TEST:

| | | |
|------|--|--|
| 12mm | Sample bend through 180 degrees Satisfactorily without any crack | Note:- Only Four Samples Received and Tested |
| 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

Sub Divisional Officer
TLC Sub-Division (GSC), GEPCO, Gujranwala

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

Client Reference: 91-94
SOM Lab Ref: CED/SOM/4433 (Page-1/1)
Test: Tension Test
Sample Type: Deformed Bar

Dated: 25-05-2021
Dated: 09-06-2021
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 | 4.748 | 28 | 27.75 | 616 | 605 | 228.70 | 355.00 | 371 | 379 | 577 | 587 | 25.0 | 200 | 12.5 | |
| 2 | 4.733 | 28 | 27.71 | 616 | 603 | 229.50 | 361.50 | 373 | 381 | 587 | 600 | 25.0 | 200 | 12.5 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |

Witnessed By: Malik Haq Nawaz, Sub Engineer, GEPCO, Gujranwala

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

Ahmed Ejaz
Quantity Surveyor, LINKER, Lahore

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

Client Reference: nil

SOM Lab

Ref: 4430(Page-1/1)

Dated: 09-06-2021

Dated: 09-06-2021

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 | 1.503 | 6 | 0.750 | 0.44 | 0.442 | 14.12 | 18.60 | 70770 | 70450 | 93250 | 92830 | 1.20 | 8.0 | 15.0 | |
| 2 | 0.663 | 4 | 0.498 | 0.20 | 0.195 | 7.05 | 8.79 | 77790 | 79780 | 96900 | 99380 | 1.00 | 8.0 | 12.5 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |

BEND TEST:

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

Munsaf Ali
Manger Construction Civil, Sitara Chemical Industries Ltd. Faisalabad

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

Client Reference: nil

SOM Lab

Ref: 4431(Page-1/1)

Dated: 09-06-2021

Dated: 03-06-2021

Test: Tension Test & Bend Test

Test Specification:

ASTM-A-615

Gauge Length: 8 inch

Sample Type:

Deformed Bar (Kamran 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 | 0.607 | 4 | 0.476 | 0.20 | 0.178 | 5.37 | 7.56 | 59240 | 66560 | 83410 | 93720 | 1.30 | 8.0 | 16.3 | |
| 2 | 0.616 | 4 | 0.480 | 0.20 | 0.181 | 5.45 | 7.67 | 60140 | 66450 | 84530 | 93410 | 1.30 | 8.0 | 16.3 | |
| 3 | 2.666 | 8 | 0.998 | 0.79 | 0.783 | 22.94 | 33.40 | 64030 | 64610 | 93260 | 94090 | 1.60 | 8.0 | 20.0 | |
| 4 | 2.694 | 8 | 1.004 | 0.79 | 0.792 | 23.04 | 33.54 | 64320 | 64160 | 93630 | 93390 | 1.50 | 8.0 | 18.8 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |

BEND TEST:

| | | |
|-----|--|--|
| # 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

Sub Divisional Officer
TLC Sub-Division (GSC), GEPCO, Gujranwala

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

Client Reference: 91-94

SOM Lab

Ref: 4433 (Page-1/1)

Dated: 25-05-2021

Dated: 09-06-2021

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 | 2.708 | 9 | 1.007 | 1.00 | 0.796 | 28.70 | 34.78 | 63290 | 79510 | 76710 | 96370 | 1.20 | 8.0 | 15.0 | |
| 2 | 2.691 | 9 | 1.004 | 1.00 | 0.791 | 27.47 | 33.71 | 60590 | 76600 | 74350 | 93990 | 1.20 | 8.0 | 15.0 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |

Witnessed By: Malik Haq Nawaz, Danish Mehmood, Inspector, Nespak

BEND TEST:

| | | |
|-----|--|---|
| # 8 | Sample bend through 180 degrees Satisfactorily without any crack | Note:- Only Two Samples Received and Tested |
| # 6 | Sample bend through 180 degrees Satisfactorily without any crack | |
| # 5 | Sample bend through 180 degrees Satisfactorily without any crack | |
| # 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

Muhammad Aman Ullah
Resident Engineer, NESPAK (Pvt) Ltd. Lahore

Test Performed By: Dr. /Engr.

