



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 Gunj Bukhash Builders
Lahore

Reference # CED/TFL **34102** (Dr. M Rizwan Riaz)
Reference of the request letter # GBB-ET-PC-02

Dated: 30-10-2019

Dated: 30-10-2019

Tension Test Report (Page – 1/1)

Date of Test 04-11-2019
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)		% Elongation	Remarks / Coil No.
	(mm)	(kg/km)	(kg/km)	(kg)	(kN)	(kg)	(kN)		
1	9.53 (3/8")	432.0	430.0	9300	91.23	10400	102.02	>3.50	Modern
2	9.53 (3/8")	432.0	438.0	8700	85.35	10100	99.08	>3.50	United
-	-	-	-	-		-		-	-
-	-	-	-	-		-		-	-
-	-	-	-	-		-		-	-
-	-	-	-	-		-		-	-
Only two samples for Test									

I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:

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STRUCTURAL ENGINEERING DIVISION
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To,
Resident Engineer
NESPAK – Zeeruk (Jv)
China Pakistan Economic Corridor (CPEC) Western Route Hakla (on M1) to D.I. Khan
Motorway – Rehmani Khel to kot Balian – Package IIA
(King Konong Industries (Pvt) Ltd)

Reference # CED/TFL **34109** (Dr. M Rizwan Riaz)

Dated: 31-10-2019

Reference of the request letter # RE/NESPAK/P-2A/CPEC-WR/937

Dated: 12-09-2019

Tension Test Report (Page – 1/4)

Date of Test 04-11-2019

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	789.0	17600	172.66	19600	192.28	198	>3.50	xx
2	12.70 (1/2")	775.0	789.0	17100	167.75	19500	191.30	199	>3.50	xx
3	12.70 (1/2")	775.0	789.0	17000	166.77	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,
Resident Engineer
NESPAK – Zeeruk (Jv)
China Pakistan Economic Corridor (CPEC) Western Route Hakla (on M1) to D.I. Khan
Motorway – Rehmani Khel to kot Balian – Package IIA
(King Konong Industries (Pvt) Ltd)

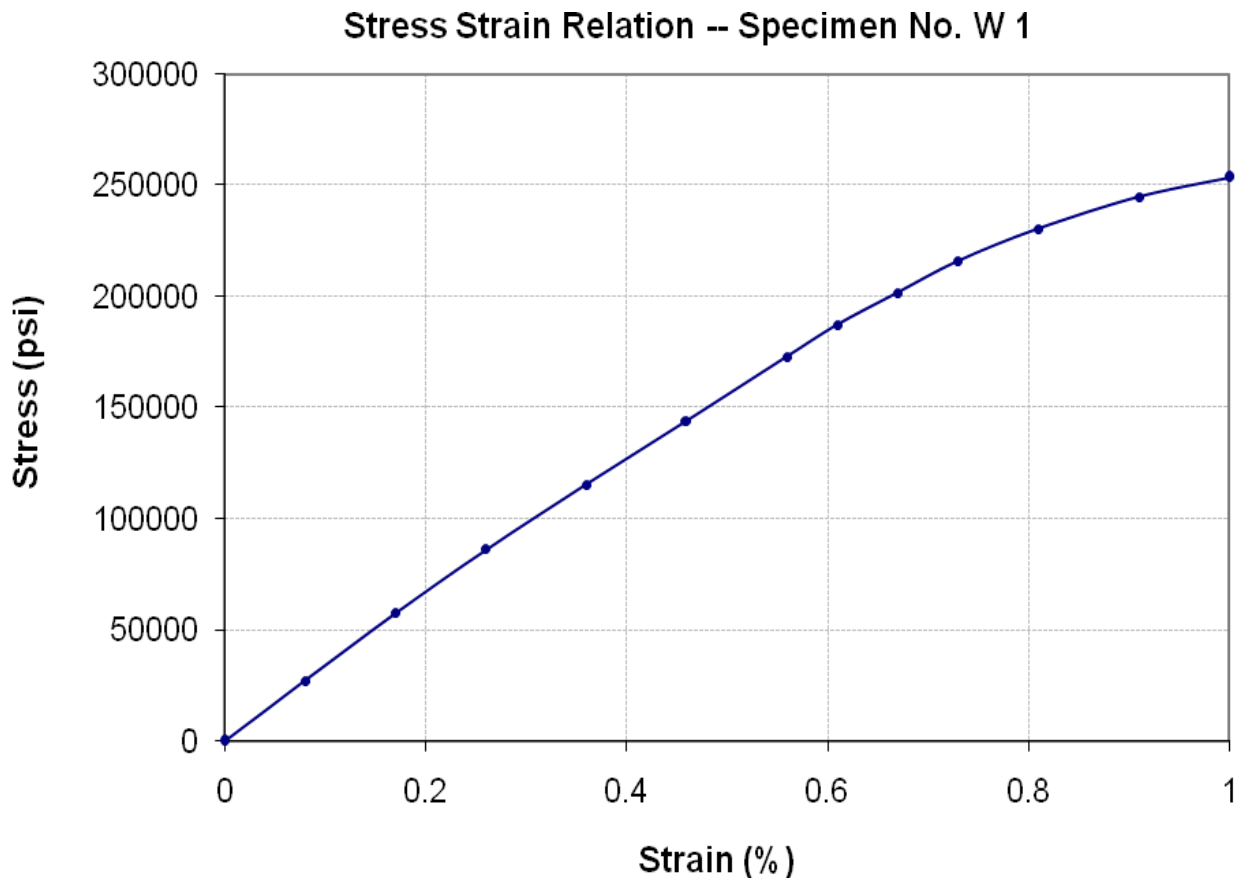
Reference # CED/TFL **34109** (Dr. M Rizwan Riaz)

