

Li Shi
 Manager Sinohydro Corporation.(220Kv Transmission Lines Associated With Lhr North Substation)

Test Performed By: Dr. /Engr. Wasim Abbas

Client Reference: ADB-301B/2018/331

SOM Lab

Ref: 5518(Page-1/1)

Dated: 21-12-2021

Dated: 22-12-2021

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 | 3.211 | 9 | 1.096 | 1.00 | 0.944 | 24.31 | 39.25 | 53620 | 56800 | 86560 | 91690 | 1.60 | 8.0 | 20.0 | |
| 2 | 3.208 | 9 | 1.096 | 1.00 | 0.943 | 23.52 | 39.14 | 51870 | 55000 | 86330 | 91550 | 1.70 | 8.0 | 21.3 | |
| 3 | 2.676 | 8 | 1.000 | 0.79 | 0.786 | 20.08 | 30.33 | 56060 | 56350 | 84660 | 85090 | 1.90 | 8.0 | 23.8 | |
| 4 | 2.683 | 8 | 1.002 | 0.79 | 0.788 | 19.85 | 30.19 | 55410 | 55550 | 84290 | 84510 | 2.20 | 8.0 | 27.5 | |
| 5 | 1.489 | 6 | 0.747 | 0.44 | 0.438 | 14.44 | 19.72 | 72400 | 72730 | 98870 | 99320 | 1.20 | 8.0 | 15.0 | |
| 6 | 1.492 | 6 | 0.747 | 0.44 | 0.438 | 14.32 | 19.64 | 71790 | 72120 | 98460 | 98910 | 1.30 | 8.0 | 16.3 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |

Witnessed By: Amjad Tufail (CM Nespak)

BEND TEST:

| | | |
|-----|--|--|
| # 9 | Sample bend through 180 degrees Satisfactorily without any crack | Note:- Only Nine Samples Received and Tested |
| # 8 | Sample bend through 180 degrees Satisfactorily without any crack | |
| # 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

Gul Waqas Shahid

Test Performed By:

Dr. /Engr. Wasim Abbas

Director,Unirazz Services,Lahore.(Const. Of Nestle Head office at Shahrah-e-Roomi,Amer Sidhu Lhr)

Client Reference: USPL/PMALL/2112-1

SOM Lab

Ref: 5519(Page-1/1)

Dated: 21-12-2021

Dated: 22-12-2021

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 | 2.022 | 7 | 0.870 | 0.60 | 0.594 | 17.71 | 27.29 | 65090 | 65740 | 100310 | 101320 | 1.40 | 8.0 | 17.5 | |
| 2 | 2.016 | 7 | 0.868 | 0.60 | 0.592 | 17.30 | 27.22 | 63590 | 64450 | 100050 | 101400 | 1.70 | 8.0 | 21.3 | |
| 3 | 1.055 | 5 | 0.628 | 0.31 | 0.310 | 11.03 | 13.99 | 78470 | 78470 | 99500 | 99500 | 1.10 | 8.0 | 13.8 | |
| 4 | 1.055 | 5 | 0.628 | 0.31 | 0.310 | 11.13 | 14.09 | 79200 | 79200 | 100230 | 100230 | 1.00 | 8.0 | 12.5 | |
| 5 | 0.722 | 4 | 0.520 | 0.20 | 0.212 | 6.39 | 9.23 | 70480 | 66490 | 101730 | 95970 | 1.50 | 8.0 | 18.8 | |
| 6 | 0.718 | 4 | 0.518 | 0.20 | 0.211 | 6.34 | 9.19 | 69920 | 66280 | 101390 | 96110 | 1.20 | 8.0 | 15.0 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |

BEND TEST:

| | | |
|-----|--|--|
| # 7 | Sample bend through 180 degrees Satisfactorily without any crack | Note:- Only Nine Samples Received and Tested |
| # 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

Mirza Salman Baig
Lahore.

Test Performed By: Dr. /Engr. Irfan UI Hasan

Client Reference: Nil

SOM Lab

Ref: 5520(Page-1/1)

Dated: 22-12-2021

Dated: 22-12-2021

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 | 1.522 | 6 | 0.754 | 0.44 | 0.447 | 13.43 | 20.90 | 67290 | 66240 | 104750 | 103110 | 1.20 | 8.0 | 15.0 | |
| 2 | 1.523 | 6 | 0.755 | 0.44 | 0.448 | 13.27 | 20.95 | 66530 | 65340 | 105000 | 103130 | 1.20 | 8.0 | 15.0 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

BEND TEST:

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

Maj Adnan Khalid (R)

Test Performed By: Dr. /Engr. Irfan UI Hasan

Dy Dir MTL DHA Lhr,(Const. Of 18 Green Apartment Complex DRGCC DHA Ph-VI (M/s Construct)

Client Reference: 408/241/E/Lab/188/63

SOM Lab

Ref: 5521(Page-1/2)

