TITAN® ACP™ ENCAPSULATION SYSTEM

PT ATLAS

HYDROSTATIC TESTING LIBRARY

PT ATLAS Manufacturing | PSI / CTS | Compiled January 11, 2021

Table of Contents

Description

This compiled document contains Hydrostatic Test Results for tests required by PTI M10 and ACI 423.7 latest editions. Tests were conducted by laboratories which are certified under ASTM C1077 or accredited by AASHTO.

Information To Build On
Engineering • Consulting • Testing

REPORT OF HYDROSTATIC TEST

Tested for: PT Atlas Manufacturing
712 W. Simonds Road Suite A
Seagoville, Tx. 75159

Project Name: PT Atlas MFG. Hydrostatic

Date: December 22, 2020

PSI Project No.: 02041957-4

On December 22, 2020, a representative of Professional Service Industries, Inc. (PSI) arrived at PT Atlas. (PT ATLAS MFG.) to witness hydrostatic testing of the PT ATLAS MFG Encapsulation Live End & .5" Tube System
Results of the testing are as follows:

On December 22, 2020, PSI Technician, Nick Winthrop witnessed the preparation of three test specimens per. Hydrostatic Testing Procedures PTI M10 2.6.2.1. Three test specimens consisting of the following components were assembled and then submerged:

- ENGT500500 – .5" Long Tube
- ENLE50 – Live End Anchor
- WG50122 – 1.2" 2-Piece Wedge
- ENGC50 – Grease Cap
- PF5ST20 – 2" Pocket Former

The PSI Technician verified that strand-end of the test specimen was cap-sealed to prevent water contamination, with the anchorage properly prepared with connections/tubes/seals. Hydrostatic Testing Procedure, PTI M10 2.6.2.1 was followed during testing. Test specimens were fully submerged in a water-filled pressure Vessel and at least 1.25 psi of water pressure was applied and maintained, monitored and verified per calibrated pressure gage, IS33 SN2262-739025. Test specimens were submerged at 1:25pm and the pressure maintained for a period of no less than 24 hours.

On December 23, 2020, the PSI Technician witnessed the removal of the three test specimens from the pressure vessel after a 24-hour hold period at 1:25pm. All excess water on the surface of the test specimens was dried off to prevent water contamination during examination. The three test specimens were disassembled and examined.

Upon final inspection of each sample, the PSI Technician visually verified that there was no visible water intrusion into the anchorage system.

Results of Hydrostatic Test Conducted December 22 and 23, 2020

Specimen ID	Water Pressure	Submersion Time	Observations
A	1.25 psi	24-hours	No Visible Water Penetration
B	1.25 psi	24-hours	No Visible Water Penetration
C	1.25 psi	24-hours	No Visible Water Penetration

CONCLUSIONS

The PT ATLAS MFG. Encapsulation Live End & 6" Tube System remain water-tight – no visible water intrusion into the anchorage system – when tested in accordance with PTI M10 2.6.2.1. Hydrostatic Testing Procedures.

QUALIFICATION

The services performed by PSI were performed in accordance with our proposed scope of services and the standard of care as practiced by professionals performing similar services in this geographic locale. Our testing and observations were performed on a full time basis during testing. No other warranty or guarantee is expressed or implied. This report may not be copied, except in the entirety, without the expressed written permission of PSI.

If you have any questions or require any additional information, please contact us at your convenience.

Respectfully submitted,
Professional Service Industries, Inc.

Michael D. Phares, NDE
Houston Area Manager
Principal Consultant

In 11:00A 1.25 psi O-Ring TC Diameter
Out 11:00A
P/F Pass

P.T. ATLAS MANUFACTURING	DESCRIPTION: ENCAP. LIVE END & .5" TUBE SYSTEM		
	PART NUMBER: N/A		
	SCALE:1:4	DRAWN ON: 9/14/2020	DRAWN BY: NM
	712A W SIMDONS RD SEAGOVILLE, TX 75159		

RECAL CALIBRATION SERVICES

CERTIFICATE OF CALIBRATION

1003 Cresthaven, Suite A - Euless, Texas 76040 - Phone: 817/540-0011 - Fax: 817/283-5107

COMPANY:

Name: Construction Testing Sciences
Address: 2978 Congressman Lane
Dallas TX 75220
Phone: (214) 703-8911

REPORT:

Report #: 1-0409201
Calibration Date: 4-9-2020
Recalibration Date: 4-9-2021
Job Site: Recal Lab

EQUIPMENT CALIBRATED:

Machine Type: Pressure Calibrator
Manufacturer: Crystal
Model: tS33
Max Capacity: 3000 PSI
Resolution: 0.1 PSI
Serial #: 2262-739025

ROOM TEMPERATURE: 77° F

INCREASING PRESSURE			DECREASING PRESSURE		
Applied Pressure	Indicated Pressure	Difference	Applied Pressure	Indicated Pressure	Difference
0	0.00	0.00	0	0.00	0.00
10	10.01	0.01	10	10.02	0.02
50	50.02	0.02	50	50.02	0.02
100	100.03	0.03	100	100.03	0.03
150	150.04	0.04	150	150.06	0.06
200	200.07	0.07	200	200.07	0.07
250	250.10	0.10	250	250.08	0.08
300*	300.08	0.08			

Device calibrated within 1% of full scale.
Indicator returned to zero after loading/unloading device. Above values traceable to NIST.
Measurement Uncertainty: 0.12% Psi

CALIBRATION APPARATUS USED: Various Equip

Manufacturer	Model #	Description	Serial #	Class	Cal Lab	Calibration Due
WIKA	CPH7600	Pressure Calibrator	2134139	N/A	Mensor	6-25-2020

Q.A. Manager: Kara McEuen-Powell

Technician: Warner E. Powell

Information To Build On
Engineering • Consulting • Testing

REPORT OF HYDROSTATIC TEST

Tested for: PT Atlas Manufacturing
712 W. Simonds Road Suite A
Seagoville, Tx. 75159

Project Name: PT Atlas MFG. Hydrostatic

Date: December 22, 2020

PSI Project No.: 02041957-4

On December 22, 2020, a representative of Professional Service Industries, Inc. (PSI) arrived at PT Atlas. (PT ATLAS MFG.) to witness hydrostatic testing of the PT ATLAS MFG Encapsulation Live End & 6" Tube System
Results of the testing are as follows:

On December 22, 2020, PSI Technician, Nick Winthrop witnessed the preparation of three test specimens per. Hydrostatic Testing Procedures PTI M10 2.6.2.1. Three test specimens consisting of the following components were assembled and then submerged:

- ENGT50600 – 6" Long Tube
- ENLE50 – Live End Anchor
- WG50122 – 1.2" 2-Piece Wedge
- ENGC50 – Grease Cap
- PF5ST20 – 2" Pocket Former

The PSI Technician verified that strand-end of the test specimen was cap-sealed to prevent water contamination, with the anchorage properly prepared with connections/tubes/seals. Hydrostatic Testing Procedure, PTI M10 2.6.2.1 was followed during testing. Test specimens were fully submerged in a water-filled pressure Vessel and at least 1.25 psi of water pressure was applied and maintained, monitored and verified per calibrated pressure gage, IS33 SN2262-739025. Test specimens were submerged at 1:25pm and the pressure maintained for a period of no less than 24 hours.

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Upon final inspection of each sample, the PSI Technician visually verified that there was no visible water intrusion into the anchorage system.

Results of Hydrostatic Test Conducted December 22 and 23, 2020

Specimen ID	Water Pressure	Submersion Time	Observations
A	1.25 psi	24-hours	No Visible Water Penetration
B	1.25 psi	24-hours	No Visible Water Penetration
C	1.25 psi	24-hours	No Visible Water Penetration

CONCLUSIONS

The PT ATLAS MFG. Encapsulation Live End & 6" Tube System remain water-tight – no visible water intrusion into the anchorage system – when tested in accordance with PTI M10 2.6.2.1. Hydrostatic Testing Procedures.

