



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
 Al-Taqwa Shopping Mall
 Islamabad

Reference # CED/TFL **35276** (Dr. Qasim Khan)
 Reference of the request letter # AT/S/P/10

Dated: 26-08-2020
 Dated: 25-08-2020

Tension Test Report (Page -1/2)

Date of Test 27-08-2020
 Gauge length 8 inches
 Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight (lbs/ft)	Diameter/ Size		Area (in ²)		Yield load (kg)	Breaking Load (kg)	Yield Stress (psi)		Ultimate Stress (psi)		Elongation (inch)	% Elongation	Remarks
		Nominal (#)	Actual (inch)	Nominal	Actual			Nominal	Actual	Nominal	Actual			
1	0.419	3	0.396	0.11	0.123	5400	6600	108200	96570	132300	118100	1.10	13.8	Old
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only one sample for tensile and one sample for bend test														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														

I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:

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http://www.uet.edu.pk/faculties/facultiesinfo/civil/index.html?RID=testing_reports
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Pakistan. Ph: 92-42-99029202

To,
 Project Manager
 Al-Taqwa Shopping Mall
 Islamabad

Reference # CED/TFL **35276** (Dr. Qasim Khan)
 Reference of the request letter # AT/S/P/13

Dated: 26-08-2020
 Dated: 25-08-2020

Tension Test Report (Page -2/2)

Date of Test 27-08-2020
 Gauge length 8 inches
 Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight (lbs/ft)	Diameter/ Size		Area (in ²)		Yield load (kg)	Breaking Load (kg)	Yield Stress (psi)		Ultimate Stress (psi)		Elongation (inch)	% Elongation	Remarks
		Nominal (#)	Actual (inch)	Nominal	Actual			Nominal	Actual	Nominal	Actual			
1	0.376	3	0.375	0.11	0.111	4100	5000	82200	81710	100200	99700	1.10	13.8	New
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only one sample for tensile and one sample for bend test														
Bend Test														
#3 Bar Bend Test Through 180° 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
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Ref: CED/TFL/08/35270

Dated: 25-08-2020

Dated of Test: 27-08-2020

To,

Resident Engineer

NESPAK

Up-Gradation/ Dualization of Motorway Link from Kohat via Jand Khushal Garh to Kohat (Package-III)

Subject: - CALIBRATION OF HYDRAULIC JACK (MARK: TFL/08/35270) (Page -1/2)

Reference to your Letter No. 4035/103/JH/220, Dated: 21/08/2020 on the subject cited above. One Hydraulic Jack (Jack No 2501, Gauge No. AES-2501) as received by us has been calibrated. The results are tabulated as under:

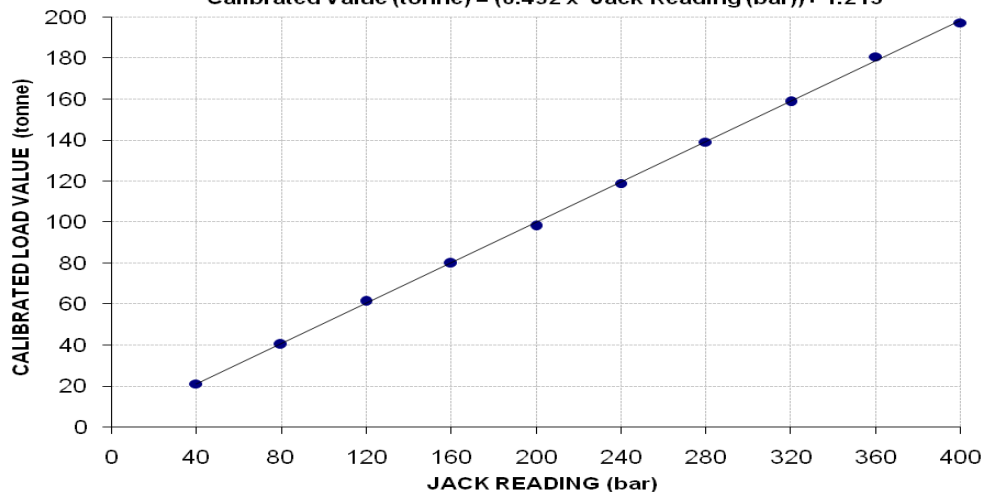
Total Range : Zero - 1000 (bar)
Calibrated Range : Zero - 400 (bar)

Hydraulic Jack Reading (bar)	40	80	120	160	200	240	280	320	360	400	
Calibrated Load	(kg)	21200	40400	61400	80000	98200	119000	139200	158800	180800	197200
	Tonne	21.20	40.40	61.40	80.00	98.20	119.00	139.20	158.80	180.80	197.20
Calibrated Pressure (bar)	42.97	81.89	124.46	162.17	199.06	241.22	282.17	321.90	366.50	399.74	

1 Tonne = 1000 kg, The Ram Area of Jack = 483.80 cm²

Calibration Curve For Jack No. AES 2501

Calibrated Value (tonne) = (0.492 x Jack Reading (bar)) + 1.213



I/C Testing Laboratories
UET Lahore, Pakistan.

