



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

To,

Executive Engineer PWD
PHE Division Kotli
(Water Supply Scheme THQ Sehnsa)

Reference # CED/TFL **2748** (Dr. M Kashif)
Reference of the request letter # 86-89 XEN/PWD/PHE

Dated: 07-02-2023
Dated: 01-02-2023

Tension Test Report (Page – 1/3)

Date of Test 14-02-2023
Gauge length 2 inches
Description G.I Pipe Steel Strip Tensile Test

Sr. No.	Designation	Size of Strip	X Section Area	Yield load	Breaking Load	Yield Stress	Ultimate Stress	Elongation	% Elongation	Remarks
	(inch)	(mm)	(mm ²)	(kg)	(kg)	(MPa)	(MPa)	(in)		
1	6	27.60x5.90	162.84	6800	8700	410	524	0.80	40.00	
2		27.50x5.80	159.50	7000	8900	431	547	0.80	40.00	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
Only Two Samples for Tensile and One Sample for Bend Test										
Bend Test										
Strip Taken from G.I Pipe (8") Bend Test Through 180° is Satisfactory										

I/C Testing Laboratories
UET Lahore, Pakistan.

Note:

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To,
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PHE Division Kotli
(Water Supply Scheme THQ Sehnsa)

Reference # CED/TFL **2748** (Dr. M Kashif)
Reference of the request letter # 86-89 XEN/PWD/PHE

Dated: 07-02-2023
Dated: 01-02-2023

Seamless/Flattening Test Report (Page – 2/3)

Date of Test 14-02-2023
Description Test as per ASTM-A53-02

Sr. No.	Designation	Test Type	Observation/Results
1	Pipe 8"	Ductility	No crack was observed
		Soundness	No evidence of lamination noticed
-	-	-	-
-	-	-	-
		-	-
-	-	-	-
		-	-
-	-	-	-
		-	-
-	-	-	-
		-	-
Only One Sample for Test			

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To,

Executive Engineer PWD
PHE Division Kotli
(Water Supply Scheme THQ Sehnsa)

Reference # CED/TFL **2748** (Dr. M Kashif)
Reference of the request letter # 86-89 XEN/PWD/PHE

Dated: 07-02-2023
Dated: 01-02-2023

Weight & Size Test Report (Page – 3/3)

Date of Test 14-02-2023
Gauge length -----
Description G.I Pipe Weight and Size Test

Sr. No.	Designation	Weight	Length	Weight per Unit Length	External Diameter	Internal Diameter	Wall Thickness	Remark
	(inch)	(g)	(mm)	(kg/m)	(mm)	(mm)	(mm)	
1	8	1890	59.80	31.61	220.00	208.20	5.9	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
Only One Sample for Test								

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STRUCTURAL ENGINEERING DIVISION
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Department of Civil Engineering
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To,

Resident Engineer
NESPAK

Construction of Circular Bypass Road Bannu ADP No. 1506/170523 (2022-23)
Package – VII (10 No. Bridges within km 0+000 – 30+000)

Reference # CED/TFL **2771** (Dr. M Kashif)
Reference of the request letter # 4040/021/SK/02/0487

Dated: 13-02-2023
Dated: 13-02-2023

Tension Test Report (Page -1/4)

Date of Test 14-02-2023
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)	GPa		
1	12.70 (1/2")	775.0	782.0	17900	175.60	19600	192.28	199	>3.50	xx
2	12.70 (1/2")	775.0	782.0	17800	174.62	19500	191.30	198	>3.50	xx
3	12.70 (1/2")	775.0	782.0	18000	176.58	19500	191.30	199	>3.50	xx
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
Only three 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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To,

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NESPAK

Construction of Circular Bypass Road Bannu ADP No. 1506/170523 (2022-23)
Package – VII (10 No. Bridges within km 0+000 – 30+000)