QUALIFICATION

The services performed by PSI were performed in accordance with our proposed scope of services and the standard of care as practiced by professionals performing similar services in this geographic locale. Our testing and observations were performed on a full time basis during testing. No other warranty or guarantee is expressed or implied. This report may not be copied, except in the entirety, without the expressed written permission of PSI.

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Respectfully submitted,
Professional Service Industries, Inc.

Michael D. Phares, NDE
Houston Area Manager
Principal Consultant


ENGT50600 - 6" LONG TUBE
ENLE50 - LIVE END ANCHOR
WG50122 - 1.2" 2-PIECE WEDGE
ENGC50 - GREASE CAP
PF5ST20 - 2" POCKET FORMER
P.T. ATLAS
DESCRIPTION: ENCAP. LIVE END & 6" TUBE SYSTEM
PART NUMBER: N/A

RECAL CALIBRATION SERVICES

CERTIFICATE OF CALIBRATION

1003 Cresthaven, Suite A - Euless, Texas 76040 - Phone: 817/540-0011 - Fax: 817/283-5107

COMPANY:

Name: Construction Testing Sciences
Address: 2978 Congressman Lane
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Phone: (214) 703-8911

REPORT:

Report #: 1-0409201
Calibration Date: 4-9-2020
Recalibration Date: 4-9-2021
Job Site: Recal Lab

EQUIPMENT CALIBRATED:

Machine Type: Pressure Calibrator
Manufacturer: Crystal
Model: tS33
Max Capacity: 3000 PSI
Resolution: 0.1 PSI
Serial #: 2262-739025

ROOM TEMPERATURE: 77° F

INCREASING PRESSURE			DECREASING PRESSURE		
Applied Pressure	Indicated Pressure	Difference	Applied Pressure	Indicated Pressure	Difference
0	0.00	0.00	0	0.00	0.00
10	10.01	0.01	10	10.02	0.02
50	50.02	0.02	50	50.02	0.02
100	100.03	0.03	100	100.03	0.03
150	150.04	0.04	150	150.06	0.06
200	200.07	0.07	200	200.07	0.07
250	250.10	0.10	250	250.08	0.08
300*	300.08	0.08			

Device calibrated within 1% of full scale.
Indicator returned to zero after loading/unloading device. Above values traceable to NIST.
Measurement Uncertainty: 0.12% Psi

CALIBRATION APPARATUS USED: Various Equip

Manufacturer	Model #	Description	Serial #	Class	Cal Lab	Calibration Due
WIKA	CPH7600	Pressure Calibrator	2134139	N/A	Mensor	6-25-2020

Q.A. Manager: Kara McEuen-Powell

Technician: Warner E. Powell

Information To Build On
Engineering • Consulting • Testing

REPORT OF HYDROSTATIC TEST

Tested for: PT Atlas Manufacturing
712 W. Simonds Road Suite A
Seagoville, Tx. 75159

Project Name: PT Atlas MFG. Hydrostatic

Date: December 10, 2020

PSI Project No.: 02041957-3

On December 10, 2020, a representative of Professional Service Industries, Inc. (PSI) arrived at PT Atlas. (PT ATLAS MFG.) to witness hydrostatic testing of the PT ATLAS MFG Encapsulation Fixed End & 6" Tube System
Results of the testing are as follows:

On December 10, 2020, PSI Technician, Nick Winthrop witnessed the preparation of three test specimens per. Hydrostatic Testing Procedures PTI M10 2.6.2.1. Three test specimens consisting of the following components were assembled and then submerged:

- ENGT50600 – 6" Long Tube
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The PSI Technician verified that strand-end of the test specimen was cap-sealed to prevent water contamination, with the anchorage properly prepared with connections/tubes/seals. Hydrostatic Testing Procedure, PTI M10 2.6.2.1 was followed during testing. Test specimens were fully submerged in a water-filled pressure Vessel and at least 1.25 psi of water pressure was applied and maintained, monitored and verified per calibrated pressure gage, IS33 SN2262-739025. Test specimens were submerged at 1:25pm and the pressure maintained for a period of no less than 24 hours.

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Upon final inspection of each sample, the PSI Technician visually verified that there was no visible water intrusion into the anchorage system.

Results of Hydrostatic Test Conducted December 10 and 11, 2020

Specimen ID	Water Pressure	Submersion Time	Observations
A	1.25 psi	24-hours	No Visible Water Penetration
B	1.25 psi	24-hours	No Visible Water Penetration
C	1.25 psi	24-hours	No Visible Water Penetration

CONCLUSIONS

The PT ATLAS MFG. Encapsulation Fixed End & 6" Tube System remain water-tight – no visible water intrusion into the anchorage system – when tested in accordance with PTI M10 2.6.2.1 Hydrostatic Testing Procedures.

QUALIFICATION

The services performed by PSI were performed in accordance with our proposed scope of services and the standard of care as practiced by professionals performing similar services in this geographic locale. Our testing and observations were performed on a full time basis during testing. No other warranty or guarantee is expressed or implied. This report may not be copied, except in the entirety, without the expressed written permission of PSI.

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Respectfully submitted,
Professional Service Industries, Inc.

Michael D. Phares, NDE
Houston Area Manager
Principal Consultant

Pass

P.T. ATLAS MANUFACTURING	DESCRIPTION: ENCAP. FIXED END & 6" TUBE SYSTEM		
	PART NUMBER: N/A		
	SCALE:1:4	DRAWN ON: 9/14/2020	DRAWN BY: NM
	712A W SIMDONS RD SEAGOVILLE, TX 75159		

RECAL CALIBRATION SERVICES

CERTIFICATE OF CALIBRATION

1003 Cresthaven, Suite A - Euless, Texas 76040 - Phone: 817/540-0011 - Fax: 817/283-5107

COMPANY:

Name: Construction Testing Sciences
Address: 2978 Congressman Lane
Dallas TX 75220
Phone: (214) 703-8911

REPORT:

Report #: 1-0409201
Calibration Date: 4-9-2020
Recalibration Date: 4-9-2021
Job Site: Recal Lab

EQUIPMENT CALIBRATED:

Machine Type: Pressure Calibrator
Manufacturer: Crystal
Model: tS33
Max Capacity: 3000 PSI
Resolution: 0.1 PSI
Serial #: 2262-739025

ROOM TEMPERATURE: 77° F

INCREASING PRESSURE			DECREASING PRESSURE		
Applied Pressure	Indicated Pressure	Difference	Applied Pressure	Indicated Pressure	Difference
0	0.00	0.00	0	0.00	0.00
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300*	300.08	0.08			

Device calibrated within 1% of full scale.
Indicator returned to zero after loading/unloading device. Above values traceable to NIST.
Measurement Uncertainty: 0.12% Psi

CALIBRATION APPARATUS USED: Various Equip

Manufacturer	Model #	Description	Serial #	Class	Cal Lab	Calibration Due
WIKA	CPH7600	Pressure Calibrator	2134139	N/A	Mensor	6-25-2020

Q.A. Manager: Kara McEuen-Powell

Technician: Warner E. Powell

Information To Build On
Engineering • Consulting • Testing

REPORT OF HYDROSTATIC TEST

Tested for: PT Atlas Manufacturing
712 W. Simonds Road Suite A
Seagoville, Tx. 75159

Project Name: PT Atlas MFG. Hydrostatic

Date: December 10, 2020

PSI Project No.: 02041957-3

On December 10, 2020, a representative of Professional Service Industries, Inc. (PSI) arrived at PT Atlas. (PT ATLAS MFG.) to witness hydrostatic testing of the PT ATLAS MFG Encapsulation Fixed End & 9" Tube System
Results of the testing are as follows:

On December 10, 2020, PSI Technician, Nick Winthrop witnessed the preparation of three test specimens per. Hydrostatic Testing Procedures PTI M10 2.6.2.1. Three test specimens consisting of the following components were assembled and then submerged:

- ENGT50900 – 9" Long Tube
- ENFE50 – Fixed End Anchor
- WG50122 – 1.2" 2-Piece Wedge
- ENGC50 – Grease Cap
- PF5ST20 – 2" Pocket Former

The PSI Technician verified that strand-end of the test specimen was cap-sealed to prevent water contamination, with the anchorage properly prepared with connections/tubes/seals. Hydrostatic Testing Procedure, PTI M10 2.6.2.1 was followed during testing. Test specimens were fully submerged in a water-filled pressure Vessel and at least 1.25 psi of water pressure was applied and maintained, monitored and verified per calibrated pressure gage, IS33 SN2262-739025. Test specimens were submerged at 1:25pm and the pressure maintained for a period of no less than 24 hours.

