

Test Floor Laboratory Department of Civil Engineering University of Engineering and Technology Lahore, 54890 Pakistan. Ph: 92-42-99029202

To, Resident Engineer RENARDET S.A ((M-4), Package-3A) Construction of Faisalabad-Khanewal Motorway (M-4) Project, Package-IIIA (M/s CGGC)

| Reference # CED/TFL 33332 (Dr. M Rizwan Riaz) | Dated: 30-05-2019 |
|--|-------------------|
| Reference of the request letter # RE/M-4/3A/2019/319 | Dated: 28-05-2019 |

Tension Test Report (Page – 1/1)

Date of Test17-06-2019Gauge length------DescriptionFabric Wire Tensile Test as per AASHTO-M-181

| Sr. No. | Diameter Single Wire | Breaking Load | R | emarks | | | |
|---------|----------------------|----------------------|------------|-----------------|--|--|--|
| | (mm) | (kN) | | | | | |
| 1 | 3.20 | 6.70 | | | | | |
| 2 | 3.20 | 6.55 | | | | | |
| 3 | 3.20 | 6.60 | Nizami | From km 121+900 | | | |
| 4 | 3.25 | 6.75 | Wire | to 136+400 | | | |
| 5 | 3.20 | 6.60 | | | | | |
| 6 | 3.25 | 6.70 | | | | | |
| 7 | 3.20 | 6.60 | Nizami | From km 138+964 | | | |
| 8 | 3.20 | 6.80 | Wire | to 143+600 | | | |
| 9 | 3.20 | 6.65 | | From km 138+964 | | | |
| 10 | 3.20 | 6.65 | All Hajeri | to 143+600 | | | |
| | Only | Ten Samples for Test | | | | | |

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Test Floor Laboratory Department of Civil Engineering University of Engineering and Technology Lahore, 54890 Pakistan. Ph: 92-42-99029202

Ref: CED/TFL/06/33373

Dated: 13-06-19

To Director, Equipment & Material M/S CGGC Suki Kinari Project Management in Pakistan

Subject: - CALIBRATION OF HYDRAULIC JACK (MARK: TFL/06/33373) (Page -1/14)

Reference to your Letter No. Nil, dated: 11/06/2019 on the subject cited above. One Hydraulic Jack (Jack No. 17175, Gauge No. 2867) as received by us has been calibrated. The results are tabulated as under:

| Total Range : | Zero - | 60 (MPa) |
|--------------------|--------|----------|
| Calibrated Range : | Zero - | 50 (MPa) |

| Hydraulic Jack Reading (MPa) | 2 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 |
|------------------------------|---|------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| Calibrated Load (Kg) | 0 | 1700 | 4300 | 6550 | 9200 | 11400 | 14150 | 16350 | 18950 | 21200 | 23950 |
| Calibrated Pressure (Mpa) | 0 | 3.49 | 8.84 | 13.46 | 18.91 | 23.43 | 29.09 | 33.61 | 38.95 | 43.58 | 49.23 |

The Ram Area of Jack = 47.71 cm^2

Calibration Curve For Jack No. 17175 (Gauge # 2867)



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Ref: CED/TFL/06/33373

Dated: 13-06-19

To Director, Equipment & Material M/S CGGC Suki Kinari Project Management in Pakistan

Subject: - CALIBRATION OF HYDRAULIC JACK (MARK: TFL/06/33373) (Page -2/14)

Reference to your Letter No. Nil, dated: 11/06/2019 on the subject cited above. One Hydraulic Jack (Jack No. 17175, Gauge No. 2688) as received by us has been calibrated. The results are tabulated as under:

| Total Range : | Zero - | 60 (MPa) |
|--------------------|--------|----------|
| Calibrated Range : | Zero - | 50 (MPa) |

| Hydraulic Jack Reading (MPa) | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 |
|------------------------------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| Calibrated Load (Kg) | 2500 | 4750 | 7250 | 9600 | 11900 | 14600 | 17000 | 19300 | 21700 | 24250 |
| Calibrated Pressure (Mpa) | 5.14 | 9.76 | 14.90 | 19.73 | 24.46 | 30.01 | 34.94 | 39.67 | 44.61 | 49.85 |