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University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

Ref: CED/TFL/08/35270

Dated: 25-08-2020

Dated of Test: 27-08-2020

To,
Resident Engineer
NESPAK
Up-Gradation/ Dualization of Motorway Link from Kohat via Jand Khushal Garh to Kohat (Package-III)
Subject: - **CALIBRATION OF HYDRAULIC JACK (MARK: TFL/08/35270) (Page -2/2)**

Reference to your Letter No. 4035/103/JH/220, Dated: 21/08/2020 on the subject cited above. One Hydraulic Jack (Jack No 2502, Gauge No. AES-2502) as received by us has been calibrated. The results are tabulated as under:

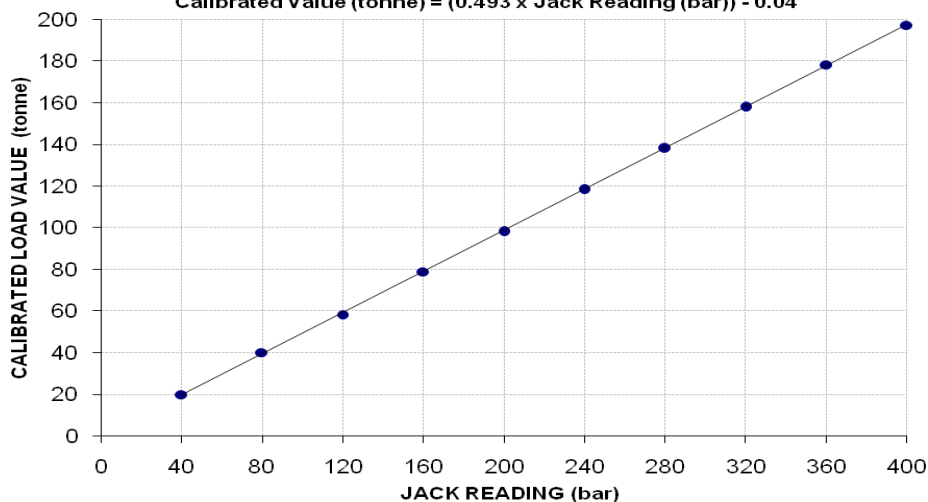
Total Range : Zero - 1000 (bar)
Calibrated Range : Zero - 400 (bar)

Hydraulic Jack Reading (bar)	40	80	120	160	200	240	280	320	360	400	
Calibrated Load	(kg)	20000	40200	58400	79000	98200	118400	138200	158000	178400	197400
	Tonne	20.00	40.20	58.40	79.00	98.20	118.40	138.20	158.00	178.40	197.40
Calibrated Pressure (bar)	40.54	81.49	118.38	160.14	199.06	240.01	280.14	320.28	361.63	400.15	

1 Tonne = 1000 kg, The Ram Area of Jack = 483.80 cm²

Calibration Curve For Jack No. AES 2502

Calibrated Value (tonne) = (0.493 x Jack Reading (bar)) - 0.04



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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 Velosi Integrity,
Lahore

Reference # CED/TFL **35271** (Dr. Qasim Khan)
Reference of the request letter # VISP-STD-L-C18-366

Dated: 26-08-2020

Dated: 10-08-2020

Tension Test Report (Page -1/1)

Date of Test 27-08-2020
Gauge length 8 inches
Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight (lbs/ft)	Diameter/ Size (mm)		Area (in ²)		Yield load (kg)	Breaking Load (kg)	Yield Stress (psi)		Ultimate Stress (psi)		Elongation (inch)	% Elongation	Remarks
		Nominal	Actual	Nominal	Actual			Nominal	Actual	Nominal	Actual			
1	0.360	10	9.32	0.12	0.106	3300	4700	60627	68780	86347	98000	1.00	12.5	Model Steel
2	0.376	10	9.53	0.12	0.111	3300	4700	60627	65740	86347	93700	0.90	11.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
10mm Dia Bar Bend Test Through 180° is Satisfactory														