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Upon final inspection of each sample, the PSI Technician visually verified that there was no visible water intrusion into the anchorage system.

Results of Hydrostatic Test Conducted December 10 and 11, 2020

Specimen ID	Water Pressure	Submersion Time	Observations
A	1.25 psi	24-hours	No Visible Water Penetration
B	1.25 psi	24-hours	No Visible Water Penetration
C	1.25 psi	24-hours	No Visible Water Penetration

CONCLUSIONS

The PT ATLAS MFG. Encapsulation Fixed End & 9" Tube System remain water-tight – no visible water intrusion into the anchorage system – when tested in accordance with PTI M10 2.6.2.1 Hydrostatic Testing Procedures.

QUALIFICATION

The services performed by PSI were performed in accordance with our proposed scope of services and the standard of care as practiced by professionals performing similar services in this geographic locale. Our testing and observations were performed on a full time basis during testing. No other warranty or guarantee is expressed or implied. This report may not be copied, except in the entirety, without the expressed written permission of PSI.

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Respectfully submitted,
Professional Service Industries, Inc.

Michael D. Phares, NDE
Houston Area Manager
Principal Consultant

3

in 12.10.20 1:25 P 1.42 PSI
out 12.11.20 1:25 P
N/P Pads

P.T. ATLAS

DESCRIPTION: ENCAP. FIXED END & 9" TUBE SYSTEM
PART NUMBER: N/A

RECAL CALIBRATION SERVICES

CERTIFICATE OF CALIBRATION

1003 Cresthaven, Suite A - Euless, Texas 76040 - Phone: 817/540-0011 - Fax: 817/283-5107

COMPANY:

Name: Construction Testing Sciences
Address: 2978 Congressman Lane
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REPORT:

Report #: 1-0409201
Calibration Date: 4-9-2020
Recalibration Date: 4-9-2021
Job Site: Recal Lab

EQUIPMENT CALIBRATED:

Machine Type: Pressure Calibrator
Manufacturer: Crystal
Model: tS33
Max Capacity: 3000 PSI
Resolution: 0.1 PSI
Serial #: 2262-739025

ROOM TEMPERATURE: 77° F

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10	10.01	0.01	10	10.02	0.02
50	50.02	0.02	50	50.02	0.02
100	100.03	0.03	100	100.03	0.03
150	150.04	0.04	150	150.06	0.06
200	200.07	0.07	200	200.07	0.07
250	250.10	0.10	250	250.08	0.08
300*	300.08	0.08			

Device calibrated within 1% of full scale.
Indicator returned to zero after loading/unloading device. Above values traceable to NIST.
Measurement Uncertainty: 0.12% Psi

CALIBRATION APPARATUS USED: Various Equip

Manufacturer	Model #	Description	Serial #	Class	Cal Lab	Calibration Due
WIKA	CPH7600	Pressure Calibrator	2134139	N/A	Mensor	6-25-2020

Q.A. Manager: Kara McEuen-Powell

Technician: Warner E. Powell

Information To Build On
Engineering • Consulting • Testing

REPORT OF HYDROSTATIC TEST

Tested for: PT Atlas Manufacturing
712 W. Simonds Road Suite A
Seagoville, Tx. 75159

Project Name: PT Atlas MFG. Hydrostatic

Date: December 10, 2020

PSI Project No.: 02041957-3

On December 10, 2020, a representative of Professional Service Industries, Inc. (PSI) arrived at PT Atlas. (PT ATLAS MFG.) to witness hydrostatic testing of the PT ATLAS MFG Encapsulation Fixed End & 6" Tube System
Results of the testing are as follows:

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The PSI Technician verified that strand-end of the test specimen was cap-sealed to prevent water contamination, with the anchorage properly prepared with connections/tubes/seals. Hydrostatic Testing Procedure, PTI M10 2.6.2.1 was followed during testing. Test specimens were fully submerged in a water-filled pressure Vessel and at least 1.25 psi of water pressure was applied and maintained, monitored and verified per calibrated pressure gage, IS33 SN2262-739025. Test specimens were submerged at 1:25pm and the pressure maintained for a period of no less than 24 hours.

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Results of Hydrostatic Test Conducted December 10 and 11, 2020

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A	1.25 psi	24-hours	No Visible Water Penetration
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CONCLUSIONS

The PT ATLAS MFG. Encapsulation Fixed End & 6" Tube System remain water-tight – no visible water intrusion into the anchorage system – when tested in accordance with PTI M10 2.6.2.1 Hydrostatic Testing Procedures.

QUALIFICATION

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Respectfully submitted,
Professional Service Industries, Inc.

Michael D. Phares, NDE
Houston Area Manager
Principal Consultant

Pass

P.T. ATLAS MANUFACTURING	DESCRIPTION: ENCAP. FIXED END & 6" TUBE SYSTEM		
	PART NUMBER: N/A		
	SCALE:1:4	DRAWN ON: 9/14/2020	DRAWN BY: NM
	712A W SIMDONS RD SEAGOVILLE, TX 75159		

RECAL CALIBRATION SERVICES

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Manufacturer	Model #	Description	Serial #	Class	Cal Lab	Calibration Due
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Q.A. Manager: Kara McEuen-Powell

Technician: Warner E. Powell

Information To Build On
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REPORT OF HYDROSTATIC TEST

Tested for: PT Atlas Manufacturing
712 W. Simonds Road Suite A
Seagoville, Tx. 75159

Project Name: PT Atlas MFG. Hydrostatic

Date: December 10, 2020

PSI Project No.: 02041957-3

On December 10, 2020, a representative of Professional Service Industries, Inc. (PSI) arrived at PT Atlas. (PT ATLAS MFG.) to witness hydrostatic testing of the PT ATLAS MFG Encapsulation Fixed End & 9" Tube System
Results of the testing are as follows:

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CONCLUSIONS

The PT ATLAS MFG. Encapsulation Fixed End & 9" Tube System remain water-tight – no visible water intrusion into the anchorage system – when tested in accordance with PTI M10 2.6.2.1 Hydrostatic Testing Procedures.

QUALIFICATION

The services performed by PSI were performed in accordance with our proposed scope of services and the standard of care as practiced by professionals performing similar services in this geographic locale. Our testing and observations were performed on a full time basis during testing. No other warranty or guarantee is expressed or implied. This report may not be copied, except in the entirety, without the expressed written permission of PSI.

If you have any questions or require any additional information, please contact us at your convenience.

Respectfully submitted,
Professional Service Industries, Inc.

