STRUCTURAL ENGINEERING DIVISION

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

Ref: CED/TFL/07/5415 Dated: 29-07-2024

Dated of Test: 05-08-2024

To

Assistant Director (QCD)
WASA, LDA, Lahore
(M/s Ali REhman Punjab Rcc Pipe FActotry.)

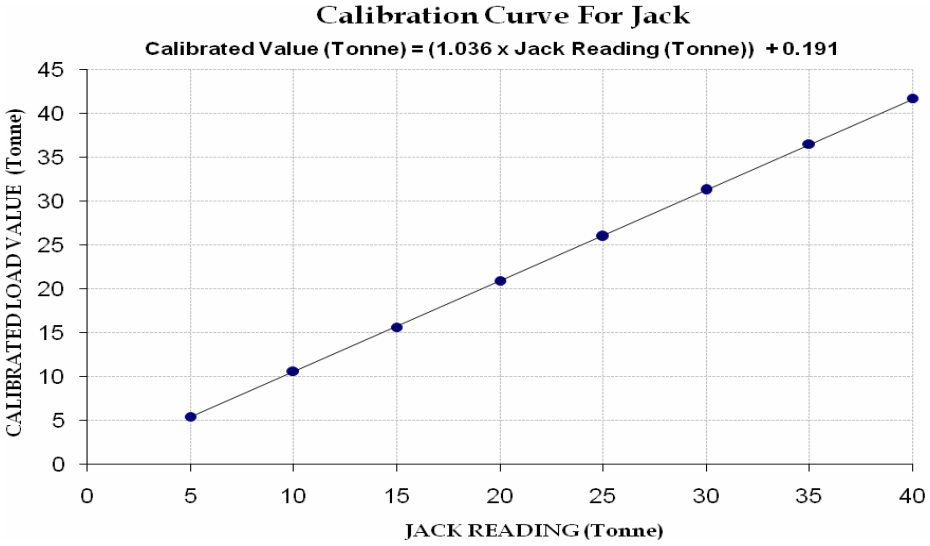
Subject: **- CALIBRATION OF HYDRAULIC JACK WITH GAUGE**
(MARK: TFL/07/5415)

Reference to your Letter No. QCD/1146-47, Dated: 22/07/2024 on the subject cited above. One Hydraulic Jack with Gauge as received by us has been calibrated. The results are tabulated as under:

Total Range : Zero - 50 (Tonne)
Calibrated Range : Zero - 40 (Tonne)

Hydraulic Jack Reading (Tonne)		**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
Calibrated Load	**(kg)**	**5450**	**10600**	**15650**	**20900**	**25950**	**31250**	**36500**	**41700**
	(Tonne)	**5.45**	**10.60**	**15.65**	**20.90**	**25.95**	**31.25**	**36.50**	**41.70**

1000 kg = 1 Tonne



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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,

QA/QC Manager
Power Construction Corporation of China Ltd
Tarbela 5th Extension Hydropower Project Management Department
(Wire Manufacturing Industry Limited.)

Reference # CED/TFL **5439** (Dr. M Kashif) Dated: 31-07-2024
Reference of the request letter # PCCCL/T5-GC/QC/2024-0017 Dated: 30-07-2024

Tension Test Report (Page – 1/4)

Date of Test 05-08-2024
Gauge length 600 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")**	**1100.0**	**1112**	**24500**	**240.35**	**27400**	**268.79**	**199**	**>3.50**	**01**
2	**15.24 (0.6")**	**1100.0**	**1116**	**25300**	**248.19**	**27500**	**269.78**	**198**	**>3.50**	**02**
3	**15.24 (0.6")**	**1100.0**	**1117**	**24600**	**241.33**	**27500**	**269.78**	**199**	**>3.50**	**03**
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
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

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UET Lahore, Pakistan.

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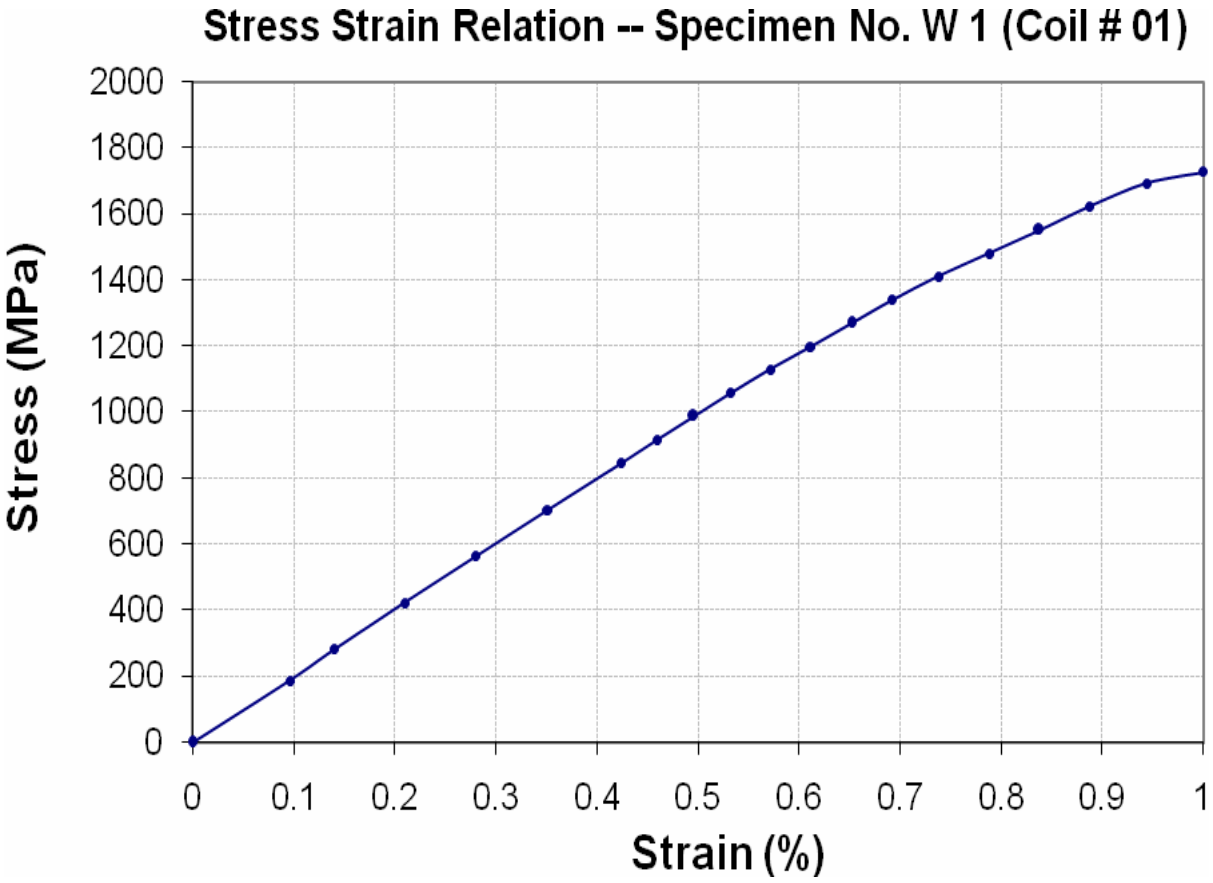
Graph (Page – 2/4)



