STRUCTURAL ENGINEERING DIVISION

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

To,

Resident Engineer
NESPAK
Construction of Electric Buss Depot at Green Town, Lahore.

Reference # CED/TFL **6431** (Dr. Usman Akmal) Dated: 28-01-2025
Reference of the request letter # 4792/13/RK/05/32 Dated: 24-01-2025

Tension Test Report (Page -1/1)

Date of Test 12-02-2025
Gauge length 8 inches
Description Plain Tensile and Bend Test

Sr. No.	Weight	Diameter/ size		Area (mm^2)		Yield load	Breaking Load	Yield Stress (MPa)	Ultimate Stress (MPa)	Elongation	% Elongation	Remarks
	(kg/m)	Nominal (#)	Actual (mm)	Nominal	Actual	(kg)	(kg)	Actual	Actual	(inch)		
1	7.446	11	34.75	--------	948.6	40000	64200	414	664	1.70	21.3	
2	7.515	11	34.91	--------	957.3	55000	79800	564	818	1.20	15.0	
3	7.456	11	34.78	--------	949.8	54000	79600	558	822	1.10	13.8	
4	7.358	11	34.55	--------	937.3	39600	64400	414	674	1.70	21.3	
5	7.450	11	34.76	--------	949.1	55000	79600	568	823	1.00	12.5	
6	7.433	11	34.72	--------	946.9	40000	64200	414	665	1.30	16.3	
7	7.441	11	34.74	--------	947.9	40000	64600	414	669	1.50	18.8	
8	7.475	11	34.82	--------	952.2	56000	79600	577	820	1.00	12.5	
9	7.347	11	34.52	--------	936.0	39600	64400	415	675	1.40	17.5	
10	7.400	11	34.64	--------	942.6	39800	64400	414	670	1.50	18.8	
Note: only ten samples for tensile and five samples for bend test												
Bend Test												
#11 Bar Bend Test Through 180º is Satisfactory												
#11 Bar Bend Test Through 180º is Satisfactory												
#11 Bar Bend Test Through 180º is Satisfactory												
#11 Bar Bend Test Through 180º is Satisfactory												
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I/C Testing Laboratoires
UET Lahore, Pakistan.

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

To,

M/S Induscrete
Karachi

Reference # CED/TFL **6471** (Dr. Usman Akmal) Dated: 03-02-2025
Reference of the request letter # AAC/K-005/2024 Dated: 03-02-2025

Tension Test Report (Page – 1/1)

Date of Test 12-02-2025
Gauge length 600 mm
Description Steel Strand Tensile Test as per ASTM A-416-94a

Sr. No.	Nominal Diameter	Nominal Weight	Measured weight	Yield strength clause (6.3)		Breaking strength clause (6.2)		% Elongation	Remarks / Coil No.
	(mm)	(kg/km)	(kg/km)	(kg)	(kN)	(kg)	(kN)		
1	**9.53 (3/8")**	**430.0**	**442.0**	**9800**	**96.14**	**11100**	**108.89**	**>3.50**	
-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	
Only one sample for Test									

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STRUCTURAL ENGINEERING DIVISION

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

To,

M/S Jafris and Steele (Private) Limited.
Lahore

Reference # CED/TFL **6504** (Dr. Usman Akmal) Dated: 10-02-2025
Reference of the request letter # JSPL2025-80/639 Dated: 10-02-2025

Tension Test Report (Page -1/1)

Date of Test 12-02-2025
Gauge length 8 inches
Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight	Diameter/ Size (mm)		Area (in^2)		Yield load	Breaking Load	Yield Stress (psi)		Ultimate Stress (psi)		Elongation	% Elongation	Remarks
	(lbs/ft)	Nominal	Actual	Nominal	Actual	(kg)	(kg)	Nominal	Actual	Nominal	Actual	(inch)		
1	0.415	10	10.01	0.12	0.122	3500	5100	64301	63220	93696	92200	1.50	18.8	
2	0.417	10	10.03	0.12	0.123	3600	5200	66138	64750	95533	93600	1.20	15.0	
3	4.278	32	32.14	1.25	1.258	42400	54400	74780	74320	95944	95400	1.30	16.3	
4	4.279	32	32.14	1.25	1.258	35800	52000	63140	62740	91711	91200	1.80	22.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only four samples for tensile and two samples for bend test														
Bend Test														
10mm Bar Bend Test Through 180º is Satisfactory														
32mm Bar Bend Test Through 180º is Satisfactory														

I/C Testing Laboratoires
UET Lahore, Pakistan.