Michael D. Phares, NDE
Houston Area Manager
Principal Consultant

3

in 12.10.20 1:25 P 1.42 PSI
out 12.11.20 1:25 P
N/P Pads

P.T. ATLAS

DESCRIPTION: ENCAP. FIXED END & 9" TUBE SYSTEM
PART NUMBER: N/A

RECAL CALIBRATION SERVICES

CERTIFICATE OF CALIBRATION

1003 Cresthaven, Suite A - Euless, Texas 76040 - Phone: 817/540-0011 - Fax: 817/283-5107

COMPANY:

Name: Construction Testing Sciences
Address: 2978 Congressman Lane
Dallas TX 75220
Phone: (214) 703-8911

REPORT:

Report #: 1-0409201
Calibration Date: 4-9-2020
Recalibration Date: 4-9-2021
Job Site: Recal Lab

EQUIPMENT CALIBRATED:

Machine Type: Pressure Calibrator
Manufacturer: Crystal
Model: tS33
Max Capacity: 3000 PSI
Resolution: 0.1 PSI
Serial #: 2262-739025

ROOM TEMPERATURE: 77° F

INCREASING PRESSURE			DECREASING PRESSURE		
Applied Pressure	Indicated Pressure	Difference	Applied Pressure	Indicated Pressure	Difference
0	0.00	0.00	0	0.00	0.00
10	10.01	0.01	10	10.02	0.02
50	50.02	0.02	50	50.02	0.02
100	100.03	0.03	100	100.03	0.03
150	150.04	0.04	150	150.06	0.06
200	200.07	0.07	200	200.07	0.07
250	250.10	0.10	250	250.08	0.08
300*	300.08	0.08			

Device calibrated within 1% of full scale.
Indicator returned to zero after loading/unloading device. Above values traceable to NIST.
Measurement Uncertainty: 0.12% Psi

CALIBRATION APPARATUS USED: Various Equip

Manufacturer	Model #	Description	Serial #	Class	Cal Lab	Calibration Due
WIKA	CPH7600	Pressure Calibrator	2134139	N/A	Mensor	6-25-2020

Q.A. Manager: Kara McEuen-Powell

Technician: Warner E. Powell

Information To Build On
Engineering • Consulting • Testing

REPORT OF HYDROSTATIC TEST

Tested for: PT Atlas Manufacturing
712 W. Simonds Road Suite A
Seagoville, Tx. 75159

Project Name: PT Atlas MFG. Hydrostatic

Date: December 22, 2020

PSI Project No.: 02041957-4

On December 22, 2020, a representative of Professional Service Industries, Inc. (PSI) arrived at PT Atlas. (PT ATLAS MFG.) to witness hydrostatic testing of the PT ATLAS MFG Encapsulation Live End & .5" Tube System
Results of the testing are as follows:

On December 22, 2020, PSI Technician, Nick Winthrop witnessed the preparation of three test specimens per. Hydrostatic Testing Procedures PTI M10 2.6.2.1. Three test specimens consisting of the following components were assembled and then submerged:

- ENGT500500 – .5" Long Tube
- ENLE50 – Live End Anchor
- WG50122 – 1.2" 2-Piece Wedge
- ENGC50 – Grease Cap
- PF5ST20 – 2" Pocket Former

The PSI Technician verified that strand-end of the test specimen was cap-sealed to prevent water contamination, with the anchorage properly prepared with connections/tubes/seals. Hydrostatic Testing Procedure, PTI M10 2.6.2.1 was followed during testing. Test specimens were fully submerged in a water-filled pressure Vessel and at least 1.25 psi of water pressure was applied and maintained, monitored and verified per calibrated pressure gage, IS33 SN2262-739025. Test specimens were submerged at 1:25pm and the pressure maintained for a period of no less than 24 hours.

On December 23, 2020, the PSI Technician witnessed the removal of the three test specimens from the pressure vessel after a 24-hour hold period at 1:25pm. All excess water on the surface of the test specimens was dried off to prevent water contamination during examination. The three test specimens were disassembled and examined.

Upon final inspection of each sample, the PSI Technician visually verified that there was no visible water intrusion into the anchorage system.

Results of Hydrostatic Test Conducted December 22 and 23, 2020

Specimen ID	Water Pressure	Submersion Time	Observations
A	1.25 psi	24-hours	No Visible Water Penetration
B	1.25 psi	24-hours	No Visible Water Penetration
C	1.25 psi	24-hours	No Visible Water Penetration

CONCLUSIONS

The PT ATLAS MFG. Encapsulation Live End & 6" Tube System remain water-tight – no visible water intrusion into the anchorage system – when tested in accordance with PTI M10 2.6.2.1. Hydrostatic Testing Procedures.

QUALIFICATION

The services performed by PSI were performed in accordance with our proposed scope of services and the standard of care as practiced by professionals performing similar services in this geographic locale. Our testing and observations were performed on a full time basis during testing. No other warranty or guarantee is expressed or implied. This report may not be copied, except in the entirety, without the expressed written permission of PSI.

If you have any questions or require any additional information, please contact us at your convenience.

Respectfully submitted,
Professional Service Industries, Inc.

Michael D. Phares, NDE
Houston Area Manager
Principal Consultant

In 11:00A 1.25 psi O-Ring TC Diameter
Out 11:00A
P/F Pass

P.T. ATLAS MANUFACTURING	DESCRIPTION: ENCAP. LIVE END & .5" TUBE SYSTEM		
	PART NUMBER: N/A		
	SCALE:1:4	DRAWN ON: 9/14/2020	DRAWN BY: NM
	712A W SIMDONS RD SEAGOVILLE, TX 75159		

RECAL CALIBRATION SERVICES

CERTIFICATE OF CALIBRATION

1003 Cresthaven, Suite A - Euless, Texas 76040 - Phone: 817/540-0011 - Fax: 817/283-5107

COMPANY:

Name: Construction Testing Sciences
Address: 2978 Congressman Lane
Dallas TX 75220
Phone: (214) 703-8911

REPORT:

Report #: 1-0409201
Calibration Date: 4-9-2020
Recalibration Date: 4-9-2021
Job Site: Recal Lab

EQUIPMENT CALIBRATED:

Machine Type: Pressure Calibrator
Manufacturer: Crystal
Model: tS33
Max Capacity: 3000 PSI
Resolution: 0.1 PSI
Serial #: 2262-739025

ROOM TEMPERATURE: 77° F

INCREASING PRESSURE			DECREASING PRESSURE		
Applied Pressure	Indicated Pressure	Difference	Applied Pressure	Indicated Pressure	Difference
0	0.00	0.00	0	0.00	0.00
10	10.01	0.01	10	10.02	0.02
50	50.02	0.02	50	50.02	0.02
100	100.03	0.03	100	100.03	0.03
150	150.04	0.04	150	150.06	0.06
200	200.07	0.07	200	200.07	0.07
250	250.10	0.10	250	250.08	0.08
300*	300.08	0.08			

Device calibrated within 1% of full scale.
Indicator returned to zero after loading/unloading device. Above values traceable to NIST.
Measurement Uncertainty: 0.12% Psi

CALIBRATION APPARATUS USED: Various Equip

Manufacturer	Model #	Description	Serial #	Class	Cal Lab	Calibration Due
WIKA	CPH7600	Pressure Calibrator	2134139	N/A	Mensor	6-25-2020

Q.A. Manager: Kara McEuen-Powell

Technician: Warner E. Powell

Information To Build On
Engineering • Consulting • Testing

REPORT OF HYDROSTATIC TEST

Tested for: PT Atlas Manufacturing
712 W. Simonds Road Suite A
Seagoville, Tx. 75159

Project Name: PT Atlas MFG. Hydrostatic

Date: December 22, 2020

PSI Project No.: 02041957-4

On December 22, 2020, a representative of Professional Service Industries, Inc. (PSI) arrived at PT Atlas. (PT ATLAS MFG.) to witness hydrostatic testing of the PT ATLAS MFG Encapsulation Live End & 6" Tube System
Results of the testing are as follows:

On December 22, 2020, PSI Technician, Nick Winthrop witnessed the preparation of three test specimens per. Hydrostatic Testing Procedures PTI M10 2.6.2.1. Three test specimens consisting of the following components were assembled and then submerged:

- ENGT50600 – 6" Long Tube
- ENLE50 – Live End Anchor
- WG50122 – 1.2" 2-Piece Wedge
- ENGC50 – Grease Cap
- PF5ST20 – 2" Pocket Former

The PSI Technician verified that strand-end of the test specimen was cap-sealed to prevent water contamination, with the anchorage properly prepared with connections/tubes/seals. Hydrostatic Testing Procedure, PTI M10 2.6.2.1 was followed during testing. Test specimens were fully submerged in a water-filled pressure Vessel and at least 1.25 psi of water pressure was applied and maintained, monitored and verified per calibrated pressure gage, IS33 SN2262-739025. Test specimens were submerged at 1:25pm and the pressure maintained for a period of no less than 24 hours.