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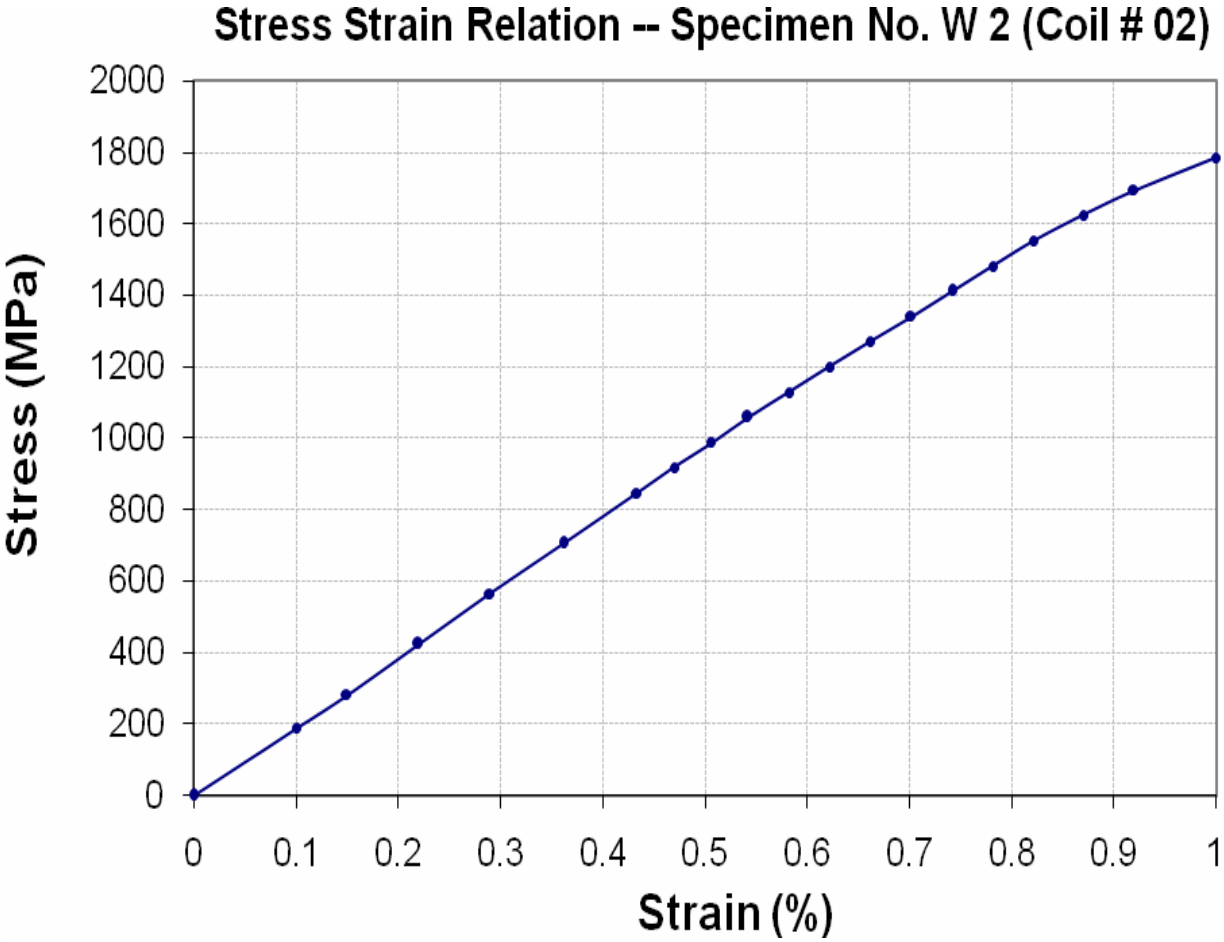
Graph (Page – 3/4)



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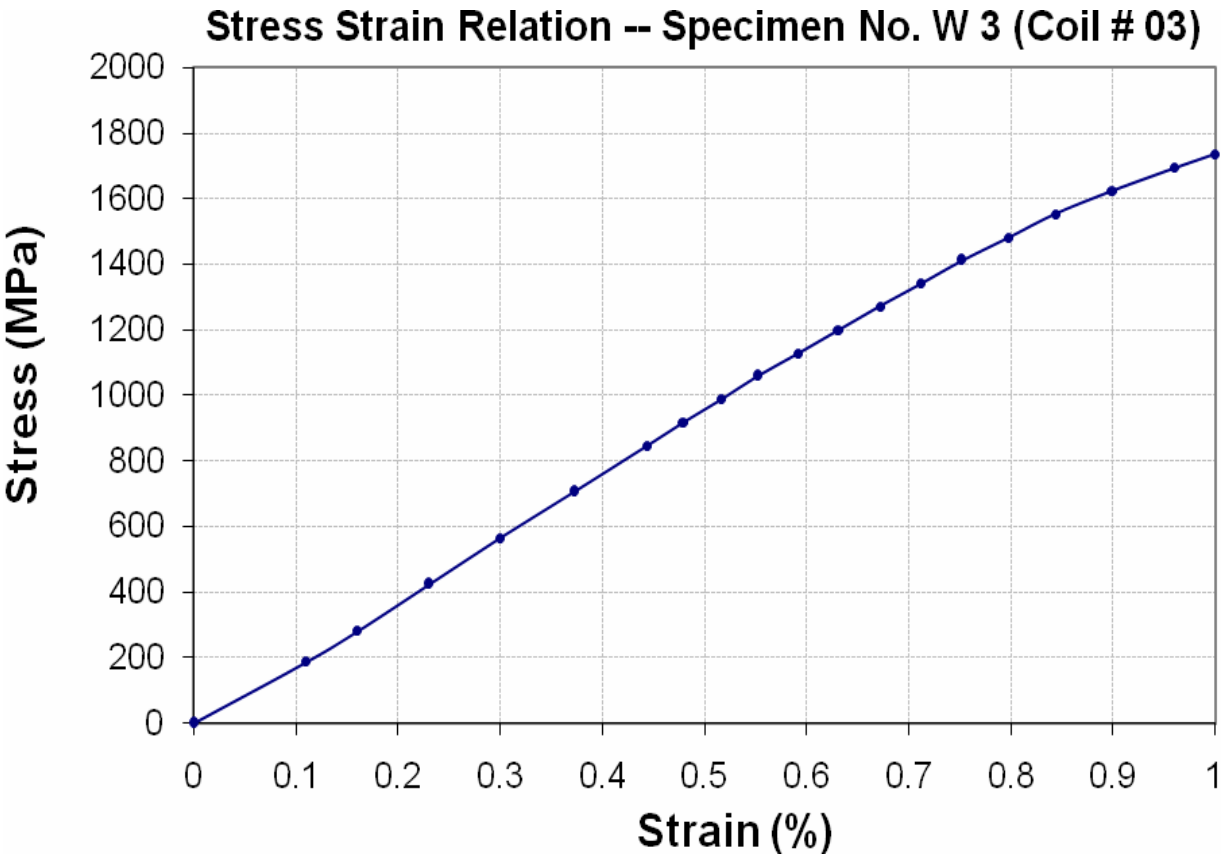
Graph (Page – 4/4)



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STRUCTURAL ENGINEERING DIVISION