The Ram Area of Jack = 47.71 cm^2



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Ref: CED/TFL/06/33373

Dated: 13-06-19

To Director, Equipment & Material M/S CGGC Suki Kinari Project Management in Pakistan

Subject: - CALIBRATION OF HYDRAULIC JACK (MARK: TFL/06/33373) (Page -3/14)

Reference to your Letter No. Nil, dated: 11/06/2019 on the subject cited above. One Hydraulic Jack (Jack No. 17199, Gauge No. 2867) as received by us has been calibrated. The results are tabulated as under:

| Total Range : | Zero - | 60 (MPa) |
|--------------------|--------|----------|
| Calibrated Range : | Zero - | 50 (MPa) |

| Hydraulic Jack Reading (MPa) | 2 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 |
|------------------------------|---|------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| Calibrated Load (Kg) | 0 | 1600 | 3900 | 6600 | 9050 | 11450 | 13950 | 16350 | 18700 | 21250 | 23600 |
| Calibrated Pressure (Mpa) | 0 | 3.29 | 8.02 | 13.57 | 18.60 | 23.54 | 28.67 | 33.61 | 38.44 | 43.68 | 48.51 |

The Ram Area of Jack = 47.71 cm^2



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Dated: 13-06-19

To Director, Equipment & Material M/S CGGC Suki Kinari Project Management in Pakistan

Subject: - CALIBRATION OF HYDRAULIC JACK (MARK: TFL/06/33373) (Page -4/14)

Reference to your Letter No. Nil, dated: 11/06/2019 on the subject cited above. One Hydraulic Jack (Jack No. 17199, Gauge No. 2688) as received by us has been calibrated. The results are tabulated as under:

| Total Range | : | Zero - | 60 (MPa) |
|------------------|---|--------|----------|
| Calibrated Range | : | Zero - | 50 (MPa) |

| Hydraulic Jack Reading (MPa) | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 |
|------------------------------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| Calibrated Load (Kg) | 2300 | 4700 | 7100 | 9300 | 11850 | 14400 | 16700 | 19250 | 21700 | 24200 |
| Calibrated Pressure (Mpa) | 4.73 | 9.66 | 14.59 | 19.12 | 24.36 | 29.60 | 34.33 | 39.57 | 44.61 | 49.74 |

The Ram Area of Jack = 47.71 cm^2

Calibration Curve For Jack No. 17199 (Gauge # 2688)



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Ref: CED/TFL/06/33373

Dated: 13-06-19

To Director, Equipment & Material M/S CGGC Suki Kinari Project Management in Pakistan

Subject: - CALIBRATION OF HYDRAULIC JACK (MARK: TFL/06/33373) (Page -5/14)

Reference to your Letter No. Nil, dated: 11/06/2019 on the subject cited above. One Hydraulic Jack (Jack No. 1436, Gauge No. 2688) as received by us has been calibrated. The results are tabulated as under:

| Total Range | : | Zero - | 60 (MPa) |
|------------------|---|--------|----------|
| Calibrated Range | : | Zero - | 50 (MPa) |

| Hydraulic Jack Reading (MPa) | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 |
|------------------------------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|
| Calibrated Load (Kg) | 16000 | 30000 | 45000 | 60000 | 75200 | 90200 | 106000 | 120800 | 136200 | 152000 |
| Calibrated Pressure (Mpa) | 5.27 | 9.87 | 14.81 | 19.75 | 24.75 | 29.68 | 34.88 | 39.75 | 44.82 | 50.02 |

The Ram Area of Jack = 298 cm^2



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Dated: 13-06-19

To Director, Equipment & Material M/S CGGC Suki Kinari Project Management in Pakistan