On December 23, 2020, the PSI Technician witnessed the removal of the three test specimens from the pressure vessel after a 24-hour hold period at 1:25pm. All excess water on the surface of the test specimens was dried off to prevent water contamination during examination. The three test specimens were disassembled and examined.

Upon final inspection of each sample, the PSI Technician visually verified that there was no visible water intrusion into the anchorage system.

Results of Hydrostatic Test Conducted December 22 and 23, 2020

Specimen ID	Water Pressure	Submersion Time	Observations
A	1.25 psi	24-hours	No Visible Water Penetration
B	1.25 psi	24-hours	No Visible Water Penetration
C	1.25 psi	24-hours	No Visible Water Penetration

CONCLUSIONS

The PT ATLAS MFG. Encapsulation Live End & 6" Tube System remain water-tight – no visible water intrusion into the anchorage system – when tested in accordance with PTI M10 2.6.2.1. Hydrostatic Testing Procedures.

QUALIFICATION

The services performed by PSI were performed in accordance with our proposed scope of services and the standard of care as practiced by professionals performing similar services in this geographic locale. Our testing and observations were performed on a full time basis during testing. No other warranty or guarantee is expressed or implied. This report may not be copied, except in the entirety, without the expressed written permission of PSI.

If you have any questions or require any additional information, please contact us at your convenience.

Respectfully submitted,
Professional Service Industries, Inc.

Michael D. Phares, NDE
Houston Area Manager
Principal Consultant


ENGT50600 - 6" LONG TUBE
ENLE50 - LIVE END ANCHOR
WG50122 - 1.2" 2-PIECE WEDGE
ENGC50 - GREASE CAP
PF5ST20 - 2" POCKET FORMER
P.T. ATLAS
DESCRIPTION: ENCAP. LIVE END & 6" TUBE SYSTEM
PART NUMBER: N/A

RECAL CALIBRATION SERVICES

CERTIFICATE OF CALIBRATION

1003 Cresthaven, Suite A - Euless, Texas 76040 - Phone: 817/540-0011 - Fax: 817/283-5107

COMPANY:

Name: Construction Testing Sciences
Address: 2978 Congressman Lane
Dallas TX 75220
Phone: (214) 703-8911

REPORT:

Report #: 1-0409201
Calibration Date: 4-9-2020
Recalibration Date: 4-9-2021
Job Site: Recal Lab

EQUIPMENT CALIBRATED:

Machine Type: Pressure Calibrator
Manufacturer: Crystal
Model: tS33
Max Capacity: 3000 PSI
Resolution: 0.1 PSI
Serial #: 2262-739025

ROOM TEMPERATURE: 77° F

INCREASING PRESSURE			DECREASING PRESSURE		
Applied Pressure	Indicated Pressure	Difference	Applied Pressure	Indicated Pressure	Difference
0	0.00	0.00	0	0.00	0.00
10	10.01	0.01	10	10.02	0.02
50	50.02	0.02	50	50.02	0.02
100	100.03	0.03	100	100.03	0.03
150	150.04	0.04	150	150.06	0.06
200	200.07	0.07	200	200.07	0.07
250	250.10	0.10	250	250.08	0.08
300*	300.08	0.08			

Device calibrated within 1% of full scale.
Indicator returned to zero after loading/unloading device. Above values traceable to NIST.
Measurement Uncertainty: 0.12% Psi

CALIBRATION APPARATUS USED: Various Equip

Manufacturer	Model #	Description	Serial #	Class	Cal Lab	Calibration Due
WIKA	CPH7600	Pressure Calibrator	2134139	N/A	Mensor	6-25-2020

Q.A. Manager: Kara McEuen-Powell

Technician: Warner E. Powell

Information To Build On
Engineering • Consulting • Testing

REPORT OF HYDROSTATIC TEST

Tested for: PT Atlas Manufacturing
712 W. Simonds Road Suite A
Seagoville, Tx. 75159

Project Name: PT Atlas MFG. Hydrostatic

Date: December 10, 2020

PSI Project No.: 02041957-3

On December 10, 2020, a representative of Professional Service Industries, Inc. (PSI) arrived at PT Atlas. (PT ATLAS MFG.) to witness hydrostatic testing of the PT ATLAS Intermediate System Results of the testing are as follows:

On December 10, 2020, PSI Technician, Nick Winthrop witnessed the preparation of three test specimens per. Hydrostatic Testing Procedures PTI M10 2.6.2.1. Three test specimens consisting of the following components were assembled and then submerged:

- ENIC50S – Split Seal
- ENIT5012 – 12” Tube or ENIT5024 24” Tube
- ENIC50R - Ring
- ENIC50A - Adaptor
- ENFE50 – Fixed Anchor
- WG50122 – 1.2” 2-Piece Wedge
- ENIC50C – Cap
- ENIC50R – Ring
- ENIT5012 – 12” Tube or ENIT5024 24” Tube
- PF5IN – Int. Pocket Former Used During Placement
- ENIC50S – Split Seal

The PSI Technician verified that strand-end of the test specimen was cap-sealed to prevent water contamination, with the anchorage properly prepared with connections/tubes/seals. Hydrostatic Testing Procedure, PTI M10 2.6.2.1 was followed during testing. Test specimens were fully submerged in a water-filled pressure Vessel and at least 1.25 psi of water pressure was applied and maintained, monitored and verified per calibrated pressure gage, IS33 SN2262-739025. Test specimens were submerged at 1:25pm and the pressure maintained for a period of no less than 24 hours.

On December 11, 2020, the PSI Technician witnessed the removal of the three test specimens from the pressure vessel after a 24-hour hold period at 1:25pm. All excess water on the surface of the test specimens was dried off to prevent water contamination during examination. The three test specimens were disassembled and examined.

Upon final inspection of each sample, the PSI Technician visually verified that there was no visible water intrusion into the anchorage system.

Results of Hydrostatic Test Conducted December 10 and 11, 2020

Specimen ID	Water Pressure	Submersion Time	Observations
A	1.25 psi	24-hours	No Visible Water Penetration
B	1.25 psi	24-hours	No Visible Water Penetration
C	1.25 psi	24-hours	No Visible Water Penetration

CONCLUSIONS

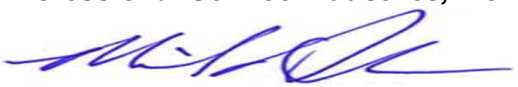
The PT ATLAS MFG. Intermediate System remain water-tight – no visible water intrusion into the anchorage system – when tested in accordance with PTI M10 2.6.2.1Hydrostatic Testing Procedures.

QUALIFICATION

The services performed by PSI were performed in accordance with our proposed scope of services and the standard of care as practiced by professionals performing similar services in this geographic locale. Our testing and observations were performed on a full time basis during testing. No other warranty or guarantee is expressed or implied. This report may not be copied, except in the entirety, without the expressed written permission of PSI.