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To,

Resident Engineer
AZ Engineering Associates
Gujrat & Kharian Residency.
"Rehabilitation of Road from Jalalpur Jattan Shahbazpur Road to Head Marala Road via Chopala I/C Bridge Length = 17.20 kms District Gujrat." (WMI)

Reference # CED/TFL **5443** (Dr. M Kashif) Dated: 01-08-2024
Reference of the request letter # RE AZEA/GT-1075 Dated: 24-07-2024

Tension Test Report (Page -1/4)

Date of Test 05-08-2024
Gauge length 600 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")**	**780.0**	**780.0**	**17700**	**173.64**	**19500**	**191.30**	**198**	**>3.50**	**xx**
2	**12.70 (1/2")**	**780.0**	**782.0**	**17900**	**175.60**	**19300**	**189.33**	**199**	**>3.50**	**xx**
3	**12.70 (1/2")**	**780.0**	**781.0**	**17800**	**174.62**	**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
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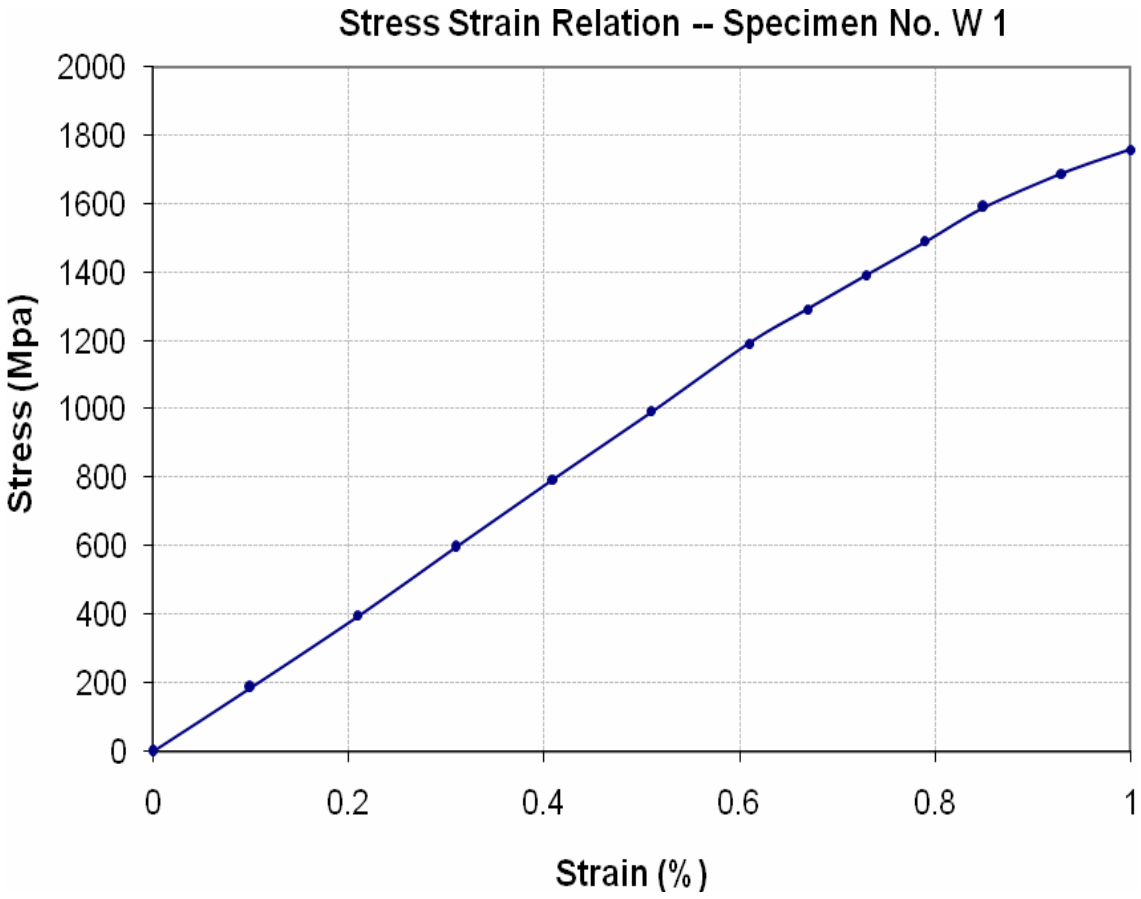
Reference of the request letter # RE AZEA/GT-1075 Dated: 24-07-2024

Graph (Page – 2/4)



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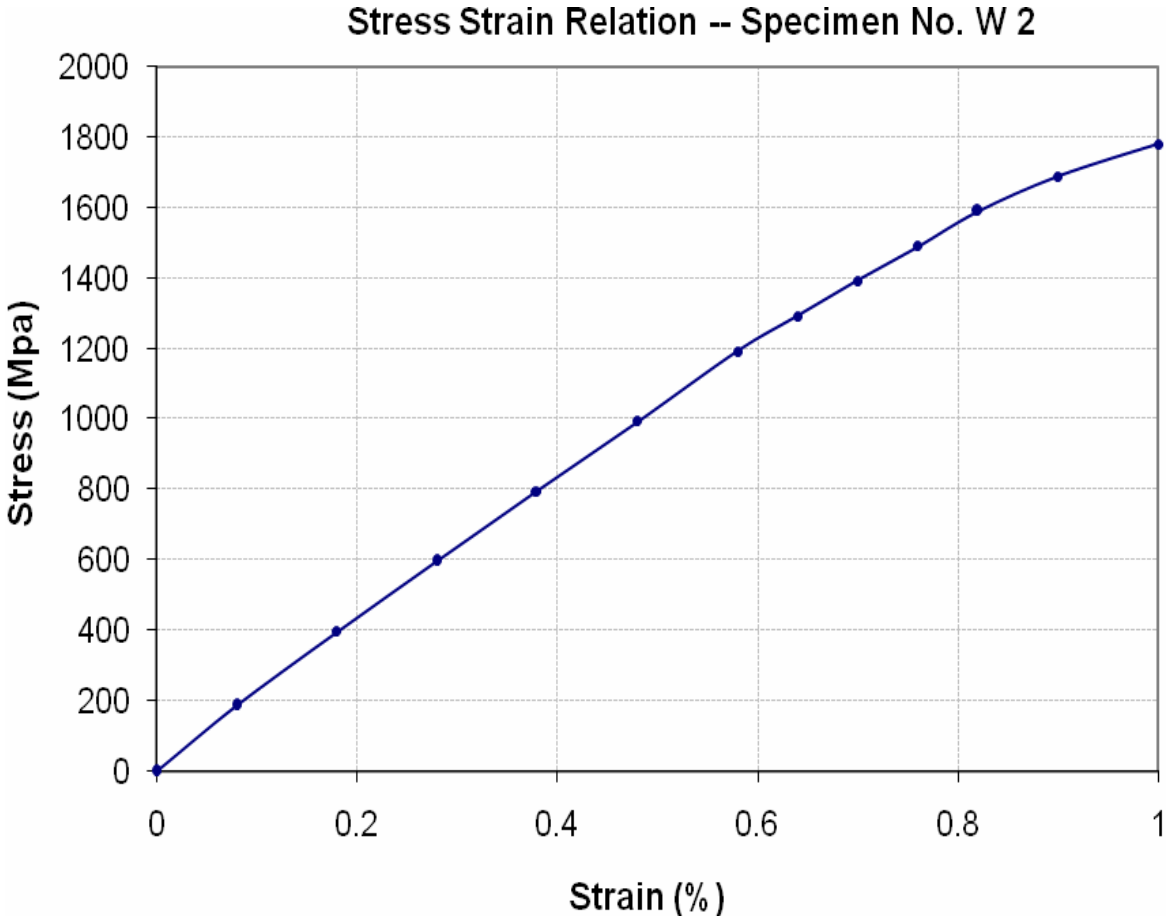
Graph (Page – 3/4)



