



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

To,  
Deputy Director (Maint)  
National Highway Authority  
Provision of Steel Overhead Bridge at km 1272+000 – 1273+000 & km 1274+000 – 1275+000  
on GT Road N-5

Reference # CED/TFL **35423** (Dr. M Rizwan Riaz) Dated: 28-09-2020  
Reference of the request letter # Gen/DD(Maint)/WZD/NHA/2020/414 Dated: 15-06-2020

**Weight & Size Test Report** (Page – 1/2)

Date of Test 13-10-2020  
Description H. Section, I-Beam & Channel Weight and Size Test

Sr. No.	Designation		Weight	Length	Weight per Unit Length	Depth (d)	Flange Width (b <sub>f</sub> )	Flange Thickness (t <sub>f</sub> )	Web Thickness (t <sub>w</sub> )	Remark
	(mm)		(g)	(cm)	(kg/m)	mm	mm	mm	mm	
1	H. Section	250x250x13	41150	50.50	81.49	251.00	250.00	14.50	14.20	
2	H. Section	150x150x8	15950	50.60	31.52	150.00	155.00	10.50	8.50	
3	I-Beam Section	600x200x13	57400	50.50	113.66	596.00	200.30	18.70	12.00	
4	Channel	200x75x6	8950	51.00	175.49	200.00	75.50	8.00	6.00	
5	Channel	150x75x6	7400	51.00	145.10	153.00	75.20	8.50	5.80	
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-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
<b>Only Five Samples for Test</b>										

**I/C Testing Laboratoires**  
**UET Lahore, Pakistan.**

Note:

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on GT Road N-5

Reference # CED/TFL **35423** (Dr. M Rizwan Riaz) Dated: 28-09-2020  
Reference of the request letter # Gen/DD(Maint)/WZD/NHA/2020/414 Dated: 15-06-2020

**Weight & Size Test Report** (Page – 2/2)

Date of Test 13-10-2020  
Description Angle Iron Weight and Size Test

Sr. No.	Designation	Weight	Length	Weight per Unit Length	L-1	L-2	Thickness	Remark
	(mm)	(g)	(cm)	(kg/m)	(mm)	(mm)	(mm)	
1	100x100I2	9350	51.00	18.33	105.00	104.00	12.50	
2	75x75x6	3706	50.70	7.31	75.60	75.70	6.50	
3	50x50x5	1900	51.00	3.73	50.10	50.00	5.20	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
<b>Only Three Samples for Test</b>								

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

To,  
 Resident Engineer  
 Dar Engineering  
 Punjab Agriculture Food and Durg Authority's Science Enclave, Lahore Pakistan

Reference # CED/TFL **35476** (Dr. Waseem Abbass) Dated: 07-10-2020  
 Reference of the request letter # DB-78/DAR/RE/ME/2020/0234 Dated: 02-10-2020

**Tension Test Report** (Page – 1/3)

Date of Test 12-10-2020  
 Gauge length 2 inches  
 Description Structural Brackets Steel Strip Tensile Test as per ASTM A-36

Sr. No.	Designation		Size of Strip	X Section Area	Yield load	Breaking Load	Yield Stress	Ultimate Stress	Elongation	% Elongation	Remarks
1	Structural Brackets 220x250x96	8mm	22.00x8.00	176.00	4700	7800	261.97	434.76	0.70	35.00	
2			22.00x8.00	176.00	4800	7700	267.55	429.19	0.70	35.00	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	
<b>Only Two Samples for Tensile Test</b>											
<b>Bend Test</b>											

**I/C Testing Laboratoires**  
**UET Lahore, Pakistan.**

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To,  
 Resident Engineer  
 Dar Engineering  
 Punjab Agriculture Food and Durg Authority's Science Enclave, Lahore Pakistan

Reference # CED/TFL **35476** (Dr. Waseem Abbass)

Dated: 07-10-2020

Reference of the request letter # DB-78/DAR/RE/ME/2020/0235

Dated: 07-10-2020

**Tension Test Report** (Page – 2/3)

Date of Test 12-10-2020

Gauge length 2 inches

Description Structural Pipe Steel Strip Tensile Test as per ASTM A-36

Sr. No.	Designation		Size of Strip	X Section Area	Yield load	Breaking Load	Yield Stress	Ultimate Stress	Elongation	% Elongation	Remarks
1	Structural Pipe	1"x2"x3mm	21.95x2.95	64.75	2600	3500	393.90	530.25	0.50	25.00	Bashir Pipes
2			21.95x3.00	65.85	2600	3600	387.33	536.31	0.50	25.00	
3	Structural Pipe	1"x2"x3mm	22.90x3.00	68.70	2720	3480	388.40	496.93	0.50	25.00	Bashir Pipes
4			21.90x2.95	64.61	2280	3520	346.21	534.50	0.50	25.00	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	
<b>Only Four Samples for Tensile Test</b>											
<b>Bend Test</b>											