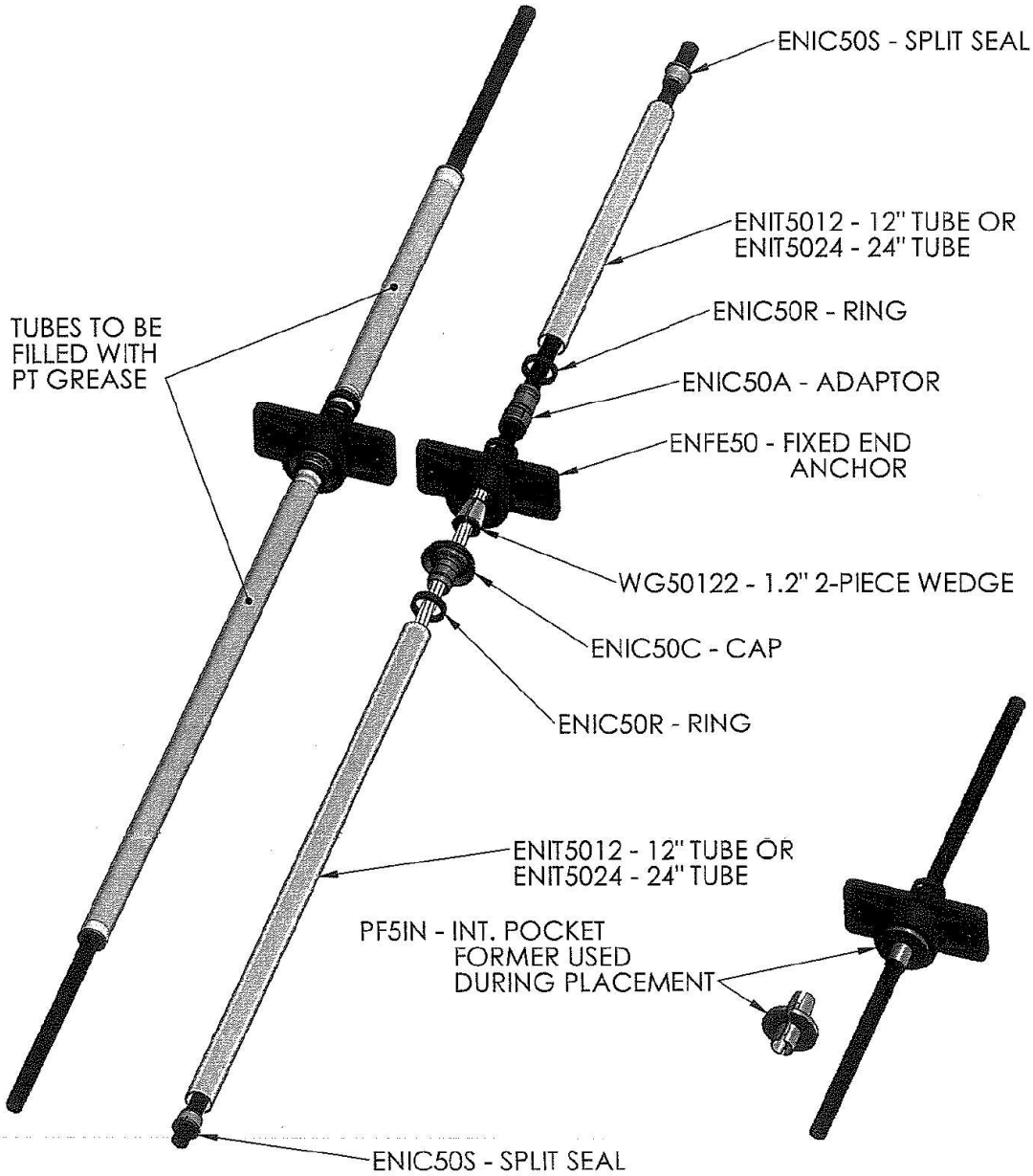
If you have any questions or require any additional information, please contact us at your convenience.

Respectfully submitted,
Professional Service Industries, Inc.



Michael D. Phares, NDE
Houston Area Manager
Principal Consultant

12-10-20 1:25 P 1.42 PSI
12-16-20 1:25 P
Pass



P.T. ATLAS MANUFACTURING	DESCRIPTION: INTERMEDIATE SYSTEM		
	PART NUMBER: N/A		
	SCALE:1:5	DRAWN ON: 11/19/2020	DRAWN BY: NM
	712A W SIMDONS RD SEAGOVILLE, TX 75159		

RECAL CALIBRATION SERVICES

CERTIFICATE OF CALIBRATION

1003 Cresthaven, Suite A - Euless, Texas 76040 - Phone: 817/540-0011 - Fax: 817/283-5107

COMPANY:
Name: Construction Testing Sciences
Address: 2978 Congressman Lane
Dallas TX 75220
Phone: (214) 703-8911

REPORT:
Report #: 1-0409201
Calibration Date: 4-9-2020
Recalibration Date: 4-9-2021
Job Site: Recal Lab

EQUIPMENT CALIBRATED:
Machine Type: Pressure Calibrator
Manufacturer: Crystal
Model: IS33
Max Capacity: 3000 PSI
Resolution: 0.1 PSI
Serial #: 2262-739025

ROOM TEMPERATURE: 77° F

INCREASING PRESSURE			DECREASING PRESSURE		
Applied Pressure	Indicated Pressure	Difference	Applied Pressure	Indicated Pressure	Difference
0	0.00	0.00	0	0.00	0.00
10	10.01	0.01	10	10.02	0.02
50	50.02	0.02	50	50.02	0.02
100	100.03	0.03	100	100.03	0.03
150	150.04	0.04	150	150.06	0.06
200	200.07	0.07	200	200.07	0.07
250	250.10	0.10	250	250.08	0.08
300*	300.08	0.08			

Device calibrated within 1% of full scale.
Indicator returned to zero after loading/unloading device. Above values traceable to NIST.
Measurement Uncertainty: 0.12% Psi

CALIBRATION APPARATUS USED: Various Equip

Manufacturer	Model #	Description	Serial #	Class	Cal Lab	Calibration Due
WIKA	CPH7600	Pressure Calibrator	2134139	N/A	Mensor	6-25-2020

Q.A. Manager: Kara McEuen-Powell

Technician: Warner E. Powell

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

PROFESSIONAL SERVICE INDUSTRIES, INC.
3730 Dacoma Street
Houston, Texas 77092-8906
Shashank Valluru Phone: 713 224 2047

Valid To: April 30, 2021 Certificate Number: 0037.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory for:

CONSTRUCTION MATERIALS ENGINEERING

ASTM: C1077 (Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation);
D3666 (Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials);
D3740 (Standard Practice for Minimum Requirements for Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction);
E329 (Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection);
E543 (Agencies Performing Nondestructive Testing)

CONSTRUCTION MATERIALS TESTING

Test Method:	**Test Description:**
Aggregates:	
ASTM C29/C29M	Bulk Density ("Unit Weight") and Voids in Aggregate
ASTM C40/C40M	Organic Impurities in Fine Aggregates for Concrete
ASTM C70	Surface Moisture in Fine Aggregate
ASTM C88	Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
ASTM C117	Materials Finer than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing
ASTM C127	Density, Relative Density (Specific Gravity), and Absorption of Coarse Aggregate
ASTM C128	Density, Relative Density (Specific Gravity), and Absorption of Fine Aggregate
ASTM C136/C136M	Sieve Analysis of Fine and Coarse Aggregates
ASTM C142/C142M	Clay Lumps and Friable Particles in Aggregates
ASTM C566	Total Evaporable Moisture Content of Aggregate by Drying
ASTM C702/C702M	Reducing Samples of Aggregate to Testing Size

