

Khalid Bashir

Test Performed By:

Dr. /Engr.

Bilal Ahmed Khokhar

Ittefaq Building Solutions (Pvt) Ltd. Lahore (Project: Barrett Hodgson University Toba Tek Singh)

Client Reference: IBS/BHU/ST02

Dated: 23-01-2019

SOM Lab Ref: CED/SOM/182(Page-1/1)

Dated: 23-01-2019

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 | 4.034 | 25 | 25.58 | 491 | 514 | 286.00 | 354.50 | 583 | 557 | 722 | 690 | 30.0 | 200 | 15.0 | B2895 |
| 2 | 3.891 | 25 | 25.12 | 491 | 496 | 288.70 | 360.70 | 588 | 583 | 735 | 728 | 30.0 | 200 | 15.0 | B3232 |
| 3 | 0.985 | 13 | 12.64 | 133 | 126 | 67.50 | 87.70 | 509 | 538 | 661 | 699 | 25.0 | 200 | 12.5 | C3307 |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

Witnessed By: Kashif Ramzan

BEND TEST:

| | | |
|------|--|---|
| 25mm | Sample bend through 180 degrees Satisfactorily without any crack | <p>Note:-</p> <p>Only Six Samples Received and Tested</p> |
| 25mm | Sample bend through 180 degrees Satisfactorily without any crack | |
| 13mm | 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.

Bilal Ahmad
Khokhar

Dy Dir MTL, Const of Mosque at Sector-H DHA Ph-VI - (M/S Faiz -e-Nazar)

SOM Lab

Client Reference: 408/241/E/Lab/411/429

Ref:

178(Page-1/1)

Dated: 17-01-2019

Dated:

23-01-2019

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 | 2.592 | 8 | 0.985 | 0.79 | 0.762 | 25.89 | 33.86 | 72290 | 74940 | 94540 | 98010 | 1.30 | 8.0 | 16.3 | |
| 2 | 2.597 | 8 | 0.986 | 0.79 | 0.763 | 24.64 | 35.93 | 68790 | 71220 | 100320 | 103860 | 1.50 | 8.0 | 18.8 | |
| 3 | 1.498 | 6 | 0.748 | 0.44 | 0.440 | 14.27 | 19.44 | 71540 | 71540 | 97440 | 97440 | 1.40 | 8.0 | 17.5 | |
| 4 | 1.492 | 6 | 0.747 | 0.44 | 0.438 | 14.53 | 19.78 | 72810 | 73140 | 99130 | 99580 | 1.30 | 8.0 | 16.3 | |
| 5 | 0.660 | 4 | 0.497 | 0.20 | 0.194 | 6.01 | 8.82 | 66320 | 68370 | 97230 | 100240 | 1.40 | 8.0 | 17.5 | |
| 6 | 0.646 | 4 | 0.492 | 0.20 | 0.190 | 5.81 | 8.56 | 64080 | 67450 | 94420 | 99390 | 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

Colonel Azin Ilyas (Retd)
 Coordinator / Secretary, Lahore Diocesan Board of Education, Lahore

Test Performed By: Dr. /Engr. Bilal A. Khokhar

Client Reference: CooRD/124/40/BLDG

SOM Lab

Ref: 179(Page-1/1)

Dated: 22-01-2019

Dated: 23-01-2019

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 | 1.507 | 6 | 0.751 | 0.44 | 0.443 | 14.29 | 19.42 | 71640 | 71150 | 97340 | 96680 | 1.50 | 8.0 | 18.8 | |
| 2 | 1.500 | 6 | 0.749 | 0.44 | 0.441 | 14.24 | 19.32 | 71380 | 71220 | 96830 | 96610 | 1.70 | 8.0 | 21.3 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |

BEND TEST:

| | | |
|----|------------------------|--|
| -- | No Bend test performed | Note:- Only Four Samples Received and Tested |
| | | |
| | | |
| | | |

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

Muhammad Iqbal Sajid
Project Manager, Lahore Motorway City

Test Performed By: Dr. /Engr. M Rizwan Riaz

Client Reference: R.I/LMC/01-19

SOM Lab

Ref: 180(Page-1/1)

Dated: 21-01-2019

Dated: 23-01-2019

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 | 2.567 | 8 | 0.980 | 0.79 | 0.754 | 25.81 | 35.63 | 72060 | 75500 | 99460 | 104210 | 1.50 | 8.0 | 18.8 | |
| 2 | 2.639 | 8 | 0.994 | 0.79 | 0.776 | 25.25 | 35.49 | 70490 | 71760 | 99090 | 100880 | 1.20 | 8.0 | 15.0 | |
| 3 | 1.493 | 6 | 0.748 | 0.44 | 0.439 | 13.51 | 19.44 | 67700 | 67860 | 97440 | 97660 | 1.40 | 8.0 | 17.5 | |
| 4 | 1.471 | 6 | 0.742 | 0.44 | 0.432 | 13.48 | 19.08 | 67550 | 68800 | 95650 | 97420 | 1.40 | 8.0 | 17.5 | |
| 5 | 0.676 | 4 | 0.503 | 0.20 | 0.199 | 6.95 | 9.09 | 76660 | 77050 | 100270 | 100770 | 1.00 | 8.0 | 12.5 | |
| 6 | 0.673 | 4 | 0.502 | 0.20 | 0.198 | 6.57 | 9.02 | 72510 | 73240 | 99480 | 100490 | 1.20 | 8.0 | 15.0 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |

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