Subject: - CALIBRATION OF HYDRAULIC JACK (MARK: TFL/06/33373) (Page -6/14)

Reference to your Letter No. Nil, dated: 11/06/2019 on the subject cited above. One Hydraulic Jack (Jack No. 1436, Gauge No. 2948) as received by us has been calibrated. The results are tabulated as under:

| Total Range | : | Zero - | 60 (MPa) |
|------------------|---|--------|----------|
| Calibrated Range | : | Zero - | 50 (MPa) |

| Hydraulic Jack Reading (MPa) | 1.50 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 |
|------------------------------|------|------|-------|-------|-------|-------|-------|--------|--------|--------|--------|
| Calibrated Load (Kg) | 0 | 8400 | 24000 | 39200 | 54000 | 69400 | 84600 | 100000 | 115000 | 130000 | 146000 |
| Calibrated Pressure (Mpa) | 0 | 2.76 | 7.90 | 12.90 | 17.77 | 22.84 | 27.84 | 32.91 | 37.85 | 42.78 | 48.05 |

The Ram Area of Jack = 298 cm^2



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Dated: 13-06-19

To Director, Equipment & Material M/S CGGC Suki Kinari Project Management in Pakistan

Subject: - CALIBRATION OF HYDRAULIC JACK (MARK: TFL/06/33373) (Page -7/14)

Reference to your Letter No. Nil, dated: 11/06/2019 on the subject cited above. One Hydraulic Jack (Jack No. 1706, Gauge No. 2863) as received by us has been calibrated. The results are tabulated as under:

| Total Range | : | Zero - | 60 (MPa) |
|------------------|---|--------|----------|
| Calibrated Range | : | Zero - | 50 (MPa) |

| Hydraulic Jack Reading (MPa) | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 |
|------------------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Calibrated Load (Kg) | 8800 | 18700 | 28700 | 33200 | 47600 | 57300 | 66900 | 76600 | 86200 | 96000 |
| Calibrated Pressure (Mpa) | 4.52 | 9.61 | 14.75 | 17.06 | 24.47 | 29.45 | 34.39 | 39.37 | 44.31 | 49.34 |

The Ram Area of Jack = 190.8 cm^2





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Dated: 13-06-19

To Director, Equipment & Material M/S CGGC Suki Kinari Project Management in Pakistan

Subject: - CALIBRATION OF HYDRAULIC JACK (MARK: TFL/06/33373) (Page -8/14)

Reference to your Letter No. Nil, dated: 11/06/2019 on the subject cited above. One Hydraulic Jack (Jack No. 1706, Gauge No. 2694) as received by us has been calibrated. The results are tabulated as under:

| Total Range | : | Zero - | 60 (MPa) |
|------------------|---|--------|----------|
| Calibrated Range | : | Zero - | 50 (MPa) |

| Hydraulic Jack Reading (MPa) | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 |
|------------------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Calibrated Load (Kg) | 8900 | 17900 | 27400 | 37000 | 46400 | 56100 | 65900 | 75200 | 84900 | 94800 |
| Calibrated Pressure (Mpa) | 4.57 | 9.20 | 14.08 | 19.02 | 23.85 | 28.84 | 33.87 | 38.65 | 43.64 | 48.73 |

The Ram Area of Jack = 190.8 cm^2

Calibration Curve For Jack No. 1706 (Gauge # 2694)



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Subject: - CALIBRATION OF HYDRAULIC JACK (MARK: TFL/06/33373) (Page -9/14)

Reference to your Letter No. Nil, dated: 11/06/2019 on the subject cited above. One Hydraulic Jack (Jack No. 1701, Gauge No. 2863) as received by us has been calibrated. The results are tabulated as under:

| Total Range | : | Zero - | 60 (MPa) |
|------------------|---|--------|----------|
| Calibrated Range | : | Zero - | 50 (MPa) |

| Hydraulic Jack Reading (MPa) | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 |
|------------------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Calibrated Load (Kg) | 9200 | 18700 | 28600 | 37900 | 47600 | 57100 | 66700 | 76300 | 85900 | 95900 |
| Calibrated Pressure (Mpa) | 4.73 | 9.61 | 14.70 | 19.48 | 24.47 | 29.35 | 34.28 | 39.22 | 44.15 | 49.29 |