Test Method:	Test Description:
ASTM D75[1]	Sampling Aggregates
Tex-200-F	Sieve Analysis of Fine and Coarse Aggregates
Tex-201-F	Bulk Specific Gravity and Water Absorption of Aggregate
Tex-202-F	Apparent Specific Gravity of Material Finer Than No.50 Sieve
Bituminous:	
ASTM D546	Sieve Analysis of Mineral Filler for Bituminous Paving Mixtures
ASTM D979/D979M[1]	Sampling Bituminous Paving Mixtures
ASTM D2726/D2726M	Bulk Specific Gravity and Density of Non-Absorptive Compacted Bituminous Mixtures
ASTM D2950/D2950M[1]	Density of Bituminous Concrete in Place by Nuclear Methods
ASTM D3203/D3203M	Percent Air Voids in Compacted Dense and Open Bituminous Paving Mixtures
ASTM D3549*/D3549M[1]	Thickness or Height of Compacted Bituminous Paving Mixture Specimens
ASTM D3665	Random Sampling of Construction Materials
ASTM D6926	Preparation of Bituminous Specimens Using Marshall Apparatus
ASTM D6927	Marshall Stability and Flow of Bituminous Mixtures
Tex-206-F	Compacting Specimens Using the Texas Gyratory Compactor (TGC)
Tex-207-F	Determining Density of Compacted Bituminous Mixtures
Tex-208-F	Test for Stabilometer Value of Bituminous Mixtures
Tex-221-F	Sampling Aggregate for Bituminous Mixtures, Surface Treatments, and Limestone Rock Asphalt
Tex-222-F	Sampling Bituminous Mixtures
Tex-225-F	Random Selection of Bituminous Mixture Samples
Tex-227-F	Theoretical Maximum Specific Gravity of Bituminous Mixtures
Tex-236-F	Determining Asphalt Content from Asphalt Paving Mixtures by the Ignition Method
Concrete:	
ASTM C31/C31M[1]	Making and Curing Concrete Test Specimens in the Field
ASTM C39/C39M	Compressive Strength of Cylindrical Concrete Specimens
ASTM C42/C42M	Obtaining and Testing Drilled Cores and Sawed Beams of Concrete
ASTM C78/C78M[1]	Flexural Strength of Concrete (Using Simple Beam with Third-Point Loading)
ASTM C138/C138M[1]	Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete
ASTM C143/C143M[1]	Slump of Hydraulic-Cement Concrete
ASTM C172/C172M[1]	Sampling Freshly Mixed Concrete
ASTM C173*/C173M	Air Content of Freshly Mixed Concrete by the Volumetric Method
ASTM C174/C174M	Measuring Thickness of Concrete Elements Using Drilled Concrete Cores
ASTM C192/C192M	Making and Curing Concrete Test Specimens in the Laboratory
ASTM C231/C231M[1]	Air Content of Freshly Mixed Concrete by the Pressure Method
ASTM C341/C341M	Length Change of Cast, Drilled, or Sawed Specimens of Hydraulic-Cement Mortar and Concrete
ASTM C490/C490M	Use of Apparatus for the Determination of Length Change of Hardened Cement Paste, Mortar, and Concrete
ASTM C495	Compressive Strength of Lightweight Insulating Concrete

Test Method:	Test Description:
ASTM C567[1]	Determining Density of Structural Lightweight Concrete
ASTM C617/C617M	Capping Cylindrical Concrete Specimens
ASTM C642	Density, Absorption, and Voids in Hardened Concrete
ASTM C803[1]	Penetration Resistance of Hardened Concrete
ASTM C805/C805M[1]	Rebound Number of Hardened Concrete
ASTM C823/C823M[1]	Examination and Sampling of Hardened Concrete in Constructions
ASTM C918/C918M	Measuring Early-Age Compressive Strength and Projecting Later-Age Strength
ASTM C939[1]	Flow of Grout for Preplaced-Aggregate Concrete (Flow Cone Method)
ASTM C942	Compressive Strength of Grouts for Preplaced-Aggregate Concrete in the Laboratory
ASTM C1064/C1064M[1]	Temperature of Freshly Mixed Hydraulic-Cement Concrete
ASTM C1074[1]	Estimating Concrete Strength by the Maturity Method
ASTM C1140	Preparing and Testing Specimens from Shotcrete Test Panels
ASTM C1231/C1231M	Unbonded Caps in Determination of Compressive Strength of Hardened Concrete Cylinders
Floors:	
ASTM E1155[1]	Determining FF Floor Flatness and FL Floor Levelness Numbers
Lime:	
Tex-600-J	Sampling and Testing Lime
Masonry, Mortar, Grout, and Ceramic Tile:	
ASTM C67 (Compression/Absorption)	Sampling and Testing Brick and Structural Clay Tile
ASTM C140	Sampling and Testing Concrete Masonry Units and Related Units
ASTM C780 Annex A6	Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry
ASTM C1019[1]	Sampling and Testing Grout
ASTM C1314	Compressive Strength of Masonry Prisms
Soils:	
ASTM D421 (Withdrawn 2016)[2]	Dry Preparation of Soil Samples for Particle-Size Analysis and Determination of Soil Constants
ASTM D422 (Withdrawn 2016)[2]	Particle-Size Analysis of Soils
ASTM D558	Moisture-Density (Unit Weight) Relations of Soil-Cement Mixtures
ASTM D698	Laboratory Compaction Characteristics of Soil Using Standard Effort
ASTM D854	Specific Gravity of Soil Solids by Water Pycnometer
ASTM D1140	Amount of Material in Soils Finer than No. 200 (75-µm) Sieve
ASTM D1556/D1556M[1]	Density and Unit Weight of Soil in Place by Sand-Cone Method
ASTM D1557	Laboratory Compaction Characteristics of Soil Using Modified Effort
ASTM D1632 (Section 11 – Curing Only)	Making and Curing Soil-Cement Compression and Flexure Test Specimens in the Laboratory
ASTM D1633 (Withdrawn 2016)[2]	Compressive Strength of Molded Soil-Cement Cylinders
ASTM D2168	Calibration of Laboratory Mechanical-Rammer Soil Compactors

Test Method:	Test Description:
ASTM D2216	Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass
ASTM D2487	Classification of Soils for Engineering Purposes (Unified Soil Classification System)
ASTM D2488[1]	Description and Identification of Soils (Visual-Manual Procedure)
ASTM D2850	Unconsolidated-Undrained Triaxial Compression Test on Cohesive Soils
ASTM D2937[1]	Density of Soil in Place by the Drive-Cylinder Method
ASTM D3282	Classification of Soils and Soil-Aggregate Mixtures for Highway Construction Purposes
ASTM D4318	Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM D4253	Standard Test Methods for Maximum Index Density and Unit Weight of Soils Using a Vibratory Table
ASTM D4254	Standard Test Methods for Minimum Index Density and Unit Weight of Soils and Calculation of Relative Density
ASTM D4718	Unit Weight and Water Content for Soils Containing Oversize Particles
ASTM D4972	pH of Soils
ASTM D6913	Particle-Size Distribution (Gradation) of Soils Using Sieve Analysis
ASTM D6938[1]	In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)
ASTM D7928	Particle-Size Distribution (Gradation) of Fine-Grained Soils Using the Sedimentation (Hydrometer) Analysis
Tex-101-E	Preparing Soil and Flexible Base Materials for Testing
Tex-112-E	Admixing Lime to Reduce Plasticity Index of Soils
Tex-113-E	Laboratory Compaction Characteristics and Moisture-Density Relationship of Base Materials
Tex-114-E	Laboratory Compaction Characteristics and Moisture-Density Relationship of Subgrade, Embankment Soils, and Backfill Material
Tex-120-E	Soil-Cement Testing
Tex-130-E (Part II)	Slurry Testing
Tex-140-E	Measuring Thickness of Pavement Layer
Soil-Cement:	
ASTM D558	Moisture-Density (Unit Weight) Relations of Soil-Cement Mixtures
ASTM D1632 (Section 11 – Curing Only)	Making and Curing Soil-Cement Compression and Flexure Test Specimens in the Laboratory
ASTM D1633 (Withdrawn 2016)[2]	Compressive Strength of Molded Soil-Cement Cylinders
Steel (Shop & Field)[1]:	
AWS D1.1 (Clause 6, Inspection), AWS D1.3 (Clause 6, Inspection), AWS D1.4 (Clause 6, Inspection)	Fabrication & Erection – Visual Welding
ASME (Chapter N, QA/QC Fabrication & Inspection)	Erection (Visual), Fabrication, Welding (Visual), Welding Qualification (Field & Shop Inspection)
AISC/RCSC (Section 9 Only)	Manual of Steel Construction (Fabrication & Erection – Visual & Bolting)

Test Method:	Test Description:
Nondestructive (Laboratory & Field)[1]:	
ASTM E114	Ultrasonic Pulse-Echo Straight-Beam Contact Testing
ASTM E164	Contact Ultrasonic Testing of Weldments
ASTM E165 (Water Soluble Solutions Only)	Liquid Penetrant Examination for General Industry
ASTM E709 (AC Yoke Dry Powder Only)	Magnetic Particle Testing

[1] This laboratory meets A2LA *R104 – General Requirements: Accreditation of Field Testing and Field Calibration Laboratories* for these tests.