I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:

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Pakistan. Ph: 92-42-99029202

To,
 Resident Engineer
 Architectural & Civil Engineering Services
 OIC – Rumanza Golf Course, DHA Multan
 MYCO Engineers Construction

Reference # CED/TFL **35275** (Dr. Qasim Khan)
 Reference of the request letter # ACES-DHAM-RGC-MY-12

Dated: 26-08-2020
 Dated: 25-08-2020

Tension Test Report (Page -1/1)

Date of Test 27-08-2020
 Gauge length 8 inches
 Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight (lbs/ft)	Diameter/ Size (mm)		Area (in ²)		Yield load (kg)	Breaking Load (kg)	Yield Stress (psi)		Ultimate Stress (psi)		Elongation (inch)	% Elongation	Remarks
		Nominal	Actual	Nominal	Actual			Nominal	Actual	Nominal	Actual			
1	0.403	10	9.87	0.12	0.119	3700	4900	67975	68800	90021	91200	1.20	15.0	AF Steel
2	0.403	10	9.87	0.12	0.119	3700	4900	67975	68800	90021	91200	1.20	15.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
10mm Dia Bar Bend Test Through 180° is Satisfactory														

I/C Testing Laboratoires
UET Lahore, Pakistan.

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

To,
Resident Engineer
NESPAK
Construction of Flyover at Jhall Road Railway Crossing to Sahiwal City

Reference # CED/TFL **35277** (Dr. Qasim Khan)
Reference of the request letter # 4116/03/SSL/2020/58

Dated: 26-08-2020
Dated: 22-08-2020

Tension Test Report (Page – 1/3)

Date of Test 27-08-2020
Gauge length 640 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)		Young's Modulus of Elasticity "E"	% Elongation	Remarks / Coil No.
	(mm)	(kg/km)	(kg/km)	(kg)	(kN)	(kg)	(kN)			
1	12.70 (1/2")	775.0	777.0	18300	179.52	20300	199.14	198	>3.50	B1
2	12.70 (1/2")	775.0	775.0	18400	180.50	20300	199.14	199	>3.50	B6
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
Only two samples for Test										

Note:

1. Modulus of Elasticity is based on nominal steel area of the steel strand vide clause 13.3 of ASTM – A416a
2. Load versus percentage strain graphs are attached

I/C Testing Laboratoires
UET Lahore, Pakistan.

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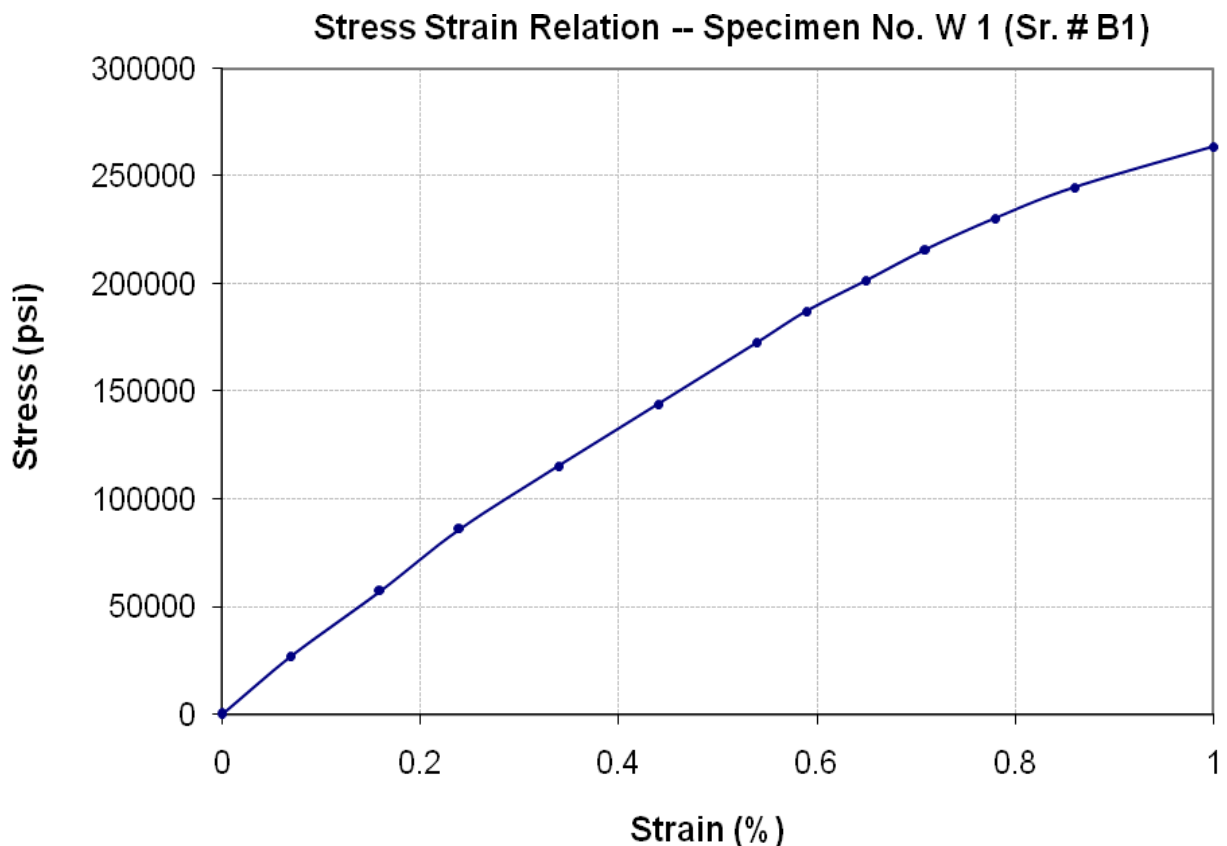
STRUCTURAL ENGINEERING DIVISION
Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,
Resident Engineer
NESPAK
Construction of Flyover at Jhall Road Railway Crossing to Sahiwal City

