



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

To,  
 Project Director (HVDC)  
 NTDC Lahore  
 (Lot-7)

Reference # CED/TFL **34008** (Dr. Usman Akmal)  
 Reference of the request letter # 2044-48/PD/HVDC/NTDC/LHR

Dated: 14-10-2019

Dated: 14-10-2019

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

Date of Test 17-10-2019

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	0.381	3	0.377	0.11	0.112	3900	5050	78200	76840	101200	99500	1.10	13.8	
2	0.370	3	0.372	0.11	0.109	3900	5000	78200	79130	100200	101500	1.00	12.5	
3	0.377	3	0.376	0.11	0.111	4000	5050	80200	79480	101200	100400	0.90	11.3	
4	4.202	10	1.254	1.27	1.235	37600	52800	65300	67100	91700	94300	1.20	15.0	
5	4.155	10	1.247	1.27	1.221	34800	49800	60400	62800	86500	89900	1.30	16.3	
6	4.214	10	1.256	1.27	1.239	35000	50700	60800	62290	88000	90300	1.30	16.3	

**Note: only six samples for tensile and six samples for bend test**

Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														
#3 Bar Bend Test Through 180° is Satisfactory														
#3 Bar Bend Test Through 180° is Satisfactory														
#10 Bar Bend Test Through 180° is Satisfactory														
#10 Bar Bend Test Through 180° is Satisfactory														
#10 Bar Bend Test Through 180° is Satisfactory														

Witness by Umair Aslam (DM (HVDC) NTDC), M. Abbas (OE) & Dr. Ali Adnan

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

Note:

- 1- You can See your reports On Internet in the following web site  
[http://www.uet.edu.pk/faculties/facultiesinfo/civil/index.html?RID=testing\\_reports](http://www.uet.edu.pk/faculties/facultiesinfo/civil/index.html?RID=testing_reports)
- 2- The above results pertain to sample /samples supplied to this laboratory.
- 3- Sealed sample / Unsealed sample / Marked sample/Signed Samples



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

To,  
 Sub Divisional Officer  
 Public Health Engg : Sub Division  
 Kamalia  
 (Rural Water Supply Scheme Chak No. 662/3 G Distt Toba Tek Singh (O.H.R 200000 Ghr)

Reference # CED/TFL **34022** (Dr. Usman Akmal)  
 Reference of the request letter # 162/K

Dated: 16-10-2019  
 Dated: 12-09-2019

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

Date of Test 17-10-2019  
 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	0.359	3/8	0.367	0.11	0.106	3300	4600	66200	68890	92200	96100	1.50	18.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<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:

- 1- You can See your reports On Internet in the following web site  
[http://www.uet.edu.pk/faculties/facultiesinfo/civil/index.html?RID=testing\\_reports](http://www.uet.edu.pk/faculties/facultiesinfo/civil/index.html?RID=testing_reports)
- 2- The above results pertain to sample /samples supplied to this laboratory.
- 3- Sealed sample / Unsealed sample / Marked sample/Signed Samples



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

To,  
 Sub Divisional Officer  
 Public Health Engg : Sub Division  
 Kamoke  
 (Improvement of Sewerage , Soling, Drainge Tatly Ali Road Kamoke)

Reference # CED/TFL **34023** (Dr. Usman Akmal)  
 Reference of the request letter # 668/K

Dated: 16-10-2019  
 Dated: 24-09-2019

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

Date of Test 17-10-2019  
 Gauge length 8 inches  
 Description Deformed Steel Bar Tensile 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	0.361	3/8	0.368	0.11	0.106	3300	4600	66200	68470	92200	95500	1.30	16.3	
2	0.366	3/8	0.370	0.11	0.108	3400	4700	68200	69700	94200	96400	1.30	16.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile test</b>														
Bend Test														

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

Note:

- 1- You can See your reports On Internet in the following web site  
[http://www.uet.edu.pk/faculties/facultiesinfo/civil/index.html?RID=testing\\_reports](http://www.uet.edu.pk/faculties/facultiesinfo/civil/index.html?RID=testing_reports)
- 2- The above results pertain to sample /samples supplied to this laboratory.
- 3- Sealed sample / Unsealed sample / Marked sample/Signed Samples



