



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 Roads-II
Capital Development Authority
Road Division – II
Construction of Khayaban-e-Margalla from GT Road to Sector D-12, Islamabad

Reference # CED/TFL **999** (Dr. Ali Ahmed)
Reference of the request letter # CDA/DD(RD-II)/2022/92

Dated: 03-03-2022
Dated: 01-03-2022

Tension Test Report (Page – 1/2)

Date of Test 09-03-2022
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 | % Elongation | Remarks / Coil No. |
|---------------------------------|------------------|----------------|-----------------|-----------------------------|--------|--------------------------------|--------|-------------------------------|--------------|--------------------|
| | (mm) | (kg/km) | (kg/km) | (kg) | (kN) | (kg) | (kN) | E, GPa | | |
| 1 | 15.24 (0.6") | 1102.0 | 1105.0 | 25200 | 247.21 | 28000 | 274.68 | 199 | >3.50 | xx |
| - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | |
| Only one sample 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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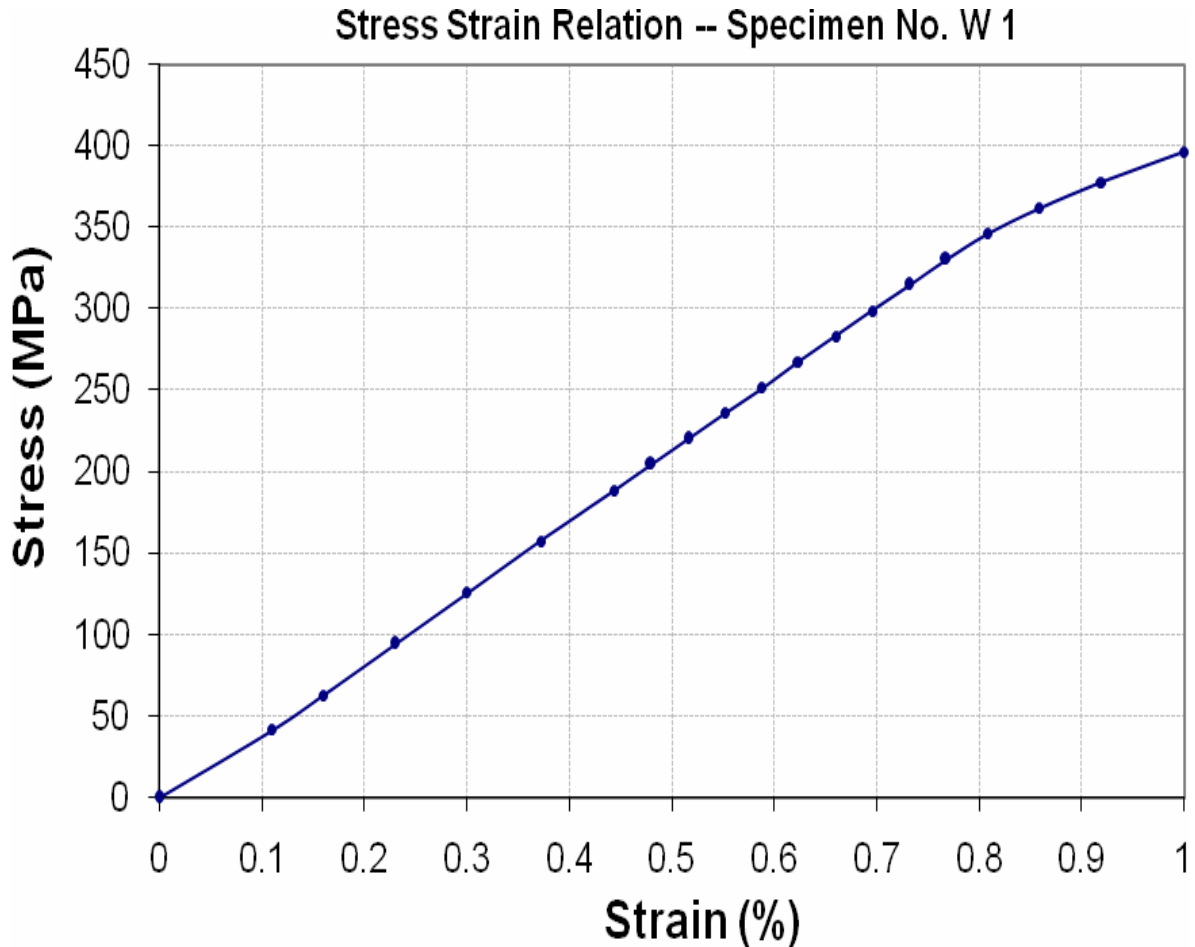
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To,
Deputy Director Roads-II
Capital Development Authority
Road Division – II
Construction of Khayaban-e-Margalla from GT Road to Sector D-12, Islamabad

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Dated: 03-03-2022
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Graph (Page – 2/2)



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To,
M/S Precast Building Systems
Lahore

Reference # CED/TFL **1003** (Dr. Ali Ahmed)
Reference of the request letter # P-4(A)/11/2022

Dated: 03-03-2022
Dated: 03-03-2022

Tension Test Report (Page -1/3)