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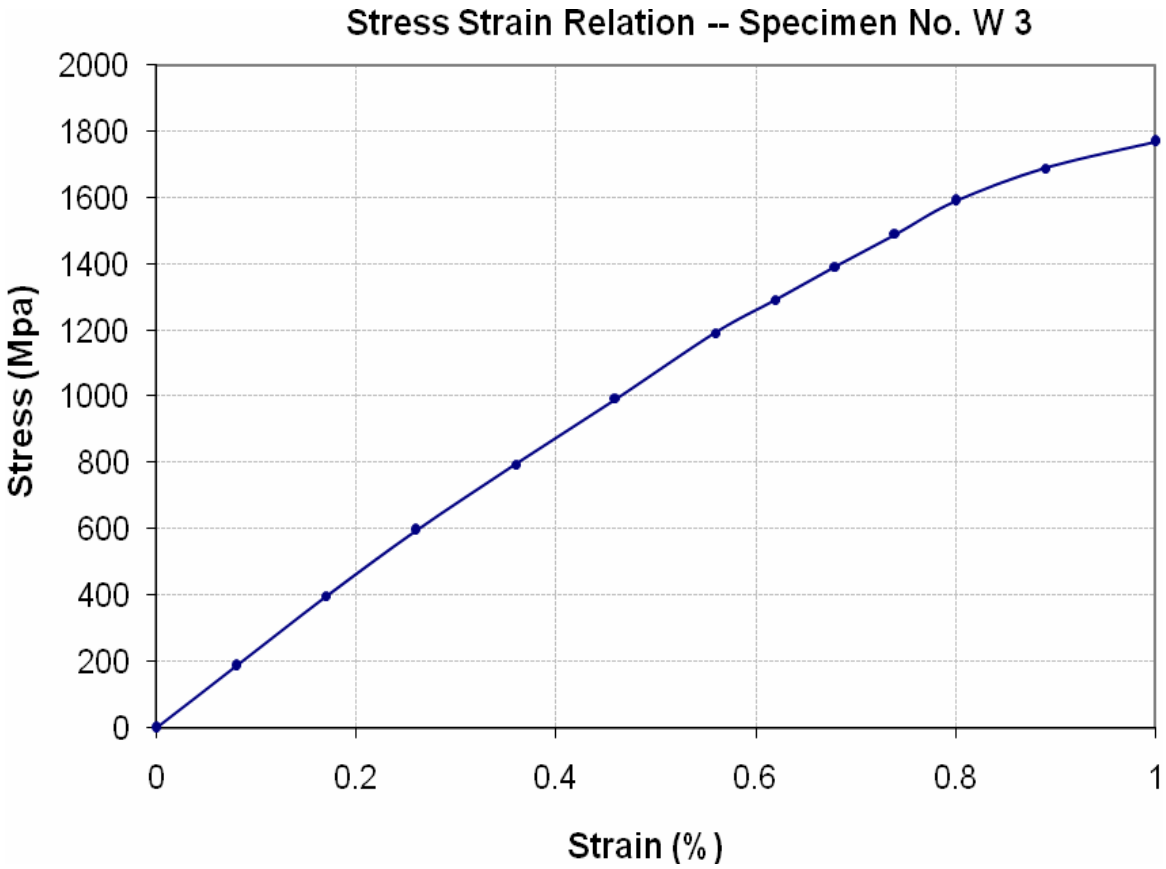
Graph (Page – 4/4)



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To,

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"Construction of Bridge & Approches Roads over Rainy Nullahs near Village Ghayyian & Bhojpur on Chohan Barilla Road in District Gujrat." (WMI)

Reference # CED/TFL **5444** (Dr. M Kashif) Dated: 01-08-2024
Reference of the request letter # RE AZEA/GT-1071 Dated: 24-07-2024

Tension Test Report (Page -1/4)

Date of Test 05-08-2024
Gauge length 600 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")**	**780.0**	**780.0**	**17700**	**173.64**	**19400**	**190.31**	**198**	**>3.50**	**xx**
2	**12.70 (1/2")**	**780.0**	**782.0**	**17800**	**174.62**	**19400**	**190.31**	**199**	**>3.50**	**xx**
3	**12.70 (1/2")**	**780.0**	**781.0**	**17500**	**171.68**	**19600**	**192.28**	**198**	**>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

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"Construction of Bridge & Approches Roads over Rainy Nullahs near Village Ghayyian & Bhojpur on Chohan Barilla Road in District Gujrat." (WMI)

Reference # CED/TFL **5444** (Dr. M Kashif) Dated: 01-08-2024
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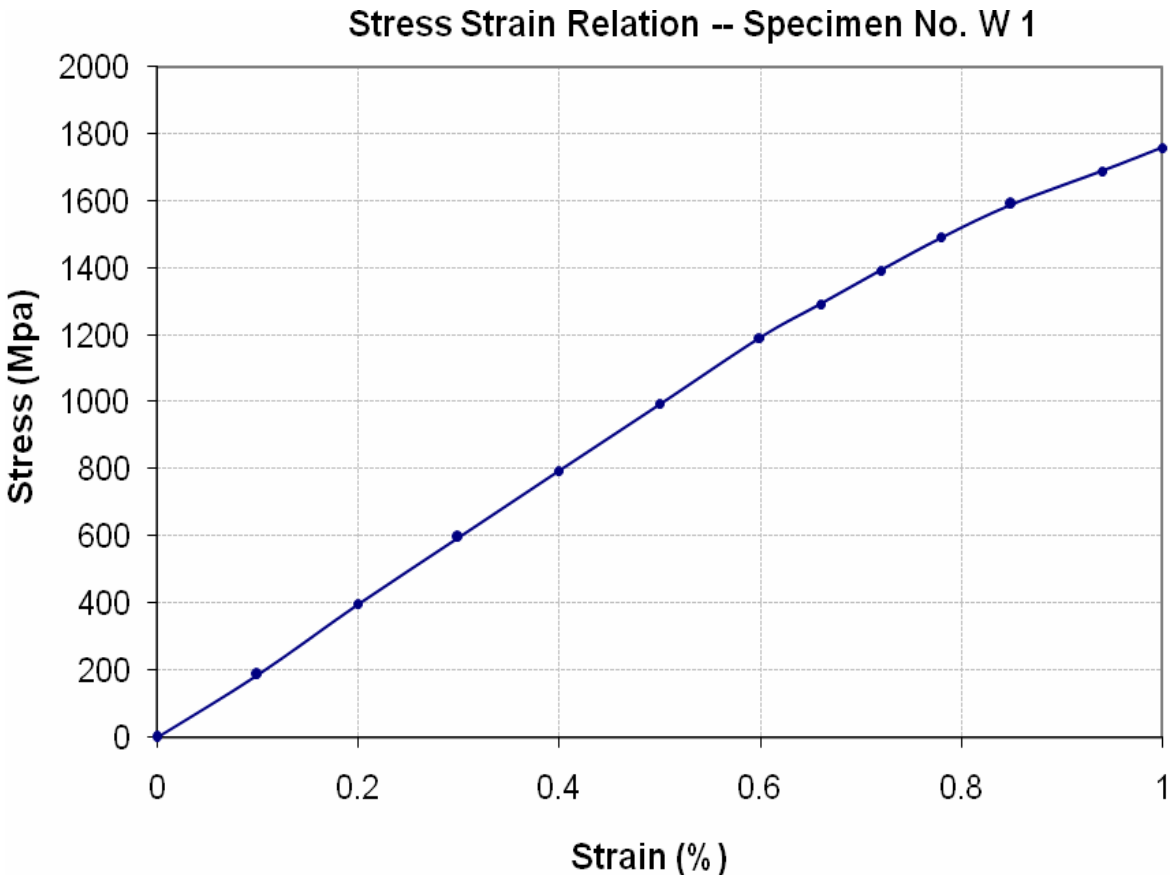
Graph (Page – 2/4)