Dated: 20-12-2021

Dated: 22-12-2021

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 | 1.518 | 6 | 0.754 | 0.44 | 0.446 | 14.02 | 19.64 | 70260 | 69310 | 98460 | 97140 | 1.10 | 8.0 | 13.8 | |
| 2 | 1.507 | 6 | 0.751 | 0.44 | 0.443 | 14.07 | 19.37 | 70510 | 70040 | 97080 | 96420 | 1.10 | 8.0 | 13.8 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

BEND TEST:

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

Maj Adnan Khalid (R)

Test Performed By: Dr. /Engr. Irfan UI Hasan

Dy Dir MTL DHA Lhr,(Const. Of 18 Green Apartment Complex DRGCC DHA Ph-VI (M/s Construct)

Client Reference: 408/241/E/Lab/191/64

SOM Lab

Ref: 5521(Page-2/2)

Dated: 21-12-2021

Dated: 22-12-2021

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 | 0.654 | 4 | 0.494 | 0.20 | 0.192 | 5.91 | 8.31 | 65200 | 67920 | 91610 | 95430 | 1.30 | 8.0 | 16.3 | |
| 2 | 0.657 | 4 | 0.496 | 0.20 | 0.193 | 6.07 | 8.56 | 66890 | 69310 | 94420 | 97850 | 1.30 | 8.0 | 16.3 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |

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

Maj Adnan Khalid (R)

Test Performed By:

Dr. /Engr.

Wasim Abbas

Dy Dir MTL DHA Lhr,(Const. Of 1k Housees NGV DRGCC DHA Ph-VI (M/s Linker Devl)

Client Reference: 408/241/32/Lab/190/382

SOM Lab

Ref:

5522(Page-1/1)

Dated: 21-12-2021

Dated:

22-12-2021

Test: Tension Test & Bend Test

Test Specification:

ASTM-A-615

Gauge Length: 8 inch

Sample Type:

Deformed Bar (Afco 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 | 1.541 | 6 | 0.759 | 0.44 | 0.453 | 16.23 | 21.46 | 81340 | 79010 | 107560 | 104470 | 1.00 | 8.0 | 12.5 | |
| 2 | 1.528 | 6 | 0.756 | 0.44 | 0.449 | 16.26 | 21.38 | 81500 | 79860 | 107150 | 105000 | 1.20 | 8.0 | 15.0 | |
| 3 | 0.656 | 4 | 0.496 | 0.20 | 0.193 | 6.50 | 8.92 | 71720 | 74320 | 98360 | 101930 | 0.90 | 8.0 | 11.3 | |
| 4 | 0.654 | 4 | 0.494 | 0.20 | 0.192 | 6.60 | 8.63 | 72730 | 75760 | 95210 | 99180 | 1.00 | 8.0 | 12.5 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |

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

Tahir Mehmood

Test Performed By:

Dr. /Engr.

Wasim Abbas

CE New Lahore city,(Construction Of Monument Chock Ph.-III,New Lahore City)

Client Reference: NLC/CE/Const/015

SOM Lab

Ref:

5523(Page-1/1)

Dated: 13-12-2021

Dated:

22-12-2021

Test: Tension Test & Bend Test

Test Specification:

ASTM-A-615

Gauge Length: 8 inch

Sample Type:

Deformed Bar (Saeed 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 | 2.649 | 8 | 0.995 | 0.79 | 0.778 | 25.23 | 41.05 | 70440 | 71520 | 114600 | 116370 | 1.20 | 8.0 | 15.0 | |
| 2 | 2.647 | 8 | 0.995 | 0.79 | 0.778 | 25.86 | 40.93 | 72200 | 73310 | 114260 | 116020 | 1.20 | 8.0 | 15.0 | |
| 3 | 1.487 | 6 | 0.746 | 0.44 | 0.437 | 13.32 | 21.41 | 66780 | 67240 | 107300 | 108040 | 1.00 | 8.0 | 12.5 | |
| 4 | 1.492 | 6 | 0.747 | 0.44 | 0.438 | 13.37 | 21.78 | 67040 | 67350 | 109190 | 109690 | 1.10 | 8.0 | 13.8 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |

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

Muhammad Shahbaz
Imperium Hospitality (Pvt) Ltd. Lahore.

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

Client Reference: IHPL/Steel/0160
Dated: 22-12-2021
Test: Tension Test & Bend Test
Gauge Length: 8 inch

SOM Lab
Ref: 5524(Page-1/1)
Dated: 22-12-2021
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 | 1.611 | 6 | 0.776 | 0.44 | 0.473 | 18.17 | 22.24 | 91050 | 84700 | 111490 | 103710 | 1.00 | 8.0 | 12.5 | |
| 2 | 1.509 | 6 | 0.751 | 0.44 | 0.443 | 15.92 | 20.13 | 79810 | 79270 | 100910 | 100230 | 1.50 | 8.0 | 18.8 | |
| 3 | 1.505 | 6 | 0.750 | 0.44 | 0.442 | 15.70 | 20.00 | 78690 | 78330 | 100250 | 99800 | 1.30 | 8.0 | 16.3 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |

Witnessed By: Engr.Rafi Ullah (IHPL) & Ali Hasnain Khan,(Kingcrete Builders)

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