Dated: 31-10-2019

Reference of the request letter # RE/NESPAK/P-2A/CPEC-WR/937

Dated: 12-09-2019

Graph (Page – 2/4)



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To,
Resident Engineer
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China Pakistan Economic Corridor (CPEC) Western Route Hakla (on M1) to D.I. Khan
Motorway – Rehmani Khel to kot Balian – Package IIA
(King Konong Industries (Pvt) Ltd)

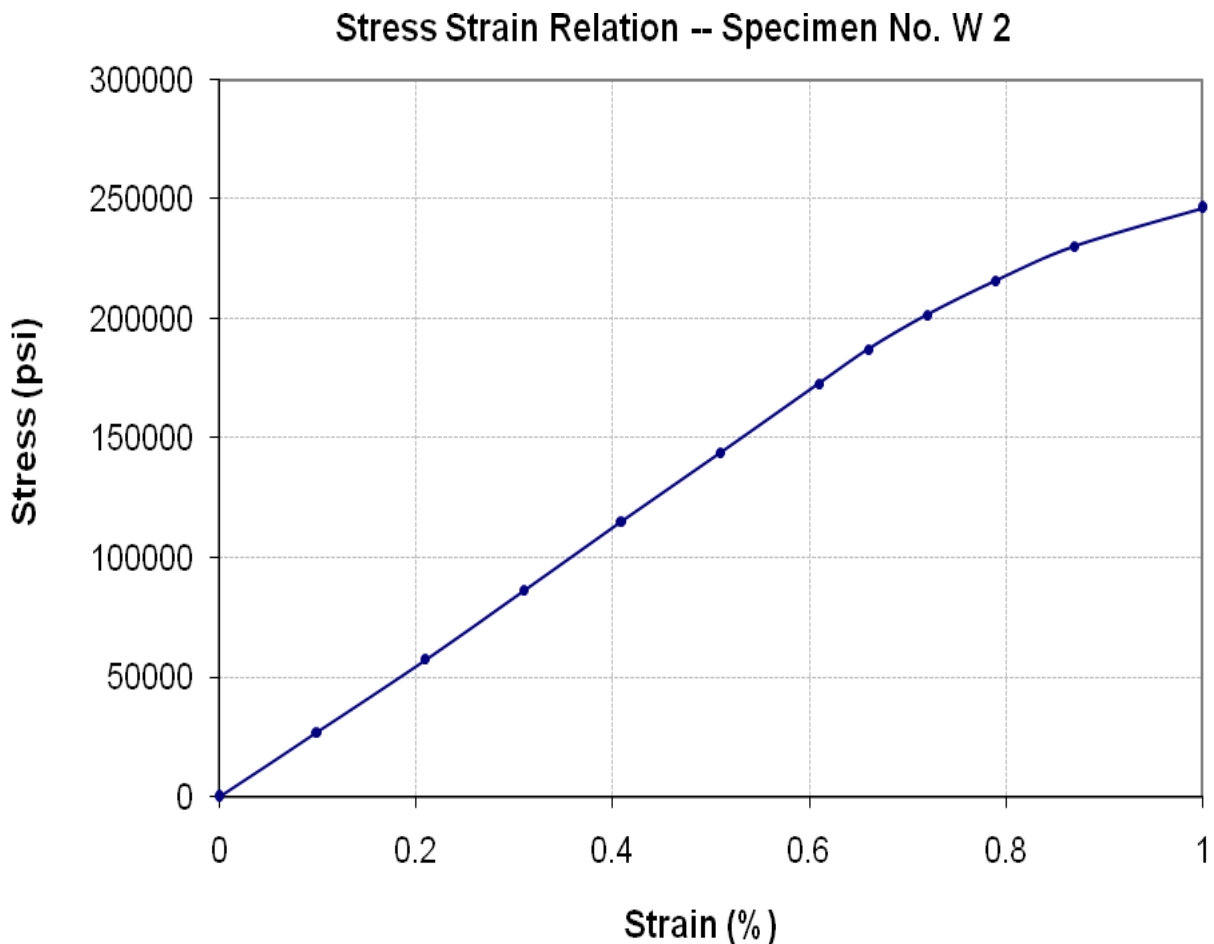
Reference # CED/TFL **34109** (Dr. M Rizwan Riaz)

Dated: 31-10-2019

Reference of the request letter # RE/NESPAK/P-2A/CPEC-WR/937

Dated: 12-09-2019

Graph (Page – 2/4)



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To,
Resident Engineer
NESPAK – Zeeruk (Jv)
China Pakistan Economic Corridor (CPEC) Western Route Hakla (on M1) to D.I. Khan
Motorway – Rehmani Khel to kot Balian – Package IIA
(King Konong Industries (Pvt) Ltd)

