



**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  
 Zeeruk Intl: (Pvt) Ltd  
 Dualization of Indus Highway (N55) Karak to Kohat Project

Reference # CED/TFL **36090** (Dr. Waseem Abbass)  
 Reference of the request letter # ZI/P-2/RE/2020/298

Dated: 16-02-2021  
 Dated: 11-01-2021

**Tension Test Report** (Page – 1/2)

Date of Test 23-02-2021  
 Gauge length 2 inches  
 Description MS Pipe Steel Strip Tensile and Bend Test

Sr. No.	Designation		Size of Strip	X Section Area	Yield load	Breaking Load	Yield Stress	Ultimate Stress	Elongation	% Elongation	Remarks
	(inch)		(mm)	(mm <sup>2</sup> )	(kg)	(kg)	(MPa)	(MPa)	(in)		
1	MS Pipe	4	27.00x3.20	86.40	2900	3500	329.27	397.40	0.50	25.00	
2			27.00x3.20	86.40	3000	3500	340.63	397.40	0.50	25.00	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	
<b>Only Two Samples for Tensile Test</b>											
<b>Bend Test</b>											

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

Note:

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Dualization of Indus Highway (N55) Karak to Kohat Project

Reference # CED/TFL **36090** (Dr. Waseem Abbass)  
Reference of the request letter # ZI/P-2/RE/2020/298

Dated: 16-02-2021  
Dated: 11-01-2021

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

Date of Test 18-02-2021  
Description MS 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	4	3773	43.5	8.67	112.2	105.40	3.4	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
<b>Only One Sample for Test</b>								

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

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To,  
Resident Engineer  
Zeeruk Intl: (Pvt) Ltd  
Dualization of Indus Highway (N55) Karak to Kohat Project

Reference # CED/TFL **36106** (Dr. M Rizwan Riaz)  
Reference of the request letter # ZI/P-2/RE/2021/315

Dated: 18-02-2021  
Dated: 13-02-2021

**Tension Test Report** (Page – 1/2)

Date of Test 23-02-2021  
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	771	17700	173.64	19200	188.35	199	>3.50	xx
2	12.70 (1/2")	775.0	778	-----	-----	16600	162.85	-----	<3.50 Not ok	xx
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
<b>Only two samples for Test</b>										