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"Construction of Bridge & Approches Roads over Rainy Nullahs near Village Ghayyian & Bhojpur on Chohan Barilla Road in District Gujrat." (WMI)

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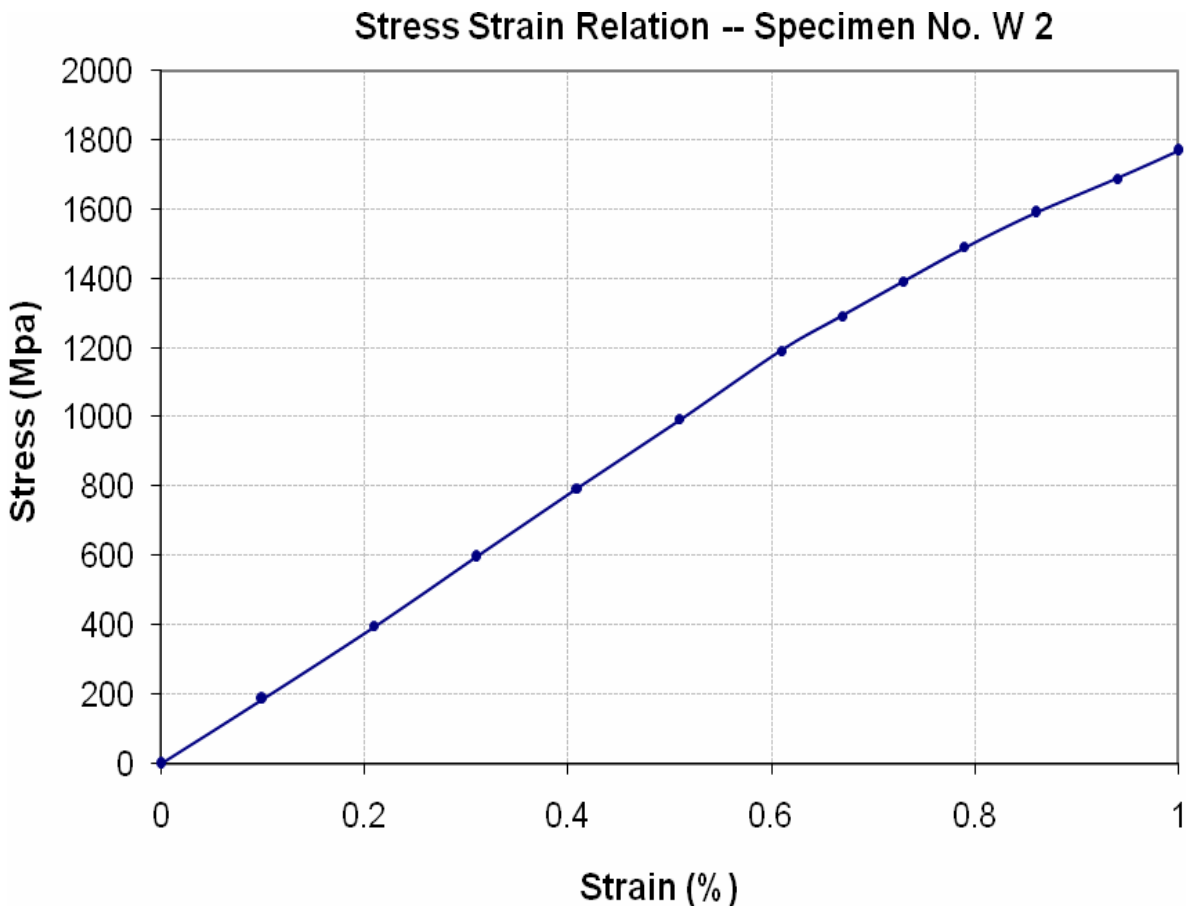
Reference of the request letter # RE AZEA/GT-1071 Dated: 24-07-2024

Graph (Page – 3/4)



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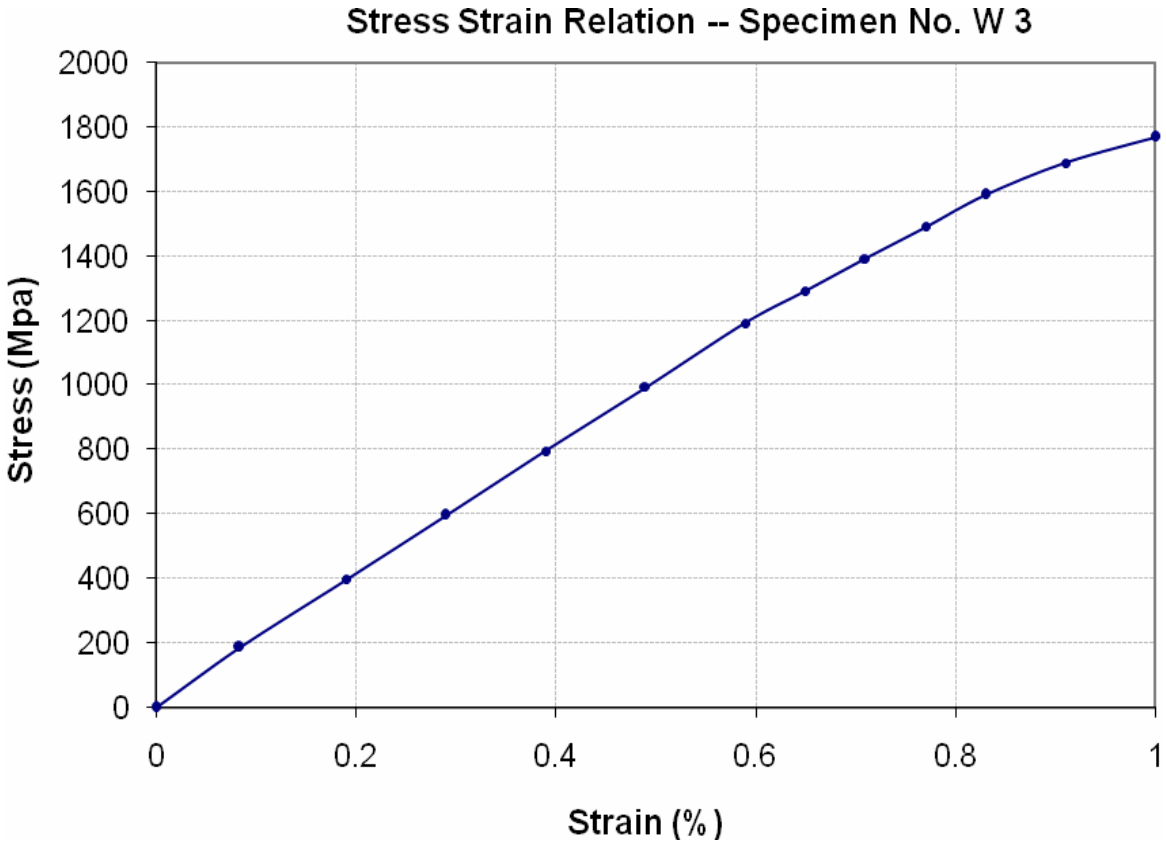
Graph (Page – 4/4)



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To,

Project Manager
China Civil Engineering Construction Corporation
Dasu KKH-01
(Wire and Cable Products.)