**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 Defence Housing Authority.  
Lahore Cantt  
(Infra Dev Works Sector-R (Pkg-1), DHA PH-IX)(M/s DHA-C)

Reference # CED/TFL **34026** (Dr. Usman Akmal)  
Reference of the request letter # 408/241/E/Lab/738/4938

Dated: 16-10-2019  
Dated: 15-10-2019

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

Date of Test 17-10-2019  
Gauge length -----  
Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A496

Sr. No.	Weight	Diameter/size		Area (mm <sup>2</sup> )		Yield load	Breaking Load	Yield Stress (Mpa)		Ultimate Stress (Mpa)		Remarks
	(Kg/m)	Nominal (#)	Actual (mm)	Nominal	Actual	(kg)	(kg)	Nominal	Actual	Nominal	Actual	
1	0.279	2	6.73	32.26	35.56	1900	2550	578	524	775	703	
2	0.279	2	6.73	32.26	35.56	1900	2500	578	524	760	690	
-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile and one sample for bend test</b>												
Bend Test												
#2 Bar Bend Test Through 180° is Satisfactory												

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

Note:

- 1- You can See your reports On Internet in the following web site  
[http://www.uet.edu.pk/faculties/facultiesinfo/civil/index.html?RID=testing\\_reports](http://www.uet.edu.pk/faculties/facultiesinfo/civil/index.html?RID=testing_reports)
- 2- The above results pertain to sample /samples supplied to this laboratory.
- 3- Sealed sample / Unsealed sample / Marked sample/Signed Samples



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

To,  
 Director  
 Multi Line Engineers  
 Construction of Misc Civil Works at Unilever Pakistan Food Ltd

Reference # CED/TFL **34027** (Dr. Usman Akmal)  
 Reference of the request letter # Nil

Dated: 16-10-2019  
 Dated: 16-10-2019

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

Date of Test 17-10-2019  
 Gauge length 8 inches  
 Description Deformed Steel Bar Tensile 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	0.375	3	0.375	0.11	0.110	3700	4700	74200	74000	94200	94000	1.30	16.3	
2	0.379	3	0.376	0.11	0.111	3700	4700	74200	73280	94200	93100	1.10	13.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile test</b>														
Bend Test														

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

Note:

- 1- You can See your reports On Internet in the following web site  
[http://www.uet.edu.pk/faculties/facultiesinfo/civil/index.html?RID=testing\\_reports](http://www.uet.edu.pk/faculties/facultiesinfo/civil/index.html?RID=testing_reports)
- 2- The above results pertain to sample /samples supplied to this laboratory.
- 3- Sealed sample / Unsealed sample / Marked sample/Signed Samples



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

To,  
 Project Officer  
 21 Engineer Battalion  
 Cardiac Centre Quetta

Reference # CED/TFL **34028** (Dr. Usman Akmal)  
 Reference of the request letter # 607/Projects/Quetta

Dated: 16-10-2019  
 Dated: 15-10-2019

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

Date of Test 17-10-2019  
 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	0.414	3/8	0.394	0.11	0.122	4100	5000	82200	74270	100200	90600	1.10	13.8	
2	0.409	3/8	0.391	0.11	0.120	4100	5000	82200	75110	100200	91600	1.20	15.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<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:

- 1- You can See your reports On Internet in the following web site  
[http://www.uet.edu.pk/faculties/facultiesinfo/civil/index.html?RID=testing\\_reports](http://www.uet.edu.pk/faculties/facultiesinfo/civil/index.html?RID=testing_reports)
- 2- The above results pertain to sample /samples supplied to this laboratory.
- 3- Sealed sample / Unsealed sample / Marked sample/Signed Samples



**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  
 China Energy Engineering Group Jiangsu No.1 Electric Power Construction Co., Ltd  
 1263 MW Punjab Thermal Power Plant, Jhang  
 (City Steel)  
 Reference # CED/TFL **34029** (Dr. Usman Akmal)  
 Reference of the request letter # Nil

Dated: 16-10-2019  
 Dated: 16-10-2019

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

Date of Test 17-10-2019  
 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	0.375	10	9.52	0.12	0.110	3200	4600	58789	63960	84510	92000	1.50	18.8	
2	0.374	10	9.51	0.12	0.110	3200	5000	58789	64130	91858	100200	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														

Witness by M Nayyar (NESPAK)