**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  
 Dar Engineering  
 Punjab Agriculture Food and Durg Authority's Science Enclave, Lahore Pakistan

Reference # CED/TFL **35476** (Dr. Waseem Abbass)

Dated: 07-10-2020

Reference of the request letter # DB-78/DAR/RE/ME/2020/0233

Dated: 02-10-2020

**Tension Test Report** (Page – 3/3)

Date of Test 12-10-2020

Gauge length 2 inches

Description Structural Pipe Steel Strip Tensile Test as per ASTM A-36

Sr. No.	Designation		Size of Strip	X Section Area	Yield load	Breaking Load	Yield Stress	Ultimate Stress	Elongation	% Elongation	Remarks
1	Structural Pipe	1"x2"x3mm	22.90x2.95	67.56	2700	3700	392.08	537.30	0.50	25.00	Bashir Pipes
2			22.20x3.00	66.60	2600	3500	382.97	515.54	0.45	22.50	
3	Structural Pipe	1"x2"x3mm	22.00x3.00	66.00	2600	3400	386.45	505.36	0.45	22.50	Bashir Pipes
4			22.00x3.00	66.00	2500	3500	371.59	520.23	0.50	25.00	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	
<b>Only Four Samples for Tensile Test</b>											
<b>Bend Test</b>											

**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,  
 Sr. Resident Engineer  
 Abdullah Khan Architect  
 U/G Electrical Works for Sector-B – DHA Bahawalpur

Reference # CED/TFL **35487** (Dr. M Rizwan Riaz)  
 Reference of the request letter # SRE/NLC/Site/Lab/B-01

Dated: 12-10-2020  
 Dated: 09-10-2020

**Tension Test Report** (Page -1/1)

Date of Test 13-10-2020  
 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 <sup>2</sup> )		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	0.380	3	0.377	0.11	0.112	3600	4800	72200	71110	96200	94900	0.90	11.3	Mughal Steel
2	0.372	3	0.373	0.11	0.109	3700	4800	74200	74520	96200	96700	0.80	10.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile and one sample for bend test</b>														
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**  
**Pakistan. Ph: 92-42-99029202**

To,  
Resident Engineer  
NESPAK, Job # 3914  
F/S Construction & Supervision of By Pass Road from Ayub Bridge Havelian (N-35) to  
Dhamtour

Reference # CED/TFL **35490** (Dr. Ali Ahmed)  
Reference of the request letter # 3914/102/SJS/348

Dated: 12-10-2020  
Dated: 11-10-2020

**Tension Test Report** (Page – 1/3)

Date of Test 13-10-2020  
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	783.0	18700	183.45	20300	199.14	199	>3.50	xx
2	12.70 (1/2")	775.0	780.0	18900	185.41	20000	196.20	199	>3.50	xx
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	