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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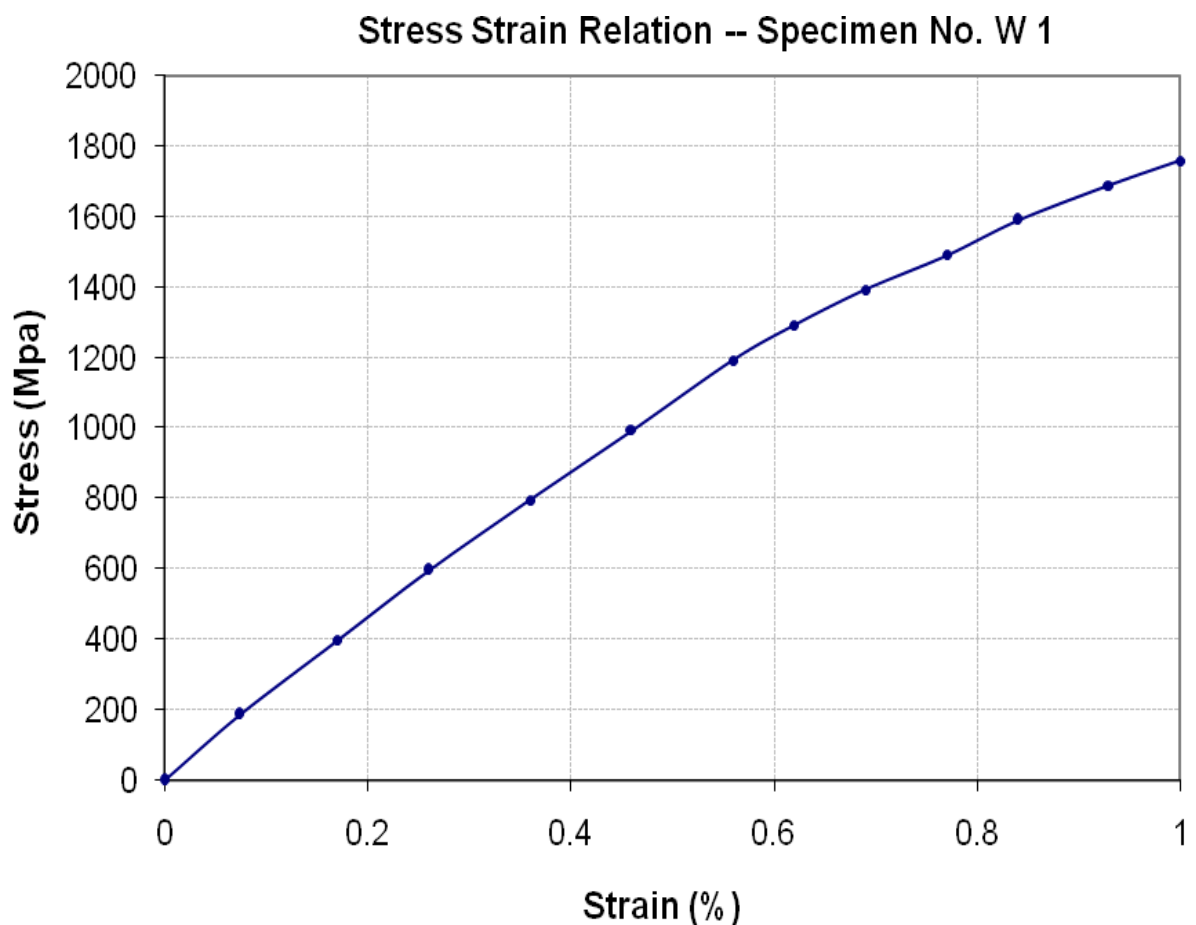
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Dualization of Indus Highway (N55) Karak to Kohat Project

Reference # CED/TFL **36106** (Dr. M Rizwan Riaz)  
Reference of the request letter # ZI/P-2/RE/2021/315

Dated: 18-02-2021  
Dated: 13-02-2021

**Graph** (Page – 2/2)



**I/C Testing Laboratories**  
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Ref: CED/TFL/02/36107

Dated: 19-02-2021

Dated of Test: 23-02-2021

To  
Sub Divisional Officer  
Building's Sub Division No. 14 Wahdat Colony  
Lahore (WC-II)  
(Improvement of Sewerage System at Wahdat Colony Lahore)

Subject: TESTING OF R.C.C. PIPE [ASTM-C76 - 08a]

Reference to your letter No. 98, dated 12.02.2021 on the subject cited above. One R.C.C. Pipe as received by us has been tested. The results are tabulated as under.

Sr. No	Nominal Size	Total Length	Loaded Length	External Diameter	Internal Diameter	Wall Thickness	Proof load	Ultimate Load	Proof Stress	Ultimate Stress
	(inch)	(foot)	(foot)	(foot)	(foot)	(inch)	(kg)	(kg)	Pound/Linear foot/foot	Pound/Linear foot/foot
1	12	7.78	7.33	1.34	1.00	2.03	9200	16000	2778	4831

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

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To,  
 Sub Divisional Officer  
 SSTH Multan Road, Lahore  
 (Construction of 3<sup>rd</sup> Floor at RAIC Multan Road, Lahore)

Reference # CED/TFL **36111** (Dr. Waseem Abbass)  
 Reference of the request letter # SS. DC()/923

Dated: 22-02-2021  
 Dated: 09-02-2021

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

Date of Test 23-02-2021  
 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 <sup>2</sup> )		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	0.373	3/8	0.374	0.11	0.110	3100	4700	62200	62340	94200	94600	1.40	17.5	
2	0.374	3/8	0.374	0.11	0.110	3100	4700	62200	62220	94200	94400	1.40	17.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile and one sample for bend test</b>														
Bend Test														
3/8" Dia Bar Bend Test Through 180° is Satisfactory														