The Ram Area of Jack = 190.8 cm^2



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Ref: CED/TFL/06/33373

Dated: 13-06-19

To Director, Equipment & Material M/S CGGC Suki Kinari Project Management in Pakistan

Subject: - CALIBRATION OF HYDRAULIC JACK (MARK: TFL/06/33373) (Page -10/14)

Reference to your Letter No. Nil, dated: 11/06/2019 on the subject cited above. One Hydraulic Jack (Jack No. 1701, Gauge No. 2694) as received by us has been calibrated. The results are tabulated as under:

| Total Range | : | Zero - | 60 (MPa) |
|------------------|---|--------|----------|
| Calibrated Range | : | Zero - | 50 (MPa) |

| Hydraulic Jack Reading (MPa) | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 |
|------------------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Calibrated Load (Kg) | 8900 | 18000 | 27200 | 36900 | 46300 | 56400 | 65600 | 75200 | 84900 | 94400 |
| Calibrated Pressure (Mpa) | 4.57 | 9.25 | 13.98 | 18.97 | 23.80 | 28.99 | 33.72 | 38.65 | 43.64 | 48.52 |

The Ram Area of Jack = 190.8 cm^2

Calibration Curve For Jack No. 1701 (Gauge # 2694)



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Ref: CED/TFL/06/33373

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Subject: - CALIBRATION OF HYDRAULIC JACK (MARK: TFL/06/33373) (Page -11/14)

Reference to your Letter No. Nil, dated: 11/06/2019 on the subject cited above. One Hydraulic Jack (Jack No. 1135, Gauge No. 2872) as received by us has been calibrated. The results are tabulated as under:

| Total Range : | Zero - | 60 (MPa) |
|--------------------|--------|----------|
| Calibrated Range : | Zero - | 50 (MPa) |

| Hydraulic Jack Reading (MPa) | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 |
|------------------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Calibrated Load (Kg) | 9900 | 19600 | 29100 | 38300 | 48200 | 58000 | 67500 | 77000 | 86500 | 96500 |
| Calibrated Pressure (Mpa) | 5.09 | 10.07 | 14.96 | 19.69 | 24.77 | 29.81 | 34.69 | 39.58 | 44.46 | 49.60 |

The Ram Area of Jack = 190.8 cm^2



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Dated: 13-06-19

To Director, Equipment & Material M/S CGGC Suki Kinari Project Management in Pakistan

Subject: - CALIBRATION OF HYDRAULIC JACK (MARK: TFL/06/33373) (Page -12/14)

Reference to your Letter No. Nil, dated: 11/06/2019 on the subject cited above. One Hydraulic Jack (Jack No. 1135, Gauge No. 2694) as received by us has been calibrated. The results are tabulated as under:

| Total Range : | Zero - | 60 (MPa) |
|--------------------|--------|----------|
| Calibrated Range : | Zero - | 50 (MPa) |

| Hydraulic Jack Reading (MPa) | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 |
|------------------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Calibrated Load (Kg) | 9000 | 18000 | 27500 | 36900 | 46300 | 56300 | 65800 | 75400 | 85000 | 94400 |
| Calibrated Pressure (Mpa) | 4.63 | 9.25 | 14.13 | 18.97 | 23.80 | 28.94 | 33.82 | 38.76 | 43.69 | 48.52 |

The Ram Area of Jack = 190.8 cm^2

Calibration Curve For Jack No. 1135 (Gauge # 2694)



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Subject: - CALIBRATION OF HYDRAULIC JACK (MARK: TFL/06/33373) (Page -13/14)