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STRUCTURAL ENGINEERING DIVISION

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

To,

Engr. Farrukh Alvi
Deputy General Manager (Works)
Habib Rafiq Engineering (Pvt.) Limited
101 Tower, Lahore

Reference # CED/TFL **6506** (Dr. Usman Akmal) Dated: 10-02-2025
Reference of the request letter # HRLE/SKG/2025/Hunza/12.060/198 Dated: 10-02-2025

Tension Test Report (Page -1/1)

Date of Test 12-02-2025
Gauge length 8 inches
Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight	Diameter/ Size (mm)		Area (in^2)		Yield load	Breaking Load	Yield Stress (psi)		Ultimate Stress (psi)		Elongation	% Elongation	Remarks
	(lbs/ft)	Nominal	Actual	Nominal	Actual	(kg)	(kg)	Nominal	Actual	Nominal	Actual	(inch)		
1	4.150	32	31.66	1.25	1.220	37200	50800	65609	67210	89595	91800	1.70	21.3	Hunza Steel
2	4.165	32	31.71	1.25	1.224	41000	55800	72311	73810	98413	100500	1.50	18.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Note: only two samples for tensile and one sample for bend test

Bend Test

32mm Dia Bar Bend Test Through 180º is Satisfactory

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

Ref: CED/TFL/02/6513 Dated: 10-02-2025

Date of Test: 12-02-2025

To,

Resident Engineer
NESPAK
EFAP-KPID-CW-05: Rehabilitation of Drains and FCCS in CRBC Irrigation Division D-I-Khan.

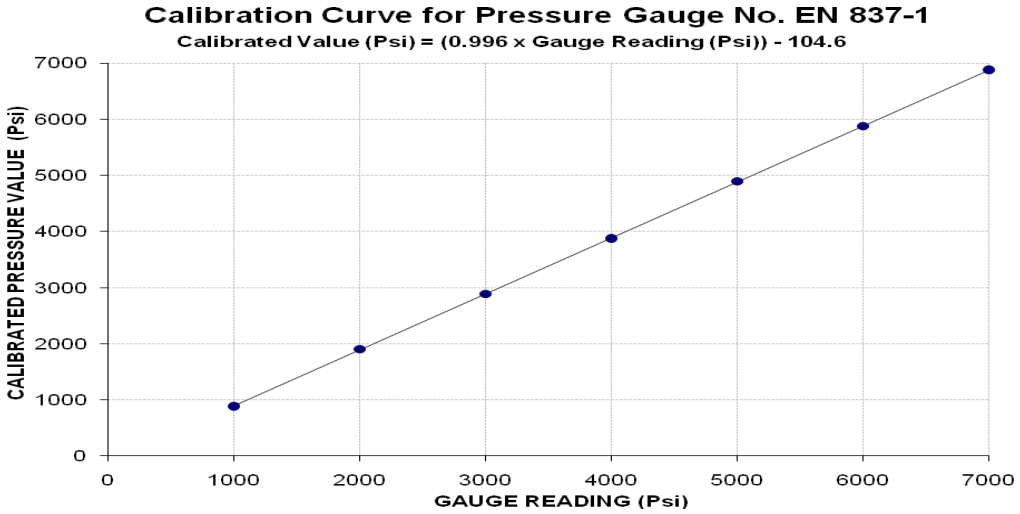
Subject: **- CALIBRATION OF PRESSURE GAUGE (MARK: TFL/02/6513)** (Page # 1/2)

Reference to your Letter No. 4593/021/DM/06/2256, Dated: 03/02/2025 on the subject cited above. One Pressure no. EN 837-1 as received by us has been calibrated. The results are tabulated as under:

Total Range : Zero - 10000 (Psi)
Calibrated Range : Zero - 7000 (Psi)

Pressure Gauge Reading (Psi)	**1000**	**2000**	**3000**	**4000**	**5000**	**6000**	**7000**
Calibrated Load (kg)	**12200**	**26600**	**40200**	**53800**	**68200**	**81800**	**95600**
Calibrated Pressure (Psi)	**876**	**1911**	**2888**	**3865**	**4899**	**5876**	**6867**

The Ram Area for Calibration = 198 cm^2



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STRUCTURAL ENGINEERING DIVISION

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

Ref: CED/TFL/02/6513 Dated: 10-02-2025

Date of Test: 12-02-2025

To,

Resident Engineer
NESPAK
EFAP-KPID-CW-05: Rehabilitation of Drains and FCCS in CRBC Irrigation Division D-I-Khan.