**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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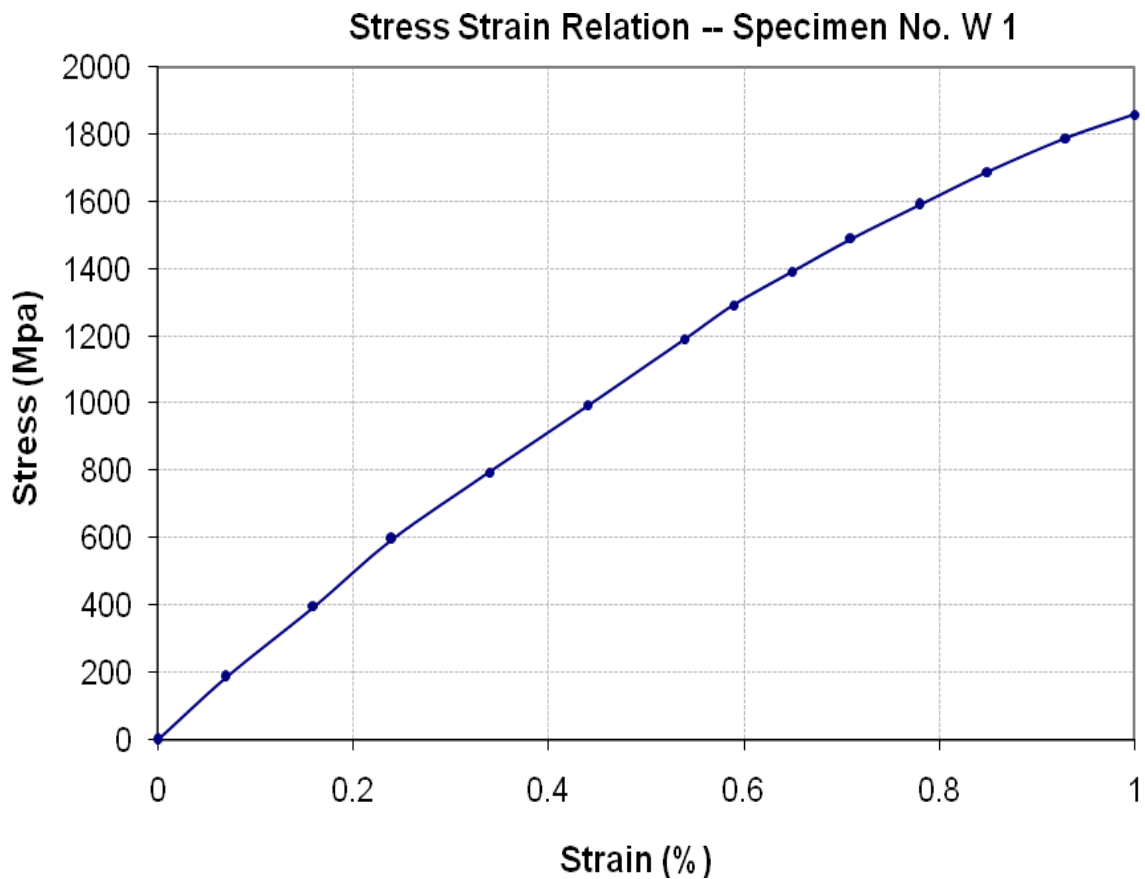


**STRUCTURAL ENGINEERING DIVISION**  
**Test Floor Laboratory**  
**Department of Civil Engineering**  
**University of Engineering and Technology Lahore, 54890**  
**Pakistan. Ph: 92-42-99029202**

To,  
Resident Engineer  
NESPAK, Job # 3914  
F/S Construction & Supervision of By Pass Road from Ayub Bridge Havelian (N-35) to  
Dhamtour  
Reference # CED/TFL **35490** (Dr. Ali Ahmed)  
Reference of the request letter # 3914/102/SJS/348