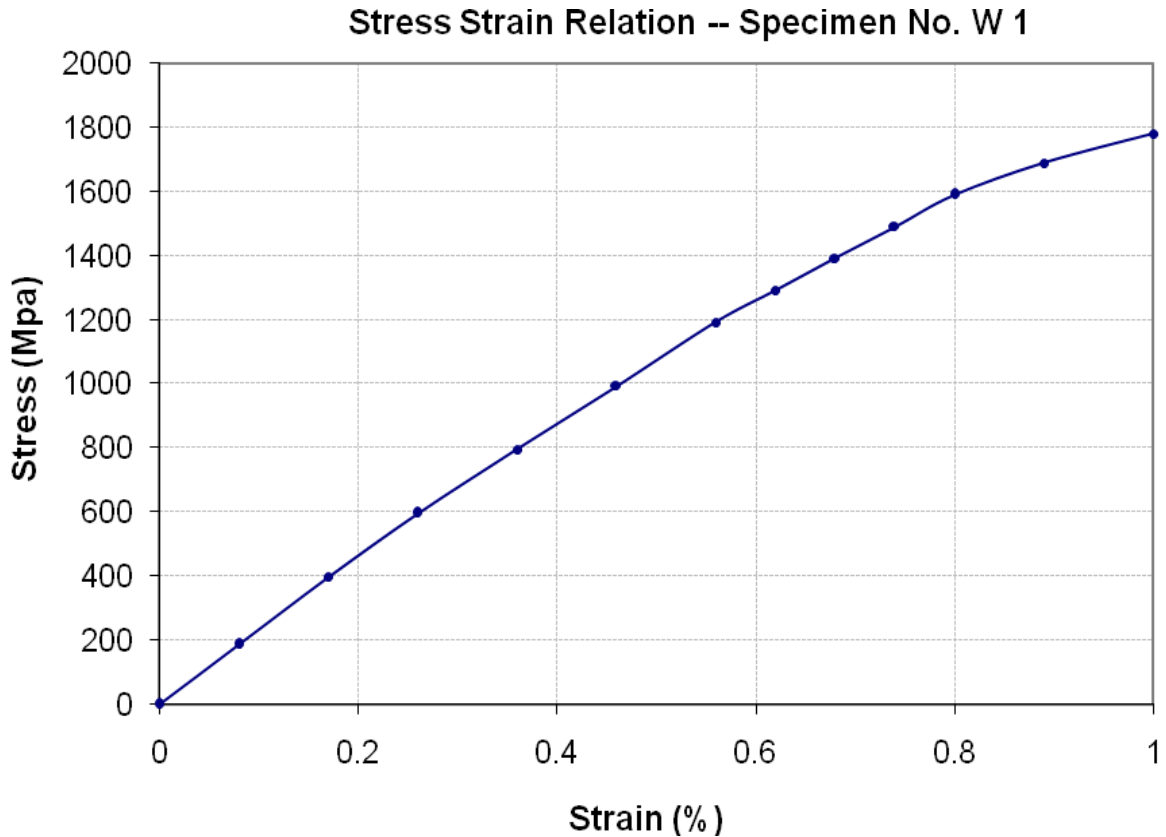
Reference # CED/TFL **2771** (Dr. M Kashif)

Dated: 13-02-2023

Reference of the request letter # 4040/021/SK/02/0487

Dated: 13-02-2023

Graph (Page – 2/4)



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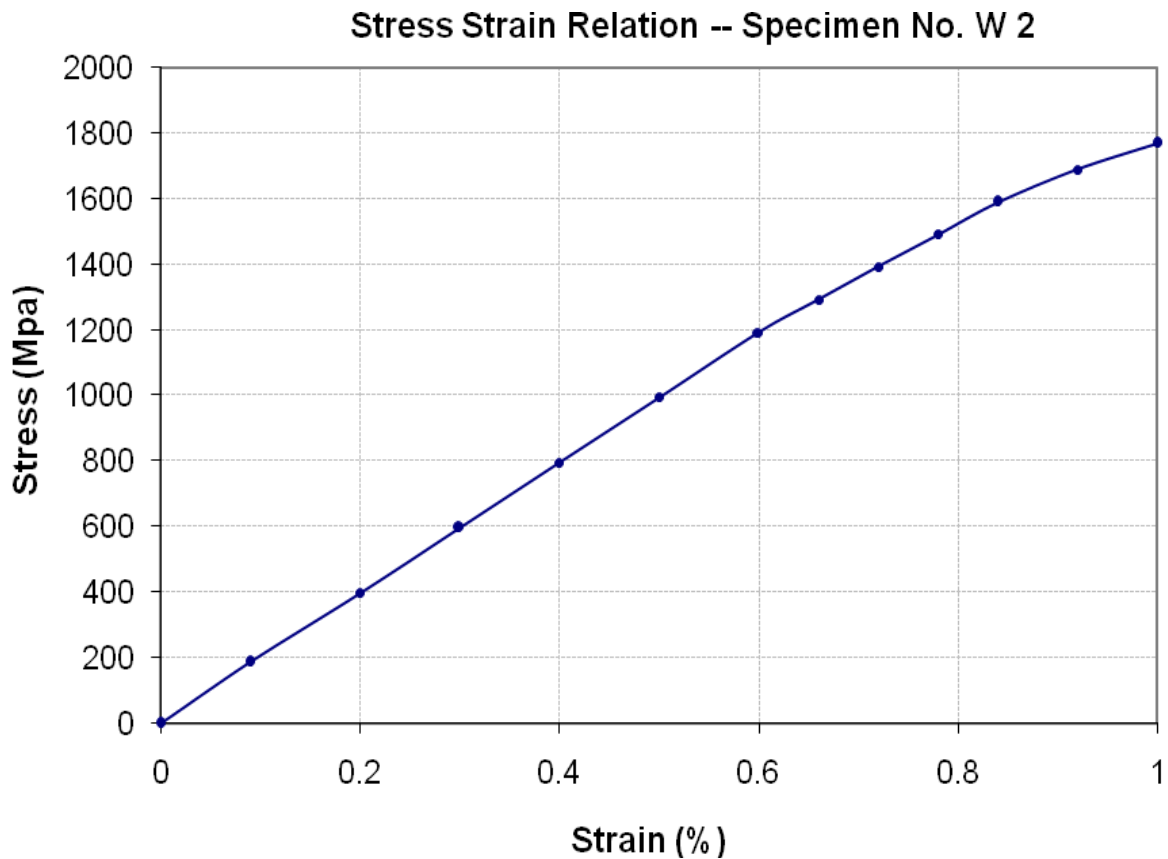
Reference # CED/TFL **2771** (Dr. M Kashif)