Subject: **- CALIBRATION OF DIAL GAUGES** (Page # 2/2)

Reference to your Letter No. 4593/021/DM/06/2256, Dated: 03/02/2025 on the subject cited above. Three Dial Gauges as received by us have been calibrated on standard calibration device. The results are tabulated as under.

Total Range : Zero - 100 (mm)
Calibrated Range : Zero - 50 (mm)

Standard Reading	Dial Gauge Readings		
	Dial Gauge No. I (GE146633)	Dial Gauge No. II (GE146635)	Dial Gauge No. III (GE146632)
400	396	395	399
800	796	796	804
1200	1196	1197	1204
1600	1596	1598	1604
2000	1996	1997	2000
2400	2395	2397	2399
2800	2797	2798	2798
3200	3195	3200	3197
3600	3596	3600	3598
4000	3996	4000	3998
4400	4396	4400	4398
4800	4796	4800	4798
5000	4996	5000	4998

I/C Testing Laboratoires
UET Lahore, Pakistan.

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STRUCTURAL ENGINEERING DIVISION

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

Ref: CED/TFL/02/6518 **Dated: 11-02-2025**
Dated of Test: 12-02-2025

To,

Syed Zafar Haider Zaidi
Resident Engineer, AZ Engineering Associates.
Bridge Over Dulle Wala Branch Canal on Road from Harnoli Wanbachran - Watto District Mianwali.

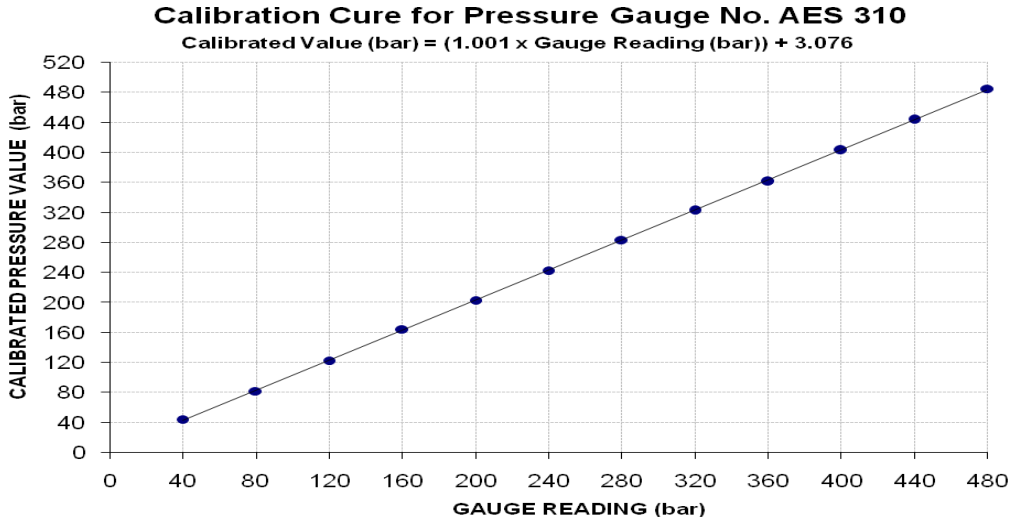
Subject: **- CALIBRATION OF PRESSURE GAUGE (MARK: TFL/02/6518)** (Page -1/2)

Reference to your Letter No. RE AZEA/GT-1207, Dated: 10/02/2025 on the subject cited above. One Pressure Gauge No. AES-310 as received by us has been calibrated. The results are tabulated as under:

Total Range : Zero - 1000 (bar)
Calibrated Range : Zero - 480 (bar)

Pressure Gauge Reading (bar)	**40**	**80**	**120**	**160**	**200**	**240**	**280**	**320**	**360**	**400**	**440**	**480**
Calibrated Load (kg)	**9000**	**16600**	**24800**	**33200**	**41000**	**49000**	**57200**	**65200**	**73000**	**81400**	**89600**	**98000**
Calibrated Pressure (bar)	**45**	**82**	**123**	**164**	**203**	**243**	**283**	**323**	**362**	**403**	**444**	**485**

The Ram Are use for Calibration = 198 cm^2



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

Ref: CED/TFL/02/6518 **Dated: 11-02-2025**
Dated of Test: 12-02-2025

To,

Syed Zafar Haider Zaidi
Resident Engineer, AZ Engineering Associates.
Bridge Over Dulle Wala Branch Canal on Road from Harnoli Wanbachran - Watto District Mianwali.