S. Asad Ali
Gillani

Client Reference: 4047/13/MA/09/43

Dated: 01-06-2021

Test: Tension Test & Bend Test

Gauge Length: 8 inch

Test Specification:

Sample Type:

SOM Lab

Ref: 4434 (Page-1/1)

Dated: 09-06-2021

ASTM-A-615

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 | 2.708 | 8 | 1.007 | 0.79 | 0.796 | 28.70 | 34.78 | 80110 | 79510 | 97100 | 96370 | 1.20 | 8.0 | 15.0 | |
| 2 | 2.691 | 8 | 1.004 | 0.79 | 0.791 | 27.47 | 33.71 | 76700 | 76600 | 94110 | 93990 | 1.20 | 8.0 | 15.0 | |
| 3 | 1.507 | 6 | 0.751 | 0.44 | 0.443 | 16.11 | 19.88 | 80730 | 80190 | 99640 | 98960 | 1.20 | 8.0 | 15.0 | |
| 4 | 1.508 | 6 | 0.751 | 0.44 | 0.443 | 15.90 | 19.75 | 79710 | 79170 | 98970 | 98300 | 1.10 | 8.0 | 13.8 | |
| 5 | 1.049 | 5 | 0.626 | 0.31 | 0.308 | 11.42 | 13.91 | 81230 | 81750 | 98990 | 99640 | 1.10 | 8.0 | 13.8 | |
| 6 | 1.055 | 5 | 0.628 | 0.31 | 0.310 | 11.47 | 13.99 | 81590 | 81590 | 99500 | 99500 | 1.10 | 8.0 | 13.8 | |
| 7 | 0.674 | 4 | 0.502 | 0.20 | 0.198 | 6.83 | 8.31 | 75320 | 76080 | 91610 | 92540 | 1.10 | 8.0 | 13.8 | |
| 8 | 0.666 | 4 | 0.500 | 0.20 | 0.196 | 6.83 | 8.69 | 75320 | 76850 | 95770 | 97730 | 1.10 | 8.0 | 13.8 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |

BEND TEST:

| | | |
|-----|--|--|
| # 8 | Sample bend through 180 degrees Satisfactorily without any crack | Note:- Only Twelve Samples Received and Tested |
| # 6 | Sample bend through 180 degrees Satisfactorily without any crack | |
| # 5 | Sample bend through 180 degrees Satisfactorily without any crack | |
| # 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

Major Muhammad Azeem (Retd)

Test Performed By:

Dr. /Engr.

S. Asad Ali
Gillani

Resident Engineer, ACES (Pvt) Ltd. Site Office - DHA, Mattital Road, Multan

SOM Lab

Client Reference: RE/Sec-T/Material/03

Ref:

4435(Page-1/1)

Dated: 02-06-2021

Dated:

09-06-2021

Test: Tension Test & Bend Test

Test Specification:

ASTM-A-615

Gauge Length: 8 inch

Sample Type:

Deformed Bar (ABI Brand)

| 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 | 0.143 | 6 | 0.231 | 0.44 | 0.042 | 1.24 | 1.57 | 6240 | 65310 | 7870 | 82430 | 0.50 | 8.0 | 6.3 | |
| 2 | 0.131 | 6 | 0.220 | 0.44 | 0.038 | 1.47 | 1.70 | 7390 | 85490 | 8540 | 98800 | 0.50 | 8.0 | 6.3 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |

BEND TEST:

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

Adal Imtiaz

Test Performed By:

Dr. /Engr.

S. Asad Ali
Gillani

Flight Lieutenant, Assistant Director, Fazaia Housing Scheme, Phase -II, Sharif City Road Lahore

SOM Lab

Client Reference: FHSL-II/58111/1/Org (CA-12)

Ref: 4436(Page-1/1)

Dated: 08-06-2021

Dated: 09-06-2021

Test: Tension Test & Bend Test

Test Specification:

ASTM-A-615

Gauge Length: 8 inch

Sample Type:

Deformed Bar(Kamran 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 | 24.62 | 34.20 | 68730 | 69790 | 95480 | 96950 | 1.10 | 8.0 | 13.8 | |
| 2 | 2.661 | 8 | 0.998 | 0.79 | 0.782 | 24.38 | 34.00 | 68070 | 68770 | 94910 | 95880 | 1.30 | 8.0 | 16.3 | |
| 3 | 1.488 | 6 | 0.746 | 0.44 | 0.437 | 13.48 | 18.96 | 67550 | 68010 | 95040 | 95690 | 1.30 | 8.0 | 16.3 | |
| 4 | 1.489 | 6 | 0.747 | 0.44 | 0.438 | 13.51 | 18.96 | 67700 | 68010 | 95040 | 95470 | 1.40 | 8.0 | 17.5 | |
| 5 | 0.668 | 4 | 0.500 | 0.20 | 0.196 | 6.03 | 8.23 | 66550 | 67910 | 90720 | 92570 | 1.40 | 8.0 | 17.5 | |
| 6 | 0.666 | 4 | 0.500 | 0.20 | 0.196 | 6.12 | 8.21 | 67450 | 68820 | 90490 | 92340 | 1.30 | 8.0 | 16.3 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |

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 | |
| # 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

Engr. Muddasir Tahir
Construction Manager, Zameen Aurum, Lahore

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

Client Reference: ZD/ZA/STR010

SOM Lab

Ref: 4437(Page-1/1)

Dated: 09-06-2021

Dated: 09-06-2021

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 | 2.657 | 8 | 0.997 | 0.79 | 0.781 | 25.54 | 35.19 | 71290 | 72110 | 98240 | 99370 | 1.10 | 8.0 | 13.8 | |
| 2 | 2.632 | 8 | 0.992 | 0.79 | 0.773 | 24.01 | 34.91 | 67020 | 68490 | 97470 | 99610 | 1.30 | 8.0 | 16.3 | |
| 3 | 1.481 | 6 | 0.744 | 0.44 | 0.435 | 12.49 | 19.03 | 62590 | 63310 | 95400 | 96490 | 1.30 | 8.0 | 16.3 | |
| 4 | 1.465 | 6 | 0.741 | 0.44 | 0.431 | 12.61 | 19.01 | 63210 | 64530 | 95290 | 97280 | 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

Test Performed by: Dr. Asad Ali Gillani

Executive Engineer,
Hussain Welding Store
Deals in All Kinds of Welding, Hardware & Safety Equipment's
Shop # 34-Basement Ismail Centre 55-Brandreth Road, Lahore

Client Reference No.: Nil

Dated: 09-06-2021

SOM Lab Ref: CED/SOM/4429 (Page 1/2)

Dated: 09-06-2021

Test Type: Tensile Test

Sample Type: Steel Wire (2.4mm)

Tensile Test Results

| Sample No. | Sample Type | Tested Sample Size (mm) | Yield Load (Kn) | Ultimate Load (kN) | Yield Tensile Strength (MPa) | Ultimate Tensile Stress (MPa) |
|------------|---------------------|-------------------------|-----------------|--------------------|------------------------------|-------------------------------|
| 1 | Steel Wire 2.4mm | 2.4 | 4.7 | 6.87 | 1038.9 | 1518.6 |

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

Test Performed by: Dr. Asad Ali Gillani

Executive Engineer,
Hussain Welding Store
Deals in All Kinds of Welding, Hardware & Safety Equipment's
Shop # 34-Basement Ismail Centre 55-Brandreth Road, Lahore

Client Reference No.: Nil

Dated: 09-06-2021

SOM Lab Ref: CED/SOM/4429 (Page 2/2)

Dated: 09-06-2021

Test Type: Hardness Test

Sample Type: Steel Wire (2.4mm)

Hardness Test Details:

Machine used: Avery Rockwell Hardness Testing Machine

(Minor Load: 10 Kgf Major Load: 140.0 kgf Scale:)

Hardness Test Results

| Sample No. | Sample Type | Hardness |
|------------|-------------|----------------|
| 1 | Steel Wire | HR – 18.33 – C |

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

Test Performed by: Dr. S. Asad Ali Gillani

Resident Engineer,
PICIIP SAHIWAL
73-A W Block Farid Town Sahiwal

Client Reference No.: 3976/11/MTL/Lot-2/118

Dated: 03-06-2021

SOM Lab Ref: CED/SOM/4439(Page-1/1)

Dated: 09-06-2021

Test: Tensile Test & Elongation Test , Hardness Test, Comp Set. & Water Absorption Test

Sample Type: Rubber Ring (Gaskets) for RCC Pipe 72" Diameter

Tensile Strength & Elongation Test (ASTM-D-412)

| S. No. | Sample Type | Sample Size(mm) | Tensile Load (kN) | Tensile Strength Kgs/cm ² | % Elongation |
|--------|---------------------|-----------------|----------------------|---|--------------|
| 1 | Rubber Gasket (72") | 24.8 | 12.0 | 253.10 | 700 |

Hardness
Test A
-

Shore (ASTM-D-2240)

| S. No | Sample Type | Sample Size | Hardness (A- Shore) |
|-------|---------------------|-------------|---------------------|
| 1 | Rubber Gasket (72") | 72 inch | 48.33 |

COMPRESSION SET TEST (AS PER ASTM-D-395)

| S. No. | Thickness of Sample (mm) | Final Thickness (mm) | Compression set (%) |
|--------|-----------------------------|-------------------------|------------------------|
| 1 | 24.80 | 22.8 | 8.064 |

Water Absorption (ASTM-D-2240)

| S. No | Sample Type | Remarks |
|-------|---------------------------------|---------------|
| 1 | Rubber Gaskets Joints (72 inch) | No absorption |

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