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Reference of the request letter # 4040/021/SK/02/0487

Dated: 13-02-2023

Graph (Page – 3/4)



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To,

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NESPAK

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Package – VII (10 No. Bridges within km 0+000 – 30+000)

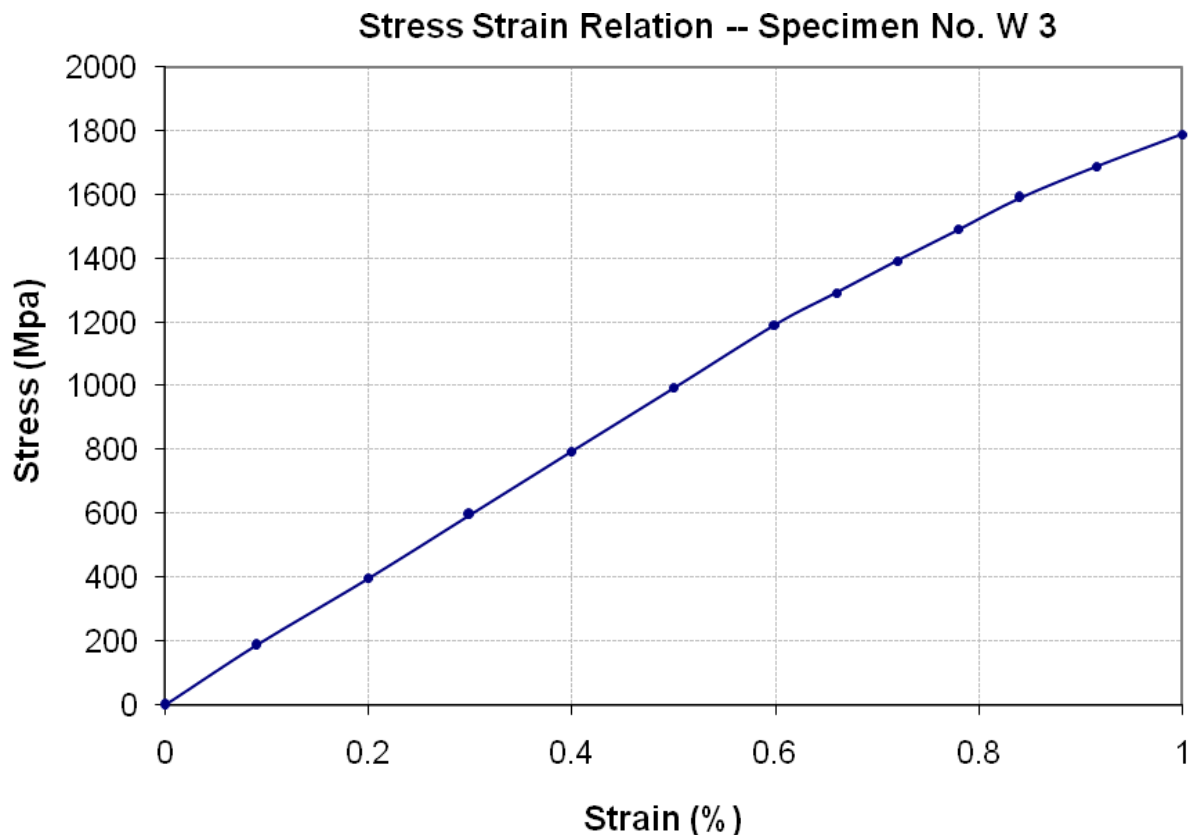
Reference # CED/TFL 2771 (Dr. M Kashif)