Reference # CED/TFL **35277** (Dr. Qasim Khan)
Reference of the request letter # 4116/03/SSL/2020/58

Dated: 26-08-2020
Dated: 22-08-2020

Graph (Page – 2/3)



I/C Testing Laboratories
UET Lahore, Pakistan.

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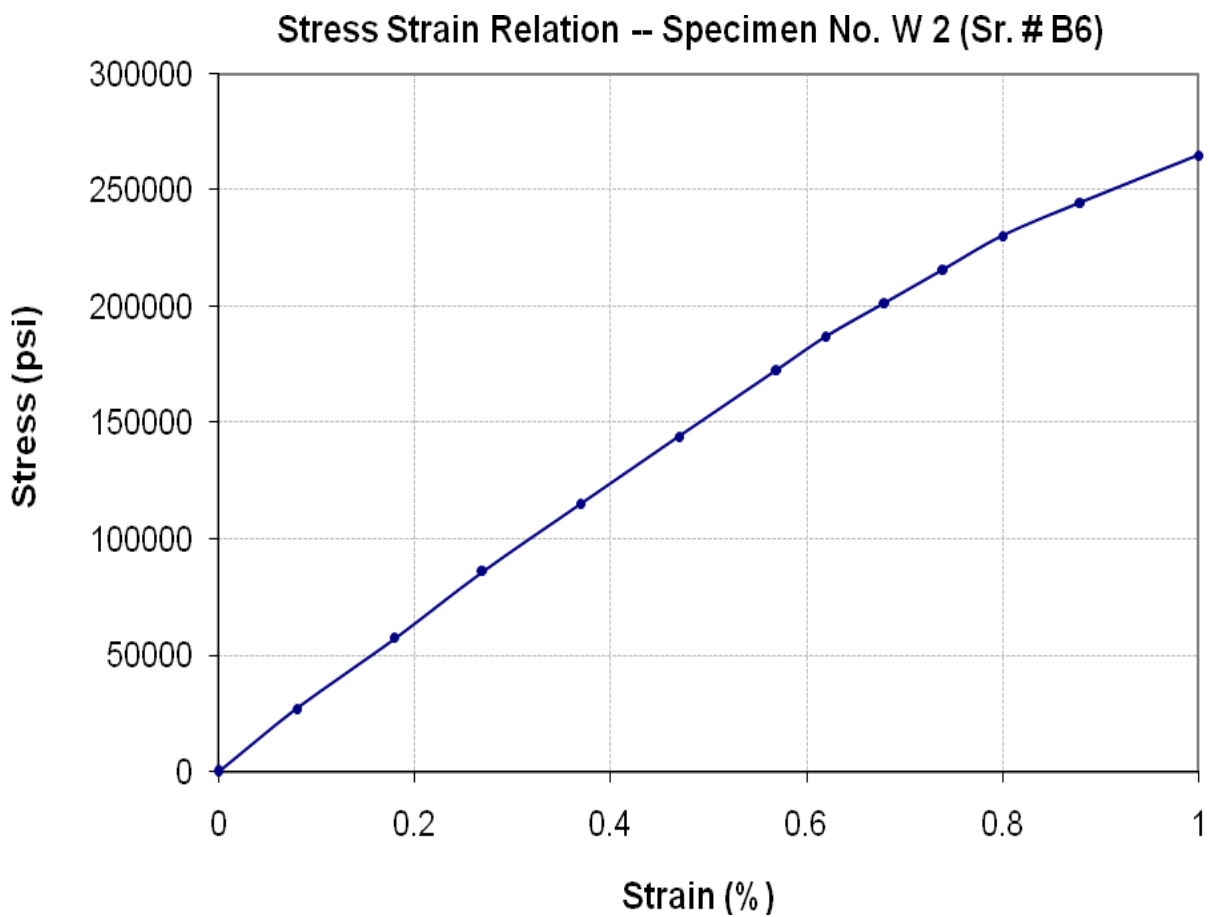
STRUCTURAL ENGINEERING DIVISION
Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,
Resident Engineer
NESPAK
Construction of Flyover at Jhall Road Railway Crossing to Sahiwal City