Dated: 12-10-2020  
Dated: 11-10-2020

**Graph** (Page – 2/3)



**I/C Testing Laboratories**  
**UET Lahore, Pakistan.**

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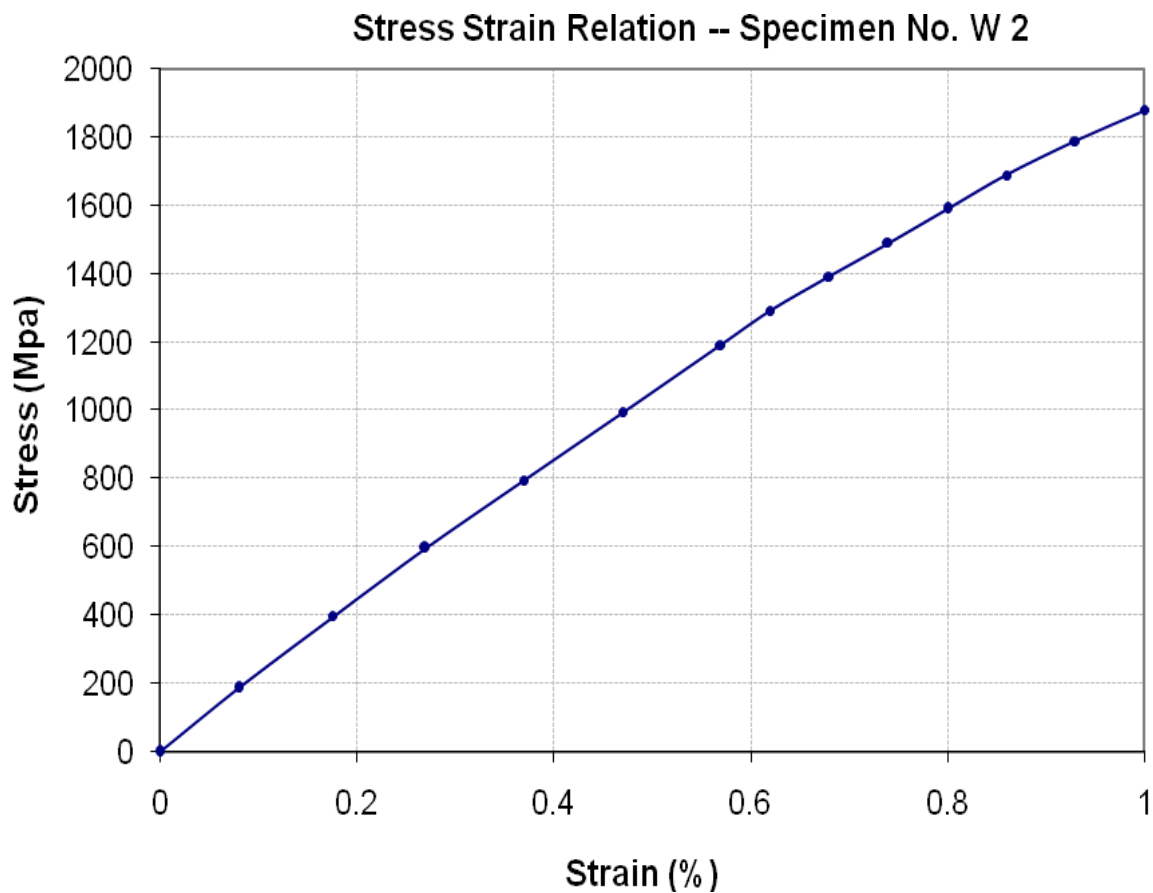
**STRUCTURAL ENGINEERING DIVISION**  
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To,  
Resident Engineer  
NESPAK, Job # 3914  
F/S Construction & Supervision of By Pass Road from Ayub Bridge Havelian (N-35) to  
Dhamtour  
Reference # CED/TFL **35490** (Dr. Ali Ahmed)  
Reference of the request letter # 3914/102/SJS/348

Dated: 12-10-2020

Dated: 11-10-2020

**Graph** (Page – 3/3)



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**Pakistan. Ph: 92-42-99029202**

To,  
M/S Ittefaq Building Solutions  
Lahore  
(Project : Superior Houses)

Reference # CED/TFL **35492** (Dr. Rizwan Riaz)  
Reference of the request letter # Nil

Dated: 12-10-2020  
Dated: 02-10-2020

**Tension Test Report** (Page -1/1)

Date of Test 13-10-2020  
Gauge length 8 inches  
Description Deformed Steel Bar Tensile Test as per ASTM-A615

Sr. No.	Weight	Diameter/size		Area (in <sup>2</sup> )		Yield load	Breaking Load	Yield Stress (psi)		Ultimate Stress (psi)		Elongation	% Elongation	Remarks
	(lbs/ft)	Nominal (#)	Actual (inch)	Nominal	Actual	(kg)	(kg)	Nominal	Actual	Nominal	Actual	(inch)		
1	0.373	3	0.373	0.11	0.110	3400	4800	68200	68410	96200	96600	1.20	15.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only one sample for tensile test</b>														
Bend Test														

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To,  
 Resident Engineer  
 NESPAK Jv TurkPak  
 Resident Construction Supervision for Establishment of Dera Ghazi Khan Institute of Cardiology

Reference # CED/TFL **35493** (Dr. Rizwan Riaz)  
 Reference of the request letter # 4161/RE/SFMK/DGK/056

Dated: 12-10-2020  
 Dated: 12-10-2020

**Tension Test Report** (Page -1/1)

Date of Test 13-10-2020  
 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 <sup>2</sup> )		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	0.379	3	0.377	0.11	0.111	3100	5000	62200	61360	100200	99000	1.30	16.3	Fazal Steel
2	0.392	3	0.383	0.11	0.115	3200	5100	64200	61140	102200	97500	1.30	16.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile and one sample for bend test</b>														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														

Witness by Arshad Muneer Janjua (Nespak)

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