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

Note:

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To,  
M/S Altec International  
Lahore

Reference # CED/TFL **36112** (Dr. Waseem Abbass)  
Reference of the request letter # Nil

Dated: 22-02-2021

Dated: 22-02-2021

**Tension Test Report** (Page – 1/1)

Date of Test 23-02-2021  
Description Steel Wire Rope Tensile Test

Sr. No.	Nominal Diameter	Measured weight	Breaking Load	Remarks / Coil No.
	(mm)	(kg/m)	(kg)	
1	8.3	0.243	4700	
-	-	-	-	
-	-	-	-	
-	-	-	-	
-	-	-	-	
<b>Only one sample for Test</b>				

To,

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

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M/S CM Engineering (Pvt) Ltd

Lahore

(CMPAK Project Site ID: 52539, 51800, 52869, 52897, 52898, 52900, 52903, 52946, 52949, 52951, 52952, 52817, 52807, 52866, 52899, 52945)

Reference # CED/TFL **36113** (Dr. Waseem Abbass)

Dated: 22-02-2021

Reference of the request letter # CME/Steel/CMPAK/346

Dated: 08-02-2021

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

Date of Test 23-02-2021

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 <sup>2</sup> )		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	0.363	10	9.36	0.12	0.107	3000	4900	55115	61990	90021	101300	1.20	15.0	
2	0.362	10	9.35	0.12	0.106	3100	4900	56952	64210	90021	101500	1.00	12.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile and one sample for bend test</b>														
Bend Test														
10mm Dia Bar Bend Test Through 180° is Satisfactory														

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

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To,  
 Resident Engineer  
 NESPAK  
 Development of Infrastructure in LDA City, Lahore (Packagr-1, 4 & 6 of Jinnah Section)

Reference # CED/TFL **36114** (Dr. Waseem Abbass)  
 Reference of the request letter # 4047/13/MA/09/26

Dated: 22-02-2021  
 Dated: 20-02-2021

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

Date of Test 23-02-2021  
 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	0.403	3	0.388	0.11	0.119	4100	5400	82200	76240	108200	100500	0.80	10.0	Mughal Steel
2	0.405	3	0.389	0.11	0.119	4000	5400	80200	74050	108200	100000	0.90	11.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile and one sample for bend test</b>														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														

**I/C Testing Laboratoires**  
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**Pakistan. Ph: 92-42-99029202**

To,  
 C.R.E  
 S.G Consultant  
 Cardiac Centre Quetta  
 (Project Officer, CCQ, 10 Engr Battalion)

Reference # CED/TFL **36115** (Dr. Waseem Abbass)  
 Reference of the request letter # CCQ/SG/Gen-25

Dated: 22-02-2021  
 Dated: 08-02-2021

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

Date of Test 23-02-2021  
 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 <sup>2</sup> )		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	0.417	10	10.04	0.12	0.123	3800	5600	69812	68320	102881	100700	1.10	13.8	FF Stell
2	0.417	10	10.04	0.12	0.123	3800	5700	69812	68320	104719	102500	1.10	13.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile and one sample for bend test</b>														
Bend Test														
10mm Dia Bar Bend Test Through 180° is Satisfactory														

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To,  
 M/S Defence Housing Authority.  
 Lahore Cantt  
 (Infra Development Work, Sector - Q, DHA Ph-XI - (M/s DHA-C)

Reference # CED/TFL **36116** (Dr. Waseem Abbass)  
 Reference of the request letter # 408/241/E/Lab/36/3193

Dated: 22-02-2021  
 Dated: 22-02-2021

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

Date of Test 23-02-2021  
 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	0.377	3	0.376	0.11	0.111	3800	5300	76200	75630	106200	105500	1.30	16.3	Kamran Steel
2	0.378	3	0.376	0.11	0.111	3600	4800	72200	71350	96200	95200	1.50	18.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile and one sample for bend test</b>														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														

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