Reference # CED/TFL **5446** (Dr. M Kashif) Dated: 01-08-2024
Reference of the request letter # CCECC/PAK/DASUFIELD/KKH-01/24-0Dated: 31-07-2024

Tension Test Report (Page – 1/5)

Date of Test 05-08-2024
Gauge length 600 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")**	**1100.0**	**1174.0**	**25300**	**248.19**	**28500**	**279.59**	**198**	**>3.50**	**A-24**
2	**15.24 (0.6")**	**1100.0**	**1172.0**	**24100**	**236.42**	**28500**	**279.59**	**199**	**>3.50**	**B-02**
3	**15.24 (0.6")**	**1100.0**	**1173.0**	**25000**	**245.25**	**28300**	**277.62**	**199**	**>3.50**	**C-12**
3	**15.24 (0.6")**	**1100.0**	**1176.0**	**25400**	**249.17**	**28800**	**282.53**	**198**	**>3.50**	**D-18**
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
Only four 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

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China Civil Engineering Construction Corporation
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(Wire and Cable Products.)

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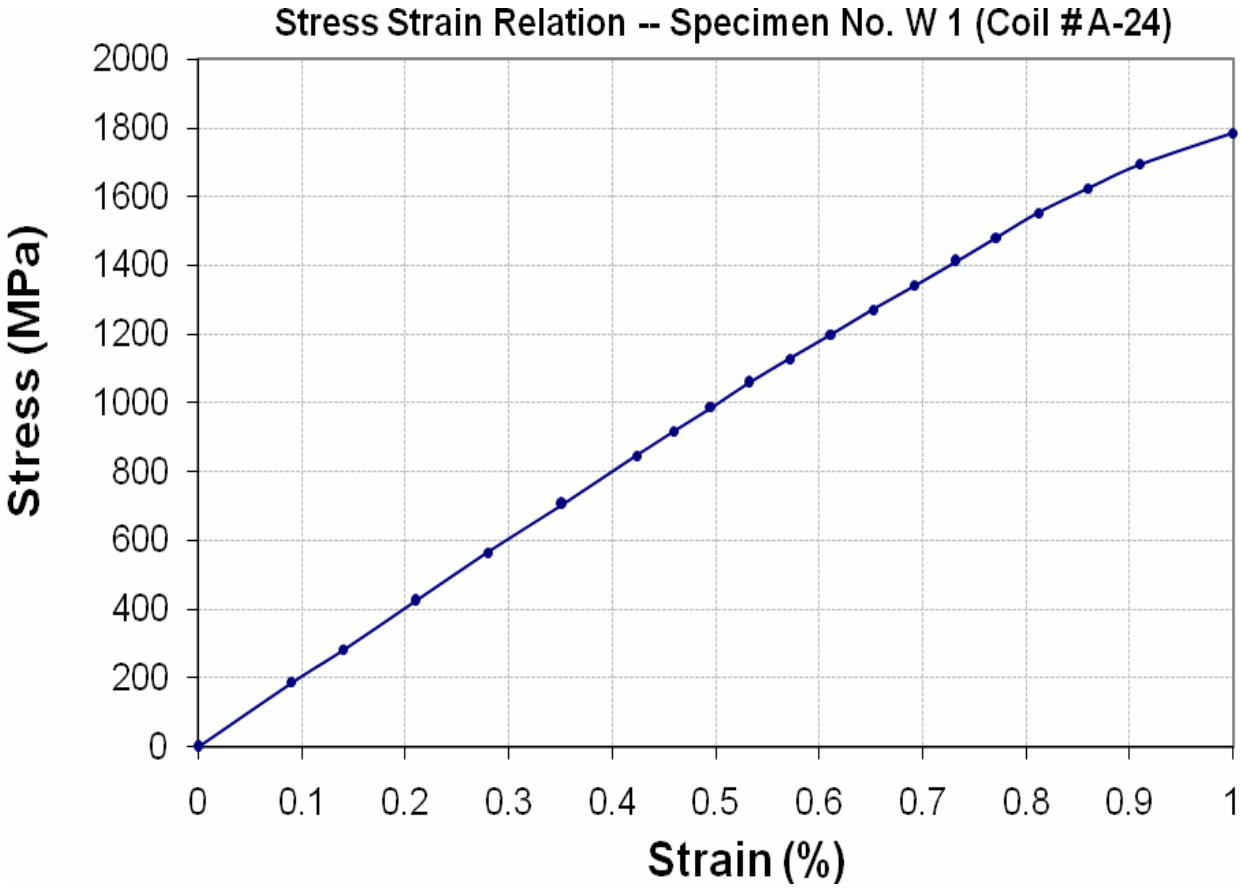
Graph (Page – 2/5)