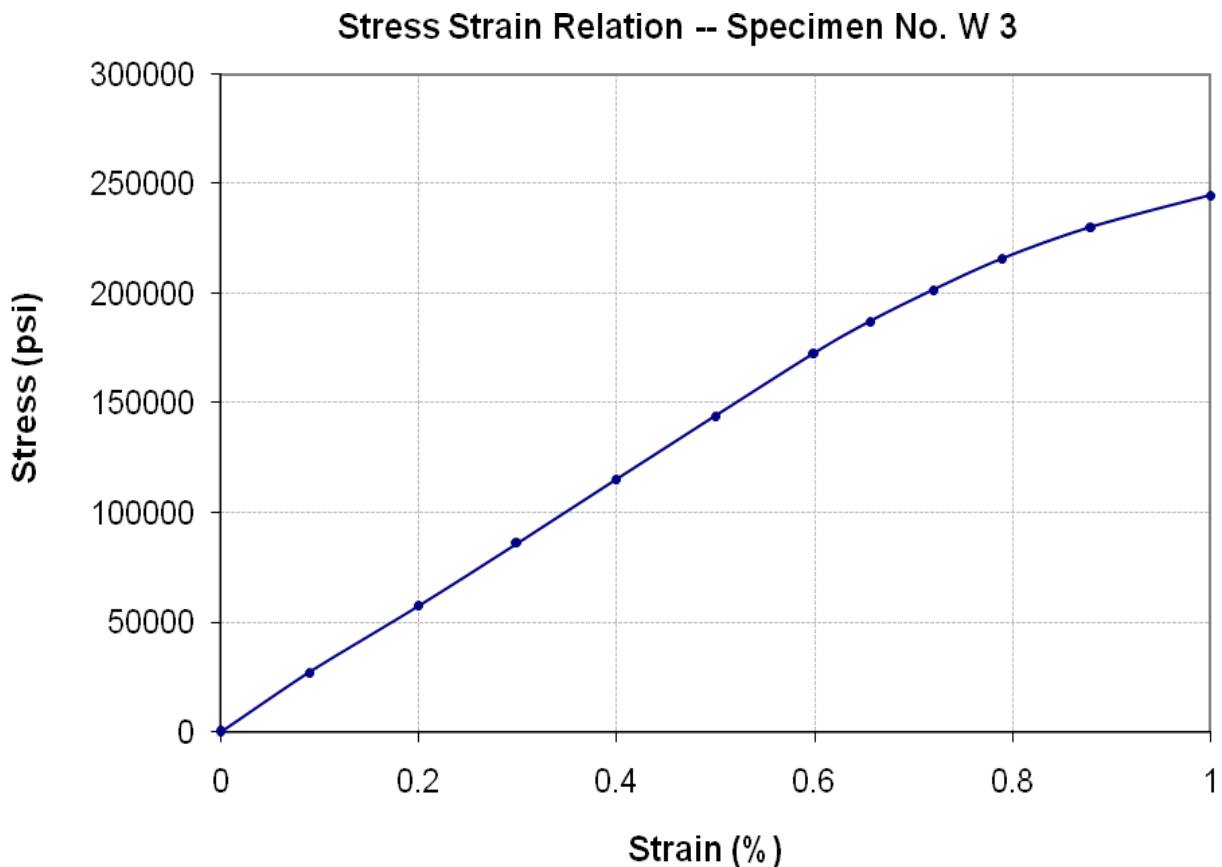
Reference # CED/TFL **34109** (Dr. M Rizwan Riaz)

Dated: 31-10-2019

Reference of the request letter # RE/NESPAK/P-2A/CPEC-WR/937

Dated: 12-09-2019

Graph (Page – 4/4)



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To,
 Resident Engineer
 NESPAK
 Construction of Pedestrian Overhead Bridge at Shabbir Usmani Road Infront of Jinnah Hospital,
 Lahore

Reference # CED/TFL **34118** (Dr. M Rizwan Riaz)
 Reference of the request letter # 4047-R/13/SNH/07/AFE/107

Dated: 01-11-2019
 Dated: 31-10-2019

Tension Test Report (Page -1/1)

Date of Test 04-11-2019
 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 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	0.368	3	0.371	0.11	0.108	3700	4800	74200	75360	96200	97800	1.20	15.0	
2	0.369	3	0.372	0.11	0.108	3700	4800	74200	75230	96200	97600	1.00	12.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														

I/C Testing Laboratoires
UET Lahore, Pakistan.

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To,
M/S Defence Housing Authority.
Lahore Cantt
(Infra Dev Works IVY Green Sector-Z DHA Ph-VIII (M/s MCC Ruba)

Reference # CED/TFL **34119** (Dr. M Rizwan Riaz)
Reference of the request letter # 408/241/E/Lab/737/7613

Dated: 01-11-2019
Dated: 24-10-2019

Tension Test Report (Page -1/1)

Date of Test 04-11-2019
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 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	0.371	3	0.373	0.11	0.109	3300	5100	66200	66680	102200	103100	1.10	13.8	City Steel
2	0.369	3	0.372	0.11	0.108	3300	5000	66200	67100	100200	101700	1.10	13.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														

I/C Testing Laboratoires
UET Lahore, Pakistan.