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

Note:

- 1- You can See your reports On Internet in the following web site  
[http://www.uet.edu.pk/faculties/facultiesinfo/civil/index.html?RID=testing\\_reports](http://www.uet.edu.pk/faculties/facultiesinfo/civil/index.html?RID=testing_reports)
- 2- The above results pertain to sample /samples supplied to this laboratory.
- 3- Sealed sample / Unsealed sample / Marked sample/Signed Samples



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

To,  
 Sub Divisional Officer  
 Public Health Engg : Sub Division  
 Kamalia  
 (Rural Water Supply Scheme Chak No. 321/GB Khumanwala Tehsil Pirmahal District Toba Tek  
 Singh, Chak No. 700/42 GB Pir Kadhiana – Christian Colony Tehsil Pirmahal District Toba Tek  
 Singh, Chak No. 294/GB Azafi Abdi Tehsil & District Toba Tek Singh)  
 Reference # CED/TFL **34030** (Dr. Usman Akmal) Dated: 16-10-2019  
 Reference of the request letter # 169/K Dated: 30-09-2019

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

Date of Test 17-10-2019  
 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	0.361	3/8	0.368	0.11	0.106	3500	4600	70200	72720	92200	95600	0.80	10.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile and one sample for bend test</b>														
<b>Bend Test</b>														
3/8" Dia Bar Bend Test Through 180° is Satisfactory														

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

Note:

- 1- You can See your reports On Internet in the following web site  
[http://www.uet.edu.pk/faculties/facultiesinfo/civil/index.html?RID=testing\\_reports](http://www.uet.edu.pk/faculties/facultiesinfo/civil/index.html?RID=testing_reports)
- 2- The above results pertain to sample /samples supplied to this laboratory.
- 3- Sealed sample / Unsealed sample / Marked sample/Signed Samples





**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  
 Development of Infrastructure in LDA City, Lahore (Package 2 of Development Area - 1)  
 (Kamran Steel)

Reference # CED/TFL **34031** (Dr. Usman Akmal)  
 Reference of the request letter # 4047/13/OH/03-MBCC/21

Dated: 16-10-2019  
 Dated: 14-09-2019

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

Date of Test 17-10-2019  
 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	4.131	10	1.243	1.27	1.214	37000	52600	64300	67170	91300	95500	1.50	18.8	
2	4.112	10	1.241	1.27	1.209	37200	53200	64600	67840	92400	97100	1.40	17.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile and one sample for bend test</b>														
Bend Test														
#10 Bar Bend Test Through 180° is Satisfactory														

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

Note:

- 1- You can See your reports On Internet in the following web site  
[http://www.uet.edu.pk/faculties/facultiesinfo/civil/index.html?RID=testing\\_reports](http://www.uet.edu.pk/faculties/facultiesinfo/civil/index.html?RID=testing_reports)
- 2- The above results pertain to sample /samples supplied to this laboratory.
- 3- Sealed sample / Unsealed sample / Marked sample/Signed Samples



**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  
 Allied Engineering Consultants (Pvt) Ltd  
 Construction of Multi-Storied A.Q Hospital Building with 120,000 SFT Covered Area at 78  
 Moulana Ahmad Ali Road, Near Minar-E-Pakistan, Lahore (Kamran Steel)

Reference # CED/TFL **34032** (Dr. Usman Akmal) Dated: 16-10-2019  
 Reference of the request letter # ACE/AQ Khan/2019/1031 Dated: 16-09-2019

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

Date of Test 17-10-2019  
 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	0.363	3/8	0.369	0.11	0.107	3200	5050	64200	66110	101200	104400	1.10	13.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only one sample for tensile and one sample for bend test</b>														
Bend Test														
3/8" Dia Bar Bend Test Through 180° is Satisfactory														

Witness by Furqan Idrees (Resident Engineer AEC Pvt Ltd)

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

Note:

- 1- You can See your reports On Internet in the following web site  
[http://www.uet.edu.pk/faculties/facultiesinfo/civil/index.html?RID=testing\\_reports](http://www.uet.edu.pk/faculties/facultiesinfo/civil/index.html?RID=testing_reports)
2. The above results pertain to sample /samples supplied to this laboratory.
- 3- Sealed sample / Unsealed sample / Marked sample/Signed Samples