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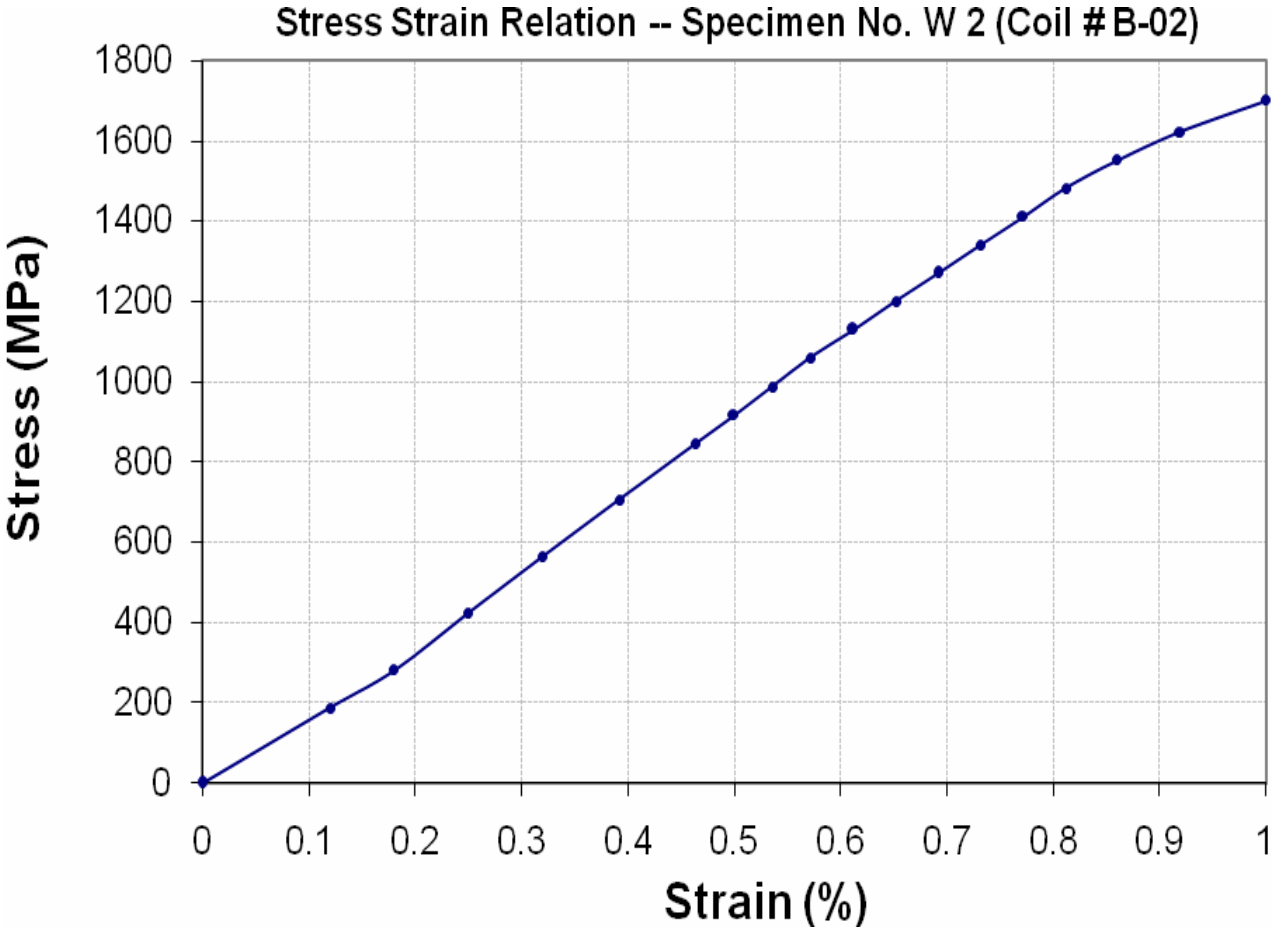
Graph (Page – 3/5)



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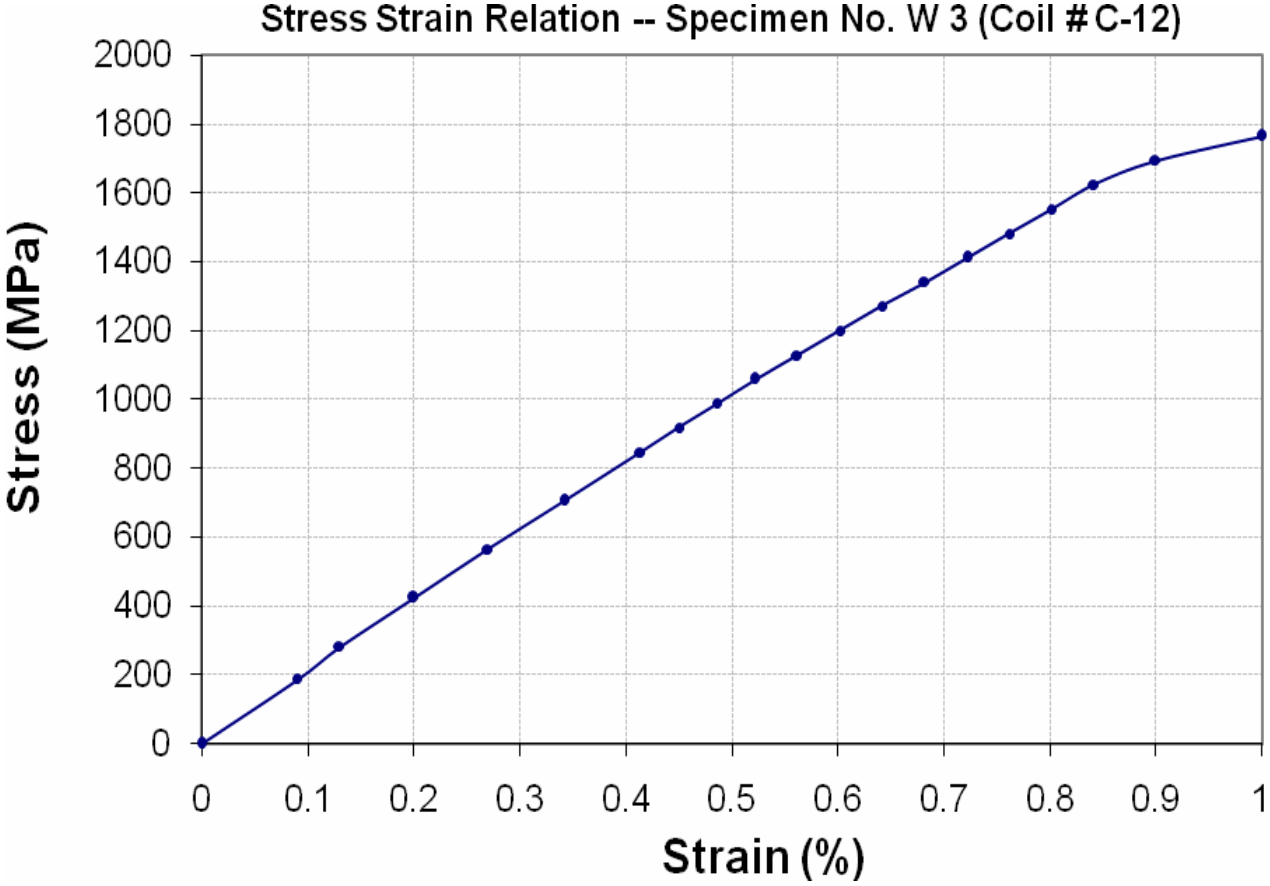
Dasu KKH-01
(Wire and Cable Products.)

Reference # CED/TFL **5446** (Dr. M Kashif) Dated: 01-08-2024
Reference of the request letter # CCECC/PAK/DASUFIELD/KKH-01/24-0Dated: 31-07-2024

Graph (Page – 4/5)



I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:
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3- Sealed sample / Unsealed sample / Marked sample/Signed Samples