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Pakistan. Ph: 92-42-99029202

To,
 Project Manager
 Icon Developers
 Residence 34-D1 Gulberg2, Lahore
 (AFCO)

Reference # CED/TFL **34120** (Dr. M Rizwan Riaz)
 Reference of the request letter # Nil

Dated: 01-11-2019
 Dated: 01-11-2019

Tension Test Report (Page -1/1)

Date of Test 04-11-2019
 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 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	0.385	3/8	0.380	0.11	0.113	3100	4900	62200	60320	98200	95400	1.40	17.5	
2	0.385	3/8	0.380	0.11	0.113	3100	4900	62200	60360	98200	95500	1.30	16.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples 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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To,
M/S SMK Property(Pvt) Ltd
Lahore

Reference # CED/TFL **34121** (Dr. M Rizwan Riaz)
Reference of the request letter # Nil

Dated: 01-11-2019
Dated: 01-11-2019

Tension Test Report (Page -1/1)

Date of Test 04-11-2019
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 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	0.379	3/8	0.377	0.11	0.111	3600	4800	72200	71190	96200	95000	1.30	16.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only one sample for tensile and one sample for bend test														
Bend Test														
3/8" Dia Bar Bend Test Through 180° is Satisfactory														

Ref: CED/TFL/11/34122

Dated: 01-11-19

I/C Testing Laboratories
UET Lahore, Pakistan.

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Dated of Test: 04-11-19

To,
Chief Resident Engineer
Osmani & Company
Swat Motorway Project

Subject: - CALIBRATION OF PRESSURE GAUGE (MARK: TFL/10/34122) (Page -1/1)

Reference to your Letter No. 341/CRE/QAT/SMP/2019, Dated: 01/11/2019 on the subject cited above. One Pressure Gauge No. EN 837-1 as received by us has been calibrated. The results are tabulated as under:

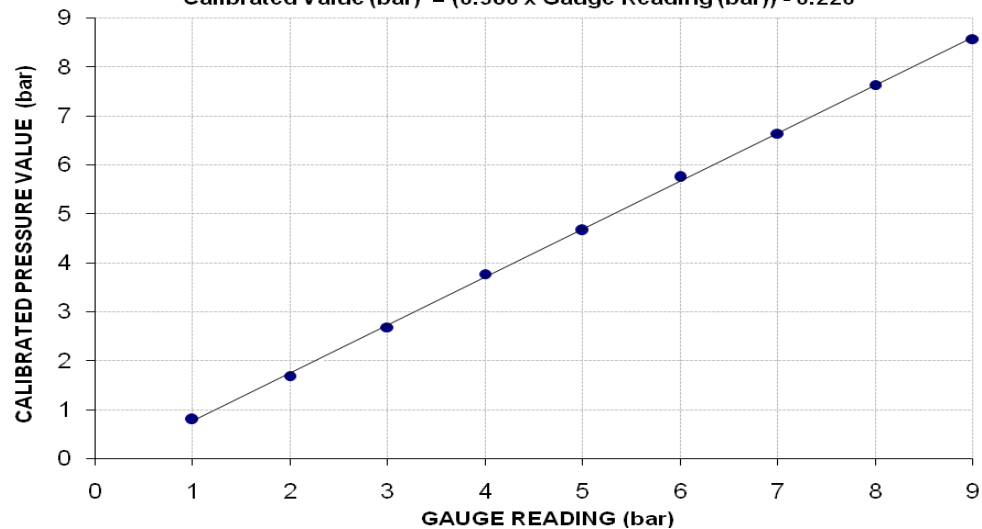
Total Range : Zero - 10 (bar)
Calibrated Range : Zero - 9 (bar)

Pressure Gauge Reading (bar)	1	2	3	4	5	6	7	8	9
Calibrated Load (kg)	160	340	540	760	940	1160	1340	1540	1730
Calibrated Pressure (bar)	0.79	1.68	2.67	3.76	4.66	5.75	6.64	7.63	8.57

The Ram Area use for Calibration = 198 cm²

Calibration Curve for Pressure Gauge

Calibrated Value (bar) = (0.980 x Gauge Reading (bar)) - 0.220



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