Dated: 13-02-2023

Reference of the request letter # 4040/021/SK/02/0487

Dated: 13-02-2023

Graph (Page – 4/4)



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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,

Project Manager
Power Construction Corporation of China Limited.
Tarbela 5th Extension Hydropower Project Management Department

Reference # CED/TFL 2772 (Dr. M Kashif)

Dated: 13-02-2023

Reference of the request letter # PCCCL/T5-QC-2023-GS-001

Dated: 09-02-2023

Tension Test Report (Page – 1/2)

Date of Test 14-02-2023

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	% Elongation	Remarks / Coil No.
	(mm)	(kg/km)	(kg/km)	(kg)	(kN)	(kg)	(kN)	E, GPa		
1	15.24 (0.6")	1102.0	1120.0	24100	236.42	27900	273.70	199	>3.50	xx
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
Only one sample 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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Tarbela 5th Extension Hydropower Project Management Department

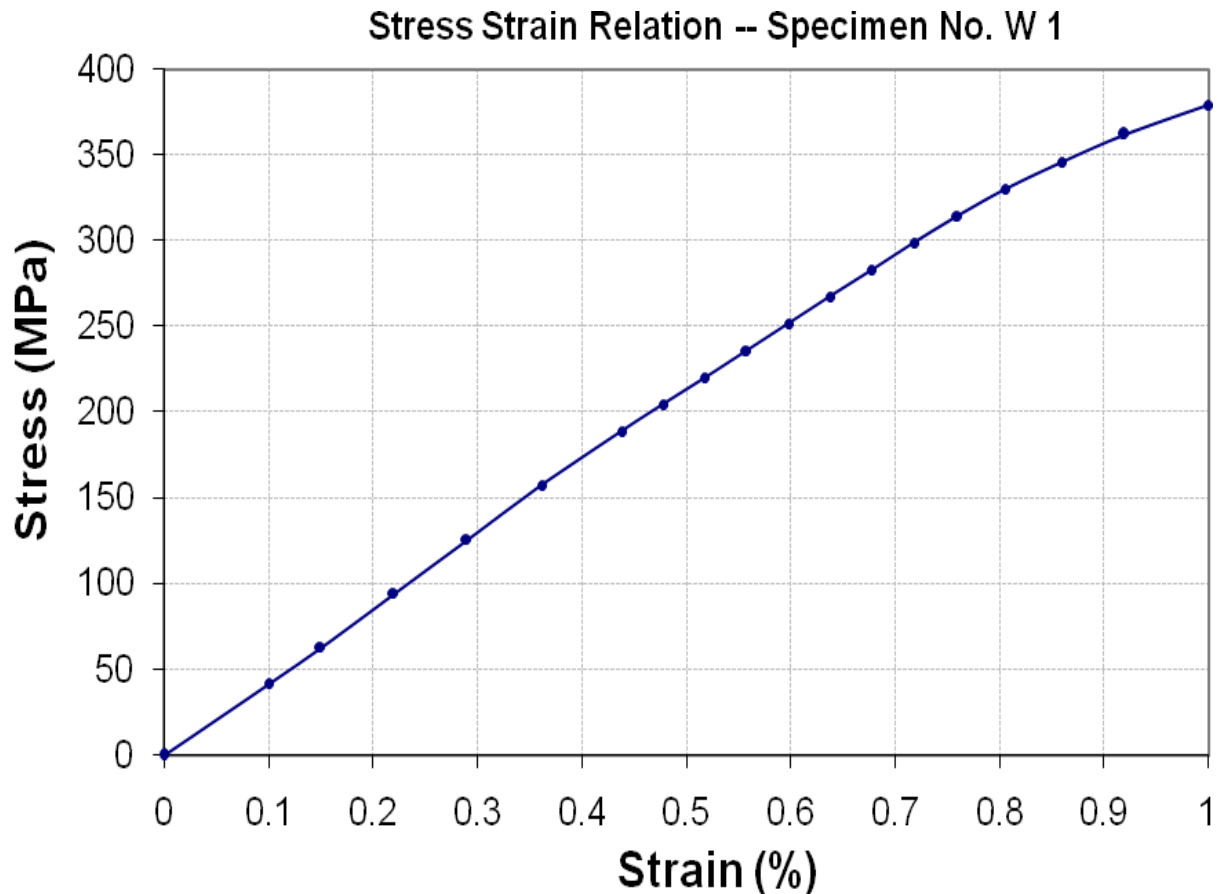
Reference # CED/TFL 2772 (Dr. M Kashif)