Reference to your Letter No. Nil, dated: 11/06/2019 on the subject cited above. One Hydraulic Jack (Jack No. 1410, Gauge No. 2872) as received by us has been calibrated. The results are tabulated as under:

| Total Range | : | Zero - | 60 (MPa) |
|------------------|---|--------|----------|
| Calibrated Range | : | Zero - | 50 (MPa) |

| Hydraulic Jack Reading (MPa) | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 |
|------------------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Calibrated Load (Kg) | 8700 | 18500 | 28000 | 37400 | 47100 | 56800 | 66600 | 76000 | 85700 | 95700 |
| Calibrated Pressure (Mpa) | 4.47 | 9.51 | 14.39 | 19.22 | 24.21 | 29.19 | 34.23 | 39.06 | 44.05 | 49.19 |

The Ram Area of Jack = 190.8 cm^2

Calibration Curve For Jack No. 1410 (Gauge # 2872)



- 1- You can See your reports On Internet in the following web site http://www.uet.edu.pk/faculties/facultiesinfo/civil/index.html?RID=testing_reports
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Subject: - CALIBRATION OF HYDRAULIC JACK (MARK: TFL/06/33373) (Page -14/14)

Reference to your Letter No. Nil, dated: 11/06/2019 on the subject cited above. One Hydraulic Jack (Jack No. 1410, Gauge No. 2694) as received by us has been calibrated. The results are tabulated as under:

| Total Range | : | Zero - | 60 (MPa) |
|------------------|---|--------|----------|
| Calibrated Range | : | Zero - | 50 (MPa) |

| Hydraulic Jack Reading (MPa) | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 |
|------------------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Calibrated Load (Kg) | 8600 | 18000 | 27400 | 36800 | 46400 | 56200 | 65800 | 75300 | 85100 | 94600 |
| Calibrated Pressure (Mpa) | 4.42 | 9.25 | 14.08 | 18.91 | 23.85 | 28.89 | 33.82 | 38.70 | 43.74 | 48.62 |

The Ram Area of Jack = 190.8 cm^2

Calibration Curve For Jack No. 1410 (Gauge # 2694) Calibrated Value (MPa) = (0.9844 x Jack Reading (MPa)) - 0.6408



UET Lahore, Pakistan.

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Test Floor Laboratory Department of Civil Engineering University of Engineering and Technology Lahore, 54890 Pakistan. Ph: 92-42-99029202

Ref: <u>CED/TFL/06/33375</u>

Dated: 13-06-19

To, DCRE/RE-1 Zeeruk International (Pvt) Ltd Lahore Sialkot Motorway Project

Subject: - CALIBRATION OF HYDRAULIC JACK (MARK: TFL/06/33375) (Page -1/2)

Reference to your Letter No. LSMP/RE-1/2019/853, Dated: 12/06/2019 on the subject cited above. One Hydraulic Jack (Jack No 310, Gauge No. AES-310) as received by us has been calibrated. The results are tabulated as under:

| Total Range : | Zero - | 700 (bar) |
|--------------------|--------|-----------|
| Calibrated Range : | Zero - | 320 (bar) |

| Hydraulic Jack Rea | 50 | 100 | 150 | 200 | 250 | 300 | 320 | |
|---------------------|---------|-------|--------|--------|--------|--------|--------|--------|
| Calibrated Load | (kg) | 31400 | 63000 | 92800 | 124800 | 152400 | 184600 | 195800 |
| Calibrated Load | Tonne | 31.40 | 63.00 | 92.80 | 124.80 | 152.40 | 184.60 | 195.80 |
| Calibrated Pressure | e (bar) | 53.64 | 107.62 | 158.53 | 213.20 | 260.34 | 315.35 | 334.48 |

1 Tonne = 1000 kg, The Ram Area of Jack = 574.8 cm^2



I/C Testing Laboratoires UET Lahore, Pakistan.