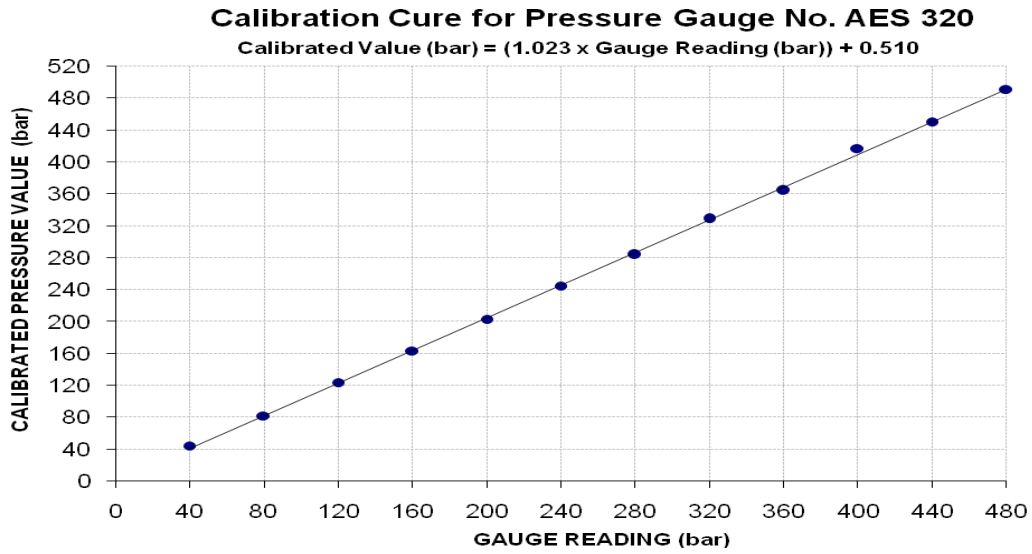
Subject: **- CALIBRATION OF PRESSURE GAUGE (MARK: TFL/02/6518)** (Page -2/2)

Reference to your Letter No. RE AZEA/GT-1207, Dated: 10/02/2025 on the subject cited above. One Pressure Gauge No. AES-320 as received by us has been calibrated. The results are tabulated as under:

Total Range : Zero - 1000 (bar)
Calibrated Range : Zero - 480 (bar)

Pressure Gauge Reading (bar)	**40**	**80**	**120**	**160**	**200**	**240**	**280**	**320**	**360**	**400**	**440**	**480**
Calibrated Load (kg)	**9000**	**16600**	**25000**	**33000**	**41000**	**49400**	**57400**	**66400**	**73600**	**84200**	**91000**	**99200**
Calibrated Pressure (bar)	**45**	**82**	**124**	**163**	**203**	**245**	**284**	**329**	**365**	**417**	**451**	**491**

The Ram Are use for Calibration = 198 cm^2



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

To,

Project Manager
ESAC
Grand Central Mall Project Faisalabad.

Reference # CED/TFL **6523** (Dr. M Rizwan Riaz) Dated: 11-02-2025
Reference of the request letter # ESAC/TGC/GCMF/214 Dated: 10-02-2025

Tensile / Slippage Test Report (Page -1/1)

Date of Test 12-02-2025
Description Rebar Coupler Slippage Test

Sr. No.	Type	Dia	Failure Load	Mode of Failure	Remarks
		(#)	(kg)	---	
1	CBT/TGC CSR	10	56200	Steel bar failed at last thread	
-	-	-	-	-	
-	-	-	-	-	
-	-	-	-	-	
-	-	-	-	-	
-	-	-	-	-	
Note: only one 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/02/6529 Dated: 11-02-2025

Date of Test: 12-02-2025

To,

Resident Engineer
NESPAK
Construction of Underpass at GPO Chowk & TM Chowk on Mall Road including Pedeestrian Underpass near AFIC, District Rawalpindi.