Dated: 13-02-2023

Reference of the request letter # PCCCL/T5-QC-2023-GS-001

Dated: 09-02-2023

Graph (Page – 2/2)



I/C Testing Laboratories
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To,
 Project Director
 New Metro City Housing Scheme
 Sara-I-Alamgir

Reference # CED/TFL 2775 (Dr. M Kashif)
 Reference of the request letter # BSM/NMC/QA/110

Dated: 13-02-2023
 Dated: 06-02-2023

Tension Test Report (Page -1/1)

Date of Test 14-02-2023
 Gauge length 8 inches
 Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight (lbs/ft)	Diameter/ Size (inch)		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	0.388	3/8	0.381	0.11	0.114	3000	5000	60200	57910	100200	96600	1.20	15.0	SJ Steel
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only one sample for tensile and one sample for bend test														
Bend Test														
3/8" Dia Bar Bend Test Through 180° is Satisfactory														

I/C Testing Laboratoires
UET Lahore, Pakistan.

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Department of Civil Engineering
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To,
Project Manager
Imperium Developers
Construction of Sixty6 at Gulberg-III, Lahore

Reference # CED/TFL **2776** (Dr. Asad Ali)
Reference of the request letter # IMP/PM/66/04/109

Dated: 13-02-2023
Dated: 13-02-2023

Tension Test Report (Page -1/1)

Date of Test 14-02-2023
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	0.373	3	0.373	0.11	0.110	4460	5270	89400	89730	105600	106100	0.90	11.3	
2	0.371	3	0.373	0.11	0.109	4050	5220	81200	81810	104600	105500	0.90	11.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														

Witness by M Husnain (Site Engr. Imperium Developers)

I/C Testing Laboratoires
UET Lahore, Pakistan.

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To,
Project Manager
Imperium Developers
Construction of Sixty6 at Gulberg-III, Lahore

Reference # CED/TFL 2776 (Dr. Asad Ali)
Reference of the request letter # IMP/PM/66/04/109

Dated: 13-02-2023
Dated: 13-02-2023

Tension Test Report (Page -1/1)

Date of Test 14-02-2023
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	0.373	3	0.373	0.11	0.110	4460	5270	89400	89730	105600	106100	0.90	11.3	
2	0.371	3	0.373	0.11	0.109	4050	5220	81200	81810	104600	105500	0.90	11.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														

Witness by M Husnain (Site Engr. Imperium Developers)

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Ref: CED/TFL/02/2777, 2779

Dated: 13-02-2023

Dated of Test: 14-02-2023

To

Site Manager
Descon Engineering Limited
Mohmand Dam Hydro-Power Project

Subject: - CALIBRATION OF HYDRAULIC JACK (MARK: TFL/02/2777) (Page -1/2)

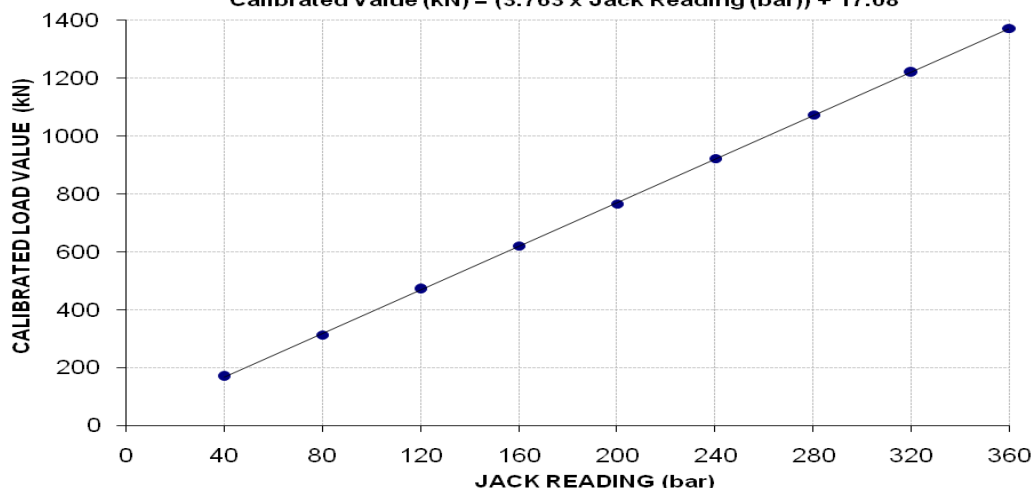
Reference to your Letter No. MDHP-DEL-LABT-144, dated: 13/02/2023 on the subject cited above. One Hydraulic Jack (Jack No. YCW 200B-9, Gauge No. 228500-51-62) as received by us has been calibrated. The results are tabulated as under:

Total Range : Zero - 400 (bar)
Calibrated Range : Zero - 360 (bar)

Hydraulic Jack Reading (bar)		40	80	120	160	200	240	280	320	360
Calibrated Load	(kg)	17300	32000	48000	63300	78000	94000	109400	124400	139800
	(kN)	170	314	471	621	765	922	1073	1220	1371
Calibrated Pressure (bar)		45.00	83.24	124.86	164.66	202.90	244.52	284.59	323.60	363.67

The Ram Area of Jack = 377 cm²

Calibration Curve For Jack No. YCW 200B-9, Gauge No. 228500-51-62
Calibrated Value (kN) = (3.763 x Jack Reading (bar)) + 17.08



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Ref: CED/TFL/02/2777, 2779

Dated: 13-02-2023

Dated of Test: 14-02-2023

To

Site Manager
Descon Engineering Limited
Mohmand Dam Hydro-Power Project

Subject: - CALIBRATION OF HYDRAULIC JACK (MARK: TFL/02/2777) (Page -2/2)

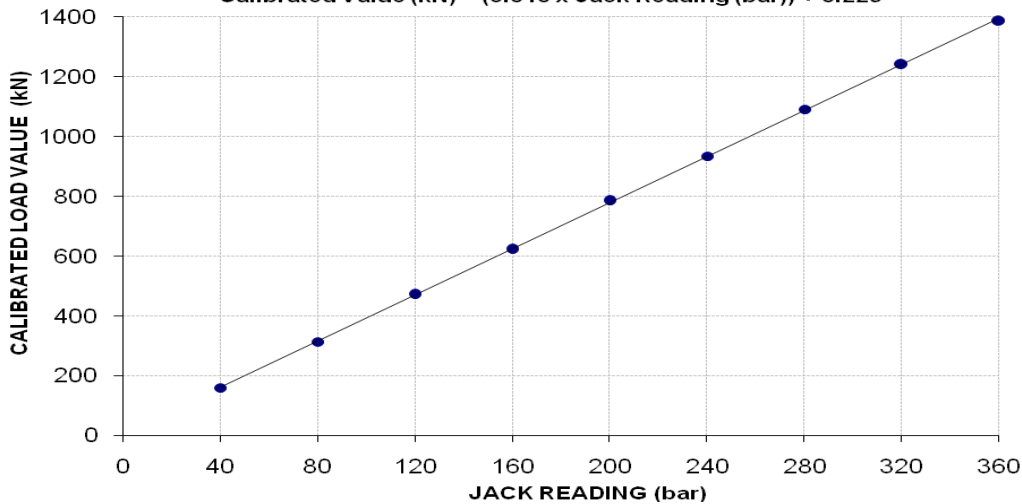
Reference to your Letter No. MDHP-DEL-LABT-144, dated: 13/02/2023 on the subject cited above. One Hydraulic Jack (Jack No. YCW 200B-9, Gauge No. 228500-51-96) as received by us has been calibrated. The results are tabulated as under:

Total Range : Zero - 400 (bar)
Calibrated Range : Zero - 360 (bar)

Hydraulic Jack Reading (bar)	40	80	120	160	200	240	280	320	360	
Calibrated Load	(kg)	16200	32000	48000	63400	80000	95200	111200	126400	141200
	(kN)	159	314	471	622	785	934	1091	1240	1385
Calibrated Pressure (bar)	42.14	83.24	124.86	164.92	208.11	247.65	289.27	328.81	367.31	

The Ram Area of Jack = 377 cm²

Calibration Curve For Jack No. YCW 200B-9, Gauge No. 228500-51-96
Calibrated Value (kN) = (3.848 x Jack Reading (bar)) + 8.229



I/C Testing Laboratoires
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