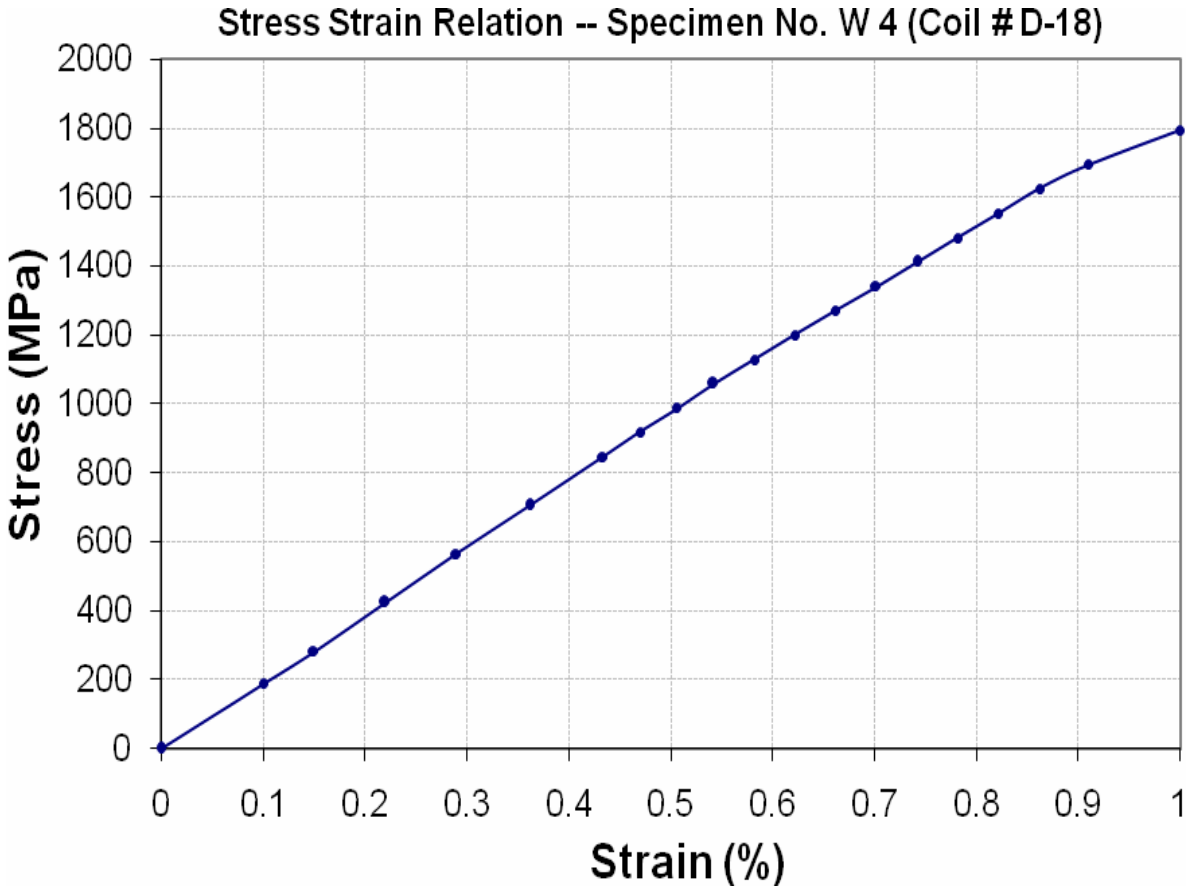
STRUCTURAL ENGINEERING DIVISION
Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,

Project Manager
China Civil Engineering Construction Corporation
Dasu KKH-01
(Wire and Cable Products.)

Reference # CED/TFL **5446** (Dr. M Kashif) Dated: 01-08-2024
Reference of the request letter # CCECC/PAK/DASUFIELD/KKH-01/24-0Dated: 31-07-2024

Graph (Page – 5/5)



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,

M/S Meezan Developers
Lahore
(Construction of Jamia-Tur-Rasheed Lahore Campus.)

Reference # CED/TFL **5447** (Dr. M Kashif) Dated: 02-08-2024
Reference of the request letter # Nil Dated: 02-08-2024

Tension Test Report (Page # 1/1)

Date of Test 05-08-2024
Gauge length 8 inches
Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight	Diameter/ Size		Area (in^2)		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	0.370	3	0.372	0.11	0.109	3720	4660	74600	75430	93400	94500	1.10	13.8	
2	0.370	3	0.372	0.11	0.109	3770	4710	75600	76450	94400	95600	1.10	13.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
#3 Bar Bend Test Through 180º is Satisfactory														

I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:
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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 Canal 44
Luxury Apartments
44-Ahmed Block, New Garden Town, Lahore.

Reference # CED/TFL **5448** (Dr. M Kashif) Dated: 02-08-2024
Reference of the request letter # Nil Dated: 02-08-2024

Tension Test Report (Page # 1/1)

Date of Test 05-08-2024
Gauge length 8 inches
Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight	Diameter/ Size		Area (in^2)		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	0.408	3	0.391	0.11	0.120	3820	5200	76600	70240	104200	95700	1.20	15.0	
2	0.410	3	0.392	0.11	0.121	3840	5250	77000	70220	105200	96000	1.20	15.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
#3 Bar Bend Test Through 180º is Satisfactory														

I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:
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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
AR Enterprise
Alfatah Emall Project.

Reference # CED/TFL **5449** (Dr. M Kashif) Dated: 02-08-2024
Reference of the request letter # AEM/ST/UET/14/09 Dated: 01-08-2024

Tension Test Report (Page # 1/1)

Date of Test 05-08-2024
Gauge length 8 inches
Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight	Diameter/ Size		Area (in^2)		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	0.364	3	0.369	0.11	0.107	3590	4840	72000	73980	97000	99800	0.90	11.3	Kamran Steel
2	0.364	3	0.369	0.11	0.107	3540	4840	71000	72840	97000	99600	1.20	15.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Note: only two samples for tensile and one sample for bend test

Bend Test

#3 Bar Bend Test Through 180º is Satisfactory

I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:
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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,

Unit Head PMO
ABL – UML P-199 & 200
Allied Bank
Construction of ABL Upper Mall Lahore Plot No. 199, 200.

Reference # CED/TFL **5453** (Dr. M Kashif) Dated: 05-08-2024
Reference of the request letter # ABL-UML-AMC-QAQC-86 Dated: 05-08-2024

Tension Test Report (Page -1/1)

Date of Test 05-08-2024
Gauge length 8 inches
Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight	Diameter/ Size		Area (in^2)		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	0.361	3	0.367	0.11	0.106	3890	5270	78000	80890	105600	109600	0.80	10.0	FF Steel
2	0.353	3	0.364	0.11	0.104	3890	5270	78000	82590	105600	111900	1.20	15.0	
3	4.249	10	1.261	1.27	1.249	41400	55800	71900	73070	96900	98500	1.60	20.0	
4	4.223	10	1.257	1.27	1.241	40800	55200	70900	72440	95800	98100	1.40	17.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Note: only four samples for tensile and two samples for bend test

Bend Test

#3 Bar Bend Test Through 180º is Satisfactory

#10 Bar Bend Test Through 180º is Satisfactory

I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:

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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,

Dy Dir Dev
Defence Housing Authority, Gujranwala
"Plot 13 & 16 Comm Plaza."

Reference # CED/TFL **5462** (Dr. Nauman khurram) Dated: 05-08-2024
Reference of the request letter # 111/3/DD/Dev/Plot 13 & 16/Comm/26 Dated: 05-08-2024

Tension Test Report (Page -1/1)

Date of Test 05-08-2024
Gauge length 8 inches
Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight	Diameter/ Size		Area (in^2)		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	0.366	3	0.370	0.11	0.107	3180	4790	63800	65220	96000	98300	1.40	17.5	Nomee Steel
2	0.364	3	0.369	0.11	0.107	3260	4840	65400	67120	97000	99700	1.30	16.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
#3 Bar Bend Test Through 180º is Satisfactory														

Witness by Farooq-e-Azam (Lab. Tech. DHA Grw)

I/C Testing Laboratoires
UET Lahore, Pakistan.

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