Date of Test 09-03-2022
Gauge length 8 inches
Description MS Wire Tensile Test

| Sr. No. | Weight (kg/m) | Diameter/ size | | Area (mm ²) | | Yield load (kg) | Breaking Load (kg) | Yield Stress (MPa) Actual | Ultimate Stress (MPa) Actual | Elongation (inch) | % Elongation | Remarks |
|---|------------------|-------------------|----------------|----------------------------|--------|--------------------|-----------------------|---------------------------------|------------------------------------|----------------------|--------------|---------|
| | | Nominal (mm) | Actual (mm) | Nominal | Actual | | | | | | | |
| 1 | 0.155 | 5 | 5.01 | ----- | 19.7 | 1000 | 1600 | 498 | 797 | 0.20 | 2.5 | |
| - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | |
| Note: only one sample for tensile test | | | | | | | | | | | | |
| Bend Test | | | | | | | | | | | | |
| | | | | | | | | | | | | |
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Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,
M/S Precast Building Systems
Lahore

Reference # CED/TFL **1003** (Dr. Ali Ahmed)
Reference of the request letter # P-4(A)/10/2022

Dated: 03-03-2022

Dated: 03-03-2022

Tension Test Report (Page -2/3)

Date of Test 09-03-2022
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 | 442.0 | 9600 | 94.18 | 11000 | 107.91 | >3.50 | xx |
| - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - |
| Only one sample for Test | | | | | | | | | |

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To,
M/S Precast Building Systems
Lahore

Reference # CED/TFL **1003** (Dr. Ali Ahmed)
Reference of the request letter # P-4(A)/09/2022

Dated: 03-03-2022

Dated: 03-03-2022

Tension Test Report (Page -3/3)

Date of Test 09-03-2022
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 | 11.11 (7/16") | 582.0 | 585.0 | 12000 | 117.72 | 15100 | 148.13 | >3.50 | xx |
| - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - |
| Only one sample for Test | | | | | | | | | |

I/C Testing Laboratories
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Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
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Ref: CED/TFL/03/1021

Dated: 07-03-2022

Dated of Test: 09-03-2022

To
Project Engineer
Great City
Sheikhupura

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

Reference to your letter No. GC/SRB/005/2022, dated 07.03.2022 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 | 7.32 | 16.06 | 12.09 | 1.98 | 8000 | 13900 | 2390 | 4152 |

I/C Testing Laboratoires
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Test Floor Laboratory
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University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,
M/S Hi-Tek Manufacturing (Pvt) Ltd
Lahore
(Pakistan State Oil)

Reference # CED/TFL **1029** (Dr. Ali Ahmed)
Reference of the request letter # HT/Req/MT/1020

Dated: 08-03-2022
Dated: 07-03-2022

Tension Test Report (Page – 1/1)

Date of Test 09-03-2022
Gauge length 2 inches
Description Steel Sheet Steel Strip Tensile Test

| Sr. No. | Designation | Size of Strip | X Section Area | Yield load | Breaking Load | Yield Stress | Ultimate Stress | Elongation | % Elongation | Remarks |
|--|-------------|---------------|--------------------|------------|---------------|--------------|-----------------|------------|--------------|---------|
| | (mm) | (mm) | (mm ²) | (kg) | (kg) | (MPa) | (MPa) | (in) | | |
| 1 | 2.75 | 24.40x2.70 | 65.88 | 2600 | 3700 | 387 | 551 | 0.60 | 30.00 | |
| 2 | | 24.40x2.70 | 65.88 | 2500 | 3500 | 372 | 521 | 0.60 | 30.00 | |
| - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | |
| Only Two Samples for Tensile Test | | | | | | | | | | |
| Bend Test | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
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I/C Testing Laboratoires
UET Lahore, Pakistan.

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University of Engineering and Technology Lahore, 54890
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Ref: CED/TFL/03/1030

Dated: 08-03-2022

Dated of Test: 09-03-2022

To
Sub Divisional Officer
Public Health Engg: Sub Division
Sialkot

(Provision of Sewerage and Tuff Tile in Various UCs fo District Sialkot, UCs Kotli Behram, Mubrik Pura, Miana Pura, Model Town, Fateh Garh Muzafar pur, Haji pura, Ban, Haji Pura-II, Imam Sahib, Shahib, Shhab Pura, Pacca Garha, Hamza Ghous)

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

Reference to your letter No. Nil, dated 31.12.2021 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 | 7.77 | 7.30 | 16.26 | 12.26 | 2.00 | 9500 | 15000 | 2808 | 4434 |

I/C Testing Laboratoires
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To,
M/S Defence Housing Authority.
Lahore Cantt
(Infra Dev Works of Pkg-7, J-Block, DHA Phase-IX) – (M/s DHA-C)

Reference # CED/TFL **1035** (Dr. Ali Ahmed)
Reference of the request letter # 408/241/32/Lab/66/23SW

Dated: 08-03-2022
Dated: 07-03-2022

Tension Test Report (Page -1/1)

Date of Test 09-03-2022
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 | 0.360 | 3 | 0.367 | 0.11 | 0.106 | 3100 | 4600 | 62200 | 64610 | 92200 | 95900 | 1.40 | 17.5 | Moiz Steel |
| 2 | 0.361 | 3 | 0.367 | 0.11 | 0.106 | 3100 | 4600 | 62200 | 64430 | 92200 | 95600 | 1.50 | 18.8 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| Note: only two samples for tensile and one sample for bend test | | | | | | | | | | | | | | |
| Bend Test | | | | | | | | | | | | | | |
| #3 Bar Bend Test Through 180° is Satisfactory | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |

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