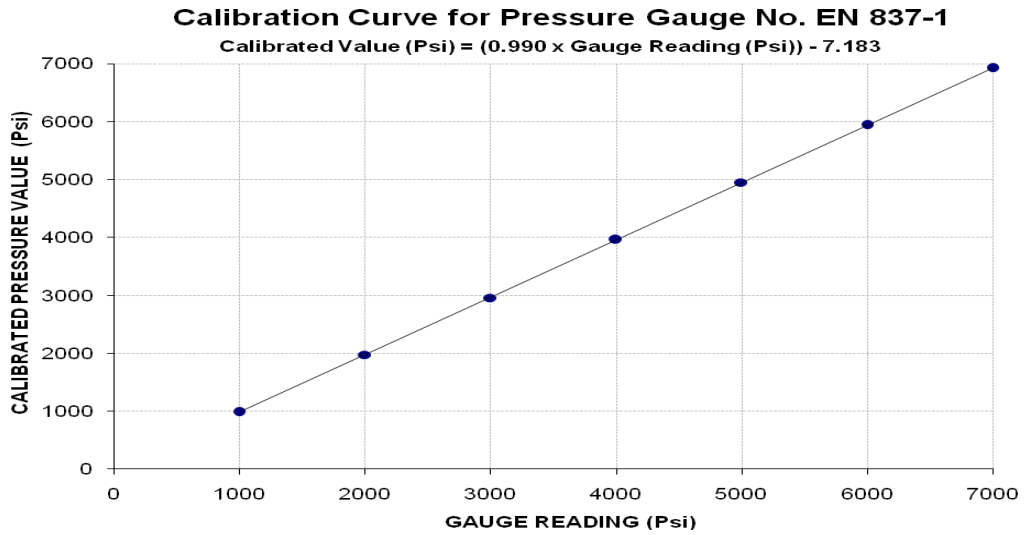
Subject: **- CALIBRATION OF PRESSURE GAUGE (MARK: TFL/02/6529)** (Page # 1/2)

Reference to your Letter No. 4085/103/KTGP/01/01, Dated: 10/02/2025 on the subject cited above. One Pressure no. EN 837-1 as received by us has been calibrated. The results are tabulated as under:

Total Range : Zero - 10000 (Psi)
Calibrated Range : Zero - 7000 (Psi)

Pressure Gauge Reading (Psi)	**1000**	**2000**	**3000**	**4000**	**5000**	**6000**	**7000**
Calibrated Load (kg)	**13700**	**27500**	**41200**	**55100**	**68900**	**82700**	**96400**
Calibrated Pressure (Psi)	**984**	**1975**	**2960**	**3958**	**4949**	**5941**	**6925**

The Ram Area for Calibration = 198 cm^2



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STRUCTURAL ENGINEERING DIVISION
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Ref: CED/TFL/02/6529 Dated: 11-02-2025

Date of Test: 12-02-2025

To,

Resident Engineer
NESPAK
Construction of Underpass at GPO Chowk & TM Chowk on Mall Road including Pedeestrian Underpass near AFIC, District Rawalpindi.

Subject: **- CALIBRATION OF DIAL GAUGES** (Page # 2/2)

Reference to your Letter No. 4085/103/KTGP/01/01, Dated: 10/02/2025 on the subject cited above. Three Dial Gauges as received by us have been calibrated on standard calibration device. The results are tabulated as under.

Total Range : Zero - 100 (mm)
Calibrated Range : Zero - 50 (mm)

Standard Reading	Dial Gauge Readings		
	Dial Gauge No. I (GE146632)	Dial Gauge No. II (GE146633)	Dial Gauge No. III (GE146635)
400	399	396	395
800	804	796	796
1200	1204	1196	1197
1600	1604	1596	1598
2000	2000	1996	1997
2400	2399	2395	2397
2800	2798	2797	2798
3200	3197	3195	3200
3600	3598	3596	3600
4000	3998	3996	4000
4400	4398	4396	4400
4800	4798	4796	4800
5000	4998	4996	5000

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STRUCTURAL ENGINEERING DIVISION

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

To,

Engineer QA/QC
Zes Zain Engineering Solutions
Ramada Project.
(Bashir Pipe)

Reference # CED/TFL **6534** (Dr. M Rizwan Riaz) Dated: 12-02-2025
Reference of the request letter # ZES-QA/QC-14/25 Dated: 12-02-2025

Tension Test Report (Page – 1/1)

Date of Test 12-02-2025
Gauge length 2 inches
Description Steel Strip Tensile Test

Sr. No.	Designation	Size of Strip	X Section Area	Yield load	Breaking Load	Yield Stress	Ultimate Stress	Elongation	% Elongation	Remarks
	(mm)	(mm)	(mm^2)	(kN)	(kN)	(MPa)	(MPa)	(in)		
1	**2**	**25.40x1.30**	**33.02**	**18.00**	**20.00**	**545**	**606**	**0.70**	**35.00**	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
Only One Sample for Tensile Test										
Bend Test										

I/C Testing Laboratoires
UET Lahore, Pakistan.

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