Reference # CED/TFL **35277** (Dr. Qasim Khan)
Reference of the request letter # 4116/03/SSL/2020/58

Dated: 26-08-2020
Dated: 22-08-2020

Graph (Page – 3/3)



I/C Testing Laboratories
UET Lahore, Pakistan.

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STRUCTURAL ENGINEERING DIVISION
Test Floor Laboratory
Department of Civil Engineering
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Pakistan. Ph: 92-42-99029202

Ref: CED/TFL/08/35278

Dated: 26-08-2020

Dated of Test: 27-08-2020

To,
Resident Engineer
NESPAK
Construction of Flyover at Jhall Road Railway Crossing to Sahiwal City

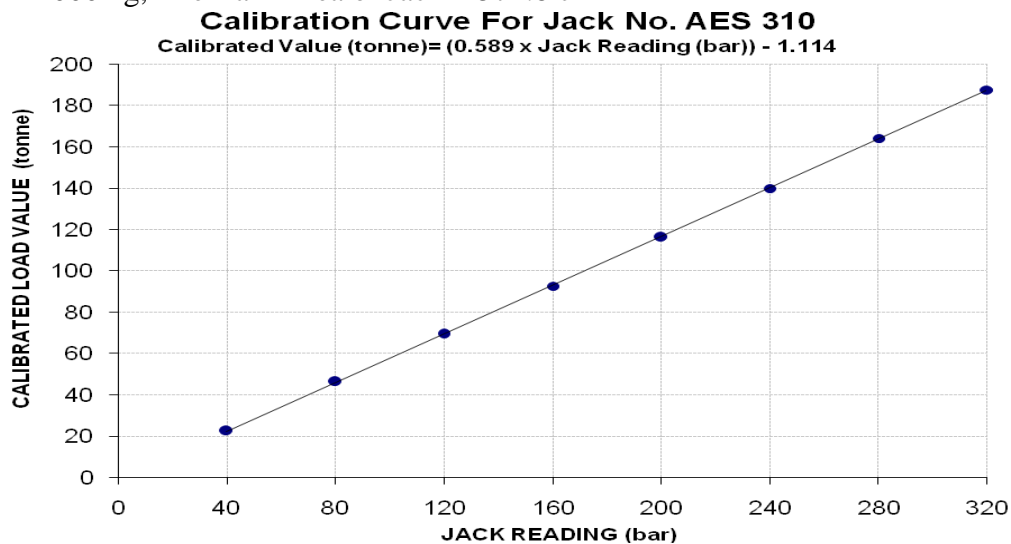
Subject: - **CALIBRATION OF HYDRAULIC JACK (MARK: TFL/08/35278)** (Page -1/2)

Reference to your Letter No. 4116/03/SSL/2020/60, Dated: 24/08/2020 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 - 1000 (bar)
Calibrated Range : Zero - 320 (bar)

Hydraulic Jack Reading (bar)	40	80	120	160	200	240	280	320	
Calibrated Load	(kg)	22600	46400	69400	92800	116400	140000	164200	187600
	Tonne	22.60	46.40	69.40	92.80	116.40	140.00	164.20	187.60
Calibrated Pressure (bar)	38.61	79.27	118.56	158.53	198.85	239.16	280.50	320.48	