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Ref: <u>CED/TFL/06/33375</u>

Dated: 13-06-19

To, DCRE/RE-1 Zeeruk International (Pvt) Ltd Lahore Sialkot Motorway Project

Subject: - CALIBRATION OF HYDRAULIC JACK (MARK: TFL/06/33375) (Page -2/2)

Reference to your Letter No. LSMP/RE-1/2019/853, Dated: 12/06/2019 on the subject cited above. One Hydraulic Jack (Jack No 320, Gauge No. AES-320) as received by us has been calibrated. The results are tabulated as under:

| Total Range : | Zero - | 700 (bar) |
|--------------------|--------|-----------|
| Calibrated Range : | Zero - | 320 (bar) |

| Hydraulic Jack Rea | ding (bar) | 50 | 100 | 150 | 200 | 250 | 300 | 320 |
|---------------------|------------|-------|--------|--------|--------|--------|--------|--------|
| Calibrated Load | (kg) | 33000 | 62600 | 92200 | 124000 | 154000 | 184600 | 195800 |
| Calibrated Load | Tonne | 33.00 | 62.60 | 92.20 | 124.00 | 154.00 | 184.60 | 195.80 |
| Calibrated Pressure | e (bar) | 56.37 | 106.94 | 157.51 | 211.83 | 263.08 | 315.35 | 334.48 |

1 Tonne = 1000 kg, The Ram Area of Jack = 574.8 cm^2



I/C Testing Laboratoires UET Lahore, Pakistan.

- 1- You can See your reports On Internet in the following web site http://www.uet.edu.pk/faculties/facultiesinfo/civil/index.html?RID=testing_reports
- 2. The above results pertain to sample /samples supplied to this laboratory.
- 3- Sealed sample / Unsealed sample / Marked sample/Signed Samples



Test Floor Laboratory Department of Civil Engineering University of Engineering and Technology Lahore, 54890 Pakistan. Ph: 92-42-99029202

To, M/S AT Large Constructions Lahore

Reference # CED/TFL **33386** (Dr. M Rizwan Riaz) Reference of the request letter # Nil Dated: 17-06-2019 Dated: 17-06-2019

Tension Test Report(Page -1/1)Date of Test17-06-2019Gauge length8 inchesDescriptionDeformed Steel Bar Tensile and Bend Test as per ASTM-A615

| r. No. | ti Diame Size | | meter/ A size (i | | rea n ²) | Yield load | Breaking Load | Yield (p | Stress si) | Ultimat (p | te Stress si) | Elongation | longation | emarks |
|--------|------------------|----------------|---------------------|----------|-------------------------|------------|------------------|-------------|---------------|---------------|------------------|------------|-----------|--------|
| S | (lbs/ft) | Nominal (#) | Actual (inch) | Nominal | Actual | (kg) | (kg) | Nominal | Actual | Nominal | Actual | (inch) | % E | R |
| 1 | 0.360 | 3 | 0.367 | 0.11 | 0.106 | 3870 | 4810 | 77600 | 80670 | 96400 | 100300 | 1.00 | 12.5 | |
| 2 | 0.359 | 3 | 0.367 | 0.11 | 0.106 | 3890 | 4820 | 78000 | 81210 | 96600 | 100700 | 1.10 | 13.8 | |
| - | - | - | - | - | - | • | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| | r | r | N | ote: on | ly two s | amples f | or tensile | and one | sample f | or bend | test | n | | |
| | | | | | | | | | | | | | | |
| | | | | | | | Bend T | 'est | | | | | | |
| #3 | Bar Ben | d Test | Through | n 180° i | s Satisfa | actory | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |

I/C Testing Laboratoires UET Lahore, Pakistan.