1 Tonne = 1000 kg, The Ram Area of Jack = 574.8 cm²



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Pakistan. Ph: 92-42-99029202

Ref: CED/TFL/08/35278

Dated: 26-08-2020

Dated of Test: 27-08-2020

To,
Resident Engineer
NESPAK
Construction of Flyover at Jhall Road Railway Crossing to Sahiwal City

Subject: - CALIBRATION OF HYDRAULIC JACK (MARK: TFL/08/35278) (Page -2/2)

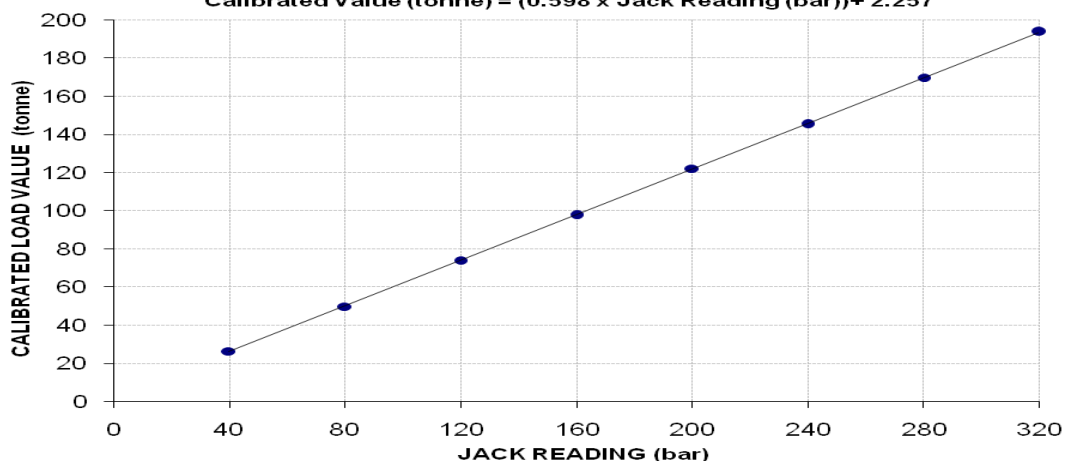
Reference to your Letter No. 4116/03/SSL/2020/60, Dated: 24/08/2020 on the subject cited above. One Hydraulic Jack (Jack No 320, Gauge No. AES-320) as received by us has been calibrated. The results are tabulated as under:

Total Range : Zero - 1000 (bar)
Calibrated Range : Zero - 320 (bar)

Hydraulic Jack Reading (bar)	40	80	120	160	200	240	280	320	
Calibrated Load	(kg)	26400	49800	74200	97800	122200	145400	169800	193800
	Tonne	26.40	49.80	74.20	97.80	122.20	145.40	169.80	193.80
Calibrated Pressure (bar)	45.10	85.07	126.76	167.07	208.75	248.39	290.07	331.07	

1 Tonne = 1000 kg, The Ram Area of Jack = 574.8 cm²

Calibration Curve For Jack No. AES 320
Calibrated Value (tonne) = (0.598 x Jack Reading (bar)) + 2.257



To,

I/C Testing Laboratoires
UET Lahore, Pakistan.

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M/S Defence Housing Authority.
 Lahore Cantt
 (Proposed Commercial Plaza, DRGCC Ph-III, DHA Ph-VI (M/s Construct))

Reference # CED/TFL **35281** (Dr. Qasim Khan)
 Reference of the request letter # 408/241/E/Lab/967/5707

Dated: 27-08-2020
 Dated: 27-08-2020

Tension Test Report (Page -1/1)

Date of Test 27-08-2020
 Gauge length 8 inches
 Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight (lbs/ft)	Diameter/ size		Area (in ²)		Yield load (kg)	Breaking Load (kg)	Yield Stress (psi)		Ultimate Stress (psi)		Elongation (inch)	% Elongation	Remarks
		Nominal (#)	Actual (inch)	Nominal	Actual			Nominal	Actual	Nominal	Actual			
1	0.364	3	0.369	0.11	0.107	3200	4700	64200	65910	94200	96800	1.30	16.3	Kamran Steel
2	0.371	3	0.373	0.11	0.109	3600	4900	72200	72720	98200	99000	1.20	15.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														

I/C Testing Laboratoires
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