- 1- You can See your reports On Internet in the following web site http://www.uet.edu.pk/faculties/facultiesinfo/civil/index.html?RID=testing_reports
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Test Floor Laboratory Department of Civil Engineering University of Engineering and Technology Lahore, 54890 Pakistan. Ph: 92-42-99029202

To, General Manager (Project) Orient Hotel Tower Project FTC Johar Town – Lahore (Afco Steel)

Reference # CED/TFL 33388 (Dr. M Rizwan Riaz)Dated: 17-06-2019Reference of the request letter # ORIENT/AFCO/Hotel Tower/Steel/003Dated: 14-06-2019

Tension Test Report (Page -1/1)

Date of Test17-06-2019Gauge length8 inchesDescriptionDeformed Steel Bar Tensile and Bend Test as per ASTM-A615

| ir. No. | Dian S M (n | | Diameter/ Size (mm) | | rea n ²) | Yield load | Breaking Load | Yield (p | Stress si) | Ultimat (p | e Stress si) | Elongation | longation | emarks |
|---------|-------------------|---------|---------------------------|---------|-------------------------|------------|------------------|-------------|---------------|---------------|-----------------|------------|-----------|--------|
| S | (lbs/ft) | Nominal | Actual | Nominal | Actual | (kg) | (kg) | Nominal | Actual | Nominal | Actual | (inch) | H % | R |
| 1 | 0.404 | 10 | 9.88 | 0.11 | 0.119 | 3550 | 5610 | 71200 | 65840 | 112500 | 104100 | 1.00 | 12.5 | |
| 2 | 0.404 | 10 | 9.88 | 0.11 | 0.119 | 3540 | 5650 | 71000 | 65730 | 113300 | 104900 | 1.10 | 13.8 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| | | | Ν | ote: on | ly two s | amples f | or tensile | and one | sample f | or bend | test | r | | r |
| | | | | | | | | | | | | | | |
| | | | | | | | Bend T | est | | | | | | |
| 101 | nm Dia | Bar Ber | nd Test | Throug | h 180° i | s Satisfac | ctory | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |

I/C Testing Laboratoires UET Lahore, Pakistan.

- 1- You can See your reports On Internet in the following web site http://www.uet.edu.pk/faculties/facultiesinfo/civil/index.html?RID=testing_reports
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Test Floor Laboratory Department of Civil Engineering University of Engineering and Technology Lahore, 54890 Pakistan. Ph: 92-42-99029202

To, M/S Sunshine LPG (Pvt) Ltd Lahore

Reference # CED/TFL **33390** (Dr. M Rizwan Riaz) Reference of the request letter # Nil Dated: 17-06-2019 Dated: 16-06-2019

Tension Test Report(Page -1/1)Date of Test17-06-2019Gauge length8 inchesDescriptionDeformed Steel Bar Tensile and Bend Test as per ASTM-A615

| Sr. No. | Weight | Diameter/ Size (inch) | | Area (in ²) | | Yield load | Breaking Load | Yield Stress (psi) | | Ultimate Stress (psi) | | Elongation | longation | emarks |
|---|---|-----------------------------|--------|----------------------------|--------|------------|------------------|-----------------------|--------|--------------------------|--------|------------|-----------|--------|
| | (lbs/ft) | Nominal | Actual | Nominal | Actual | (kg) | (kg) | Nominal | Actual | Nominal | Actual | (inch) | % E | R |
| 1 | 0.385 | 3/8 | 0.380 | 0.11 | 0.113 | 2070 | 2750 | 41500 | 40290 | 55100 | 53600 | 1.90 | 23.8 | |
| 2 | 0.383 | 3/8 | 0.379 | 0.11 | 0.113 | 2750 | 3620 | 55100 | 53790 | 72600 | 70800 | 0.90 | 11.3 | |
| - | - | I | - | I | - | - | - | - | - | - | - | - | - | |
| - | - | I | - | I | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| Note: only two samples for tensile and one sample for bend test | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| Bend Test | | | | | | | | | | | | | | |
| 3/8 | 3/8" Dia Bar Bend Test Through 180° is Satisfactory | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |

I/C Testing Laboratoires UET Lahore, Pakistan.

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