[2] This laboratory's scope contains withdrawn or superseded methods. As a clarifier, this indicates that the applicable method itself has been withdrawn or is now considered "historical" and not that the laboratory's accreditation for the method has been withdrawn.

Accredited Laboratory

A2LA has accredited

PROFESSIONAL SERVICE INDUSTRIES, INC.

Houston, TX

for technical competence in the field of

Construction Materials Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (*refer to joint ISO-ILAC-IAF Communiqué dated April 2017*).

Presented this 3rd day of June 2019.

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 0037.01
Valid to April 30, 2021

For the tests to which this accreditation applies, please refer to the laboratory's Construction Materials Scope of Accreditation.

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Report of Hydrostatic Test on Encapsulated Anchors & Components

Client:	P.T. Atlas Mfg., LLC	**Report No.:**	11848
Project:	**Encapsulated Anchors**	**Date of Service:**	06/13/19
Project No.:	101497	**Report Date:**	08/26/19

Construction Testing Sciences (CTS) was retained by P.T. Atlas Mfg. to witness hydrostatic tests on encapsulated anchor components for unbonded single strand tendons.

Scope

Witness the sample preparation, placement into the pressure chamber, and results of hydrostatic tests in performed in accordance with PTI M10.2 - 17, Section 2.6.2 - Hydrostatic Test.

Purpose

The purpose of this test was to determine if the anchorages and their components ensure a watertight encapsulation of the prestressing steel.

Sample Identification

P/N 360100 - Encapsulated Anchor, Fixed End Assy
P/N 360200 - Encapsulated Anchor w/ burn ring, Stessing/Live End Assy
P/N 360300 - Ecapsulated Anchor w/ chimney cap & heat shrink, Imtermediate Assy A
P/N 360400 - Ecapsulated Anchor w/ chimney cap & dielectric tape, Imtermediate Assy B

Sample Preparation

Initially, P/N 360300 was prepared with heat shrink installed on both sides of the anchor, thus sealing the encapsulated anchor / sheathing interface. P/N 360400 was prepared in the same manner, but utilizing dielectric tape on both sides of the anchor. The fixed and assembly was prepared with white pigment grease applied inside the cap and the cap was then secured to the anchor. The stressing/live end assembly was prepared in the same manner and contained the burn ring inside the cap to anchor connection.

Test Procedure

The external pressure of 1.25 psi minimum was achieved by placing all the samples in a chamber constructed of 12" Ø pipe. The chamber was positioned horizontally and contained a 2" Ø riser pipe approximately 5' tall. The chamber was then filled with water colored with red dye. Upon completion of filling the chamber, the pressure was monitored utilizing a Crystal IS33 pressure calibrator, manufactured by Crystal Engineering Corporation, calibrated on 04/03/19. The actual pressure inside the chamber was found to be 2.240 psi. The samples remained in the chamber for 24 hours, the water was evacuated, and the samples were removed from the chamber and examined.

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Report of Hydrostatic Test on Encapsulated Anchors & Components

Results / Observations

P/N 360100 - The grease filled cap was removed and no infiltration was observed.
P/N 360200 - The grease filled cap was removed and no infiltration was observed.
P/N 360300 - The heat shrink was removed and no infiltration was observed.
P/N 360400 - the dielectric tape was removed and no infiltration was observed.

Conclusion

The P.T. Atlas encapsulated anchors and their components meet the requirements of the above mentioned specification when subjected to 1.25 psi hydrostatic pressure for 24 hours.

We trust the information provided herein is acceptable for your use. If you have any questions or require additional information please feel free to contact Construction Testing Sciences at (214) 789-3472.

Respectfully submitted,

Jack Gary, General Manager

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Appendix

- Crystal Pressure Calibrator Calibration
- Photographs

RECAL CALIBRATION SERVICES

Certification No.: 1426.01 ACCREDITED

CERTIFICATE OF CALIBRATION

1003 Cresthaven, Suite A • Euless, Texas 76040 • Phone: 817/540-0011 • Fax: 817/283-5107

COMPANY:

Name: Construction Testing Sciences

Address: 2978 Congressman Lane

Dallas TX 75220

Phone: (214) 703- 8911

REPORT:

Report #: 1-0403191

Calibration Date: 4-3-2019

Recalibration Date: 4-3-2020

Job Site: Dallas, TX

EQUIPMENT CALIBRATED:

Machine Type: Pressure Calibrator

Manufacturer: Crystal

Model: IS33

Max Capacity: 30 PSI

Resolution: 0.001 PSI

Serial #: 2262-739025

ROOM TEMPERATURE: 68° F

INCREASING PRESSURE			DECREASING PRESSURE		
Applied Pressure	Indicated Pressure	Difference	Applied Pressure	Indicated Pressure	Difference
0	0.00	0.00	0	0.00	0.00
2	2.00	0.00	2	2.00	0.00
5	5.00	0.00	5	5.00	0.00
10	10.00	0.00	10	10.00	0.00
15	14.99	-0.01	15	15.00	0.00
20	19.99	-0.01	20	19.99	-0.01
25	24.99	-0.01	25	24.99	-0.01
30	29.98	-0.02	30	29.98	-0.02
35*	34.97	-0.03			

Device calibrated within 1% of full scale.

Indicator returned to zero after loading/unloading device. Above values traceable to NIST.

Measurement Uncertainty: 0.12% Psi

CALIBRATION APPARATUS USED: Various Equip

Manufacturer	Model #	Description	Serial #	Class	Cal Lab	Calibration Due
Crystal	IS33	Pressure Calibrator	2535-340983	N/A	Recal	4-1-2020

Q.A. Manager: Kara McEuen-Powell

Technician: Warner E. Powell

Force measuring apparatus is temperature correcting.
Uncertainty expressed at 95% confidence using a coverage of k=2

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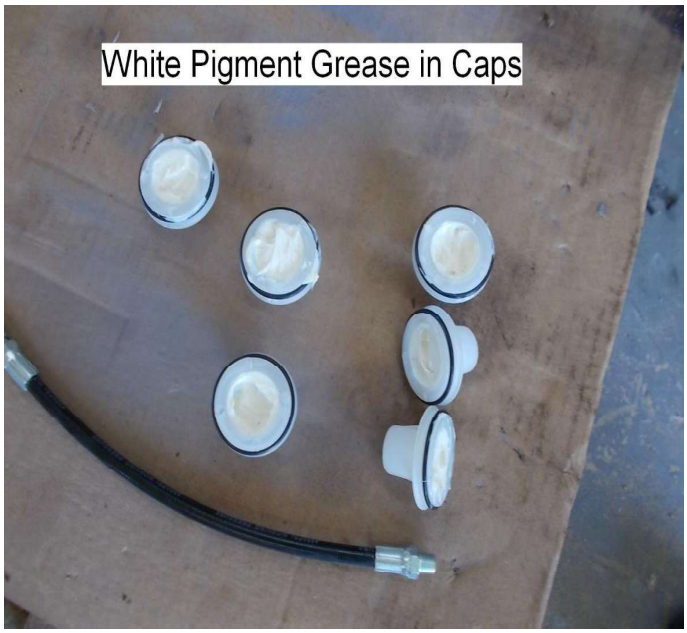

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AASHTO ACCREDITED

CERTIFICATE OF ACCREDITATION

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
AASHTO

Construction Testing Sciences

in

Dallas, Texas, USA

has demonstrated proficiency for the testing of construction materials and has conformed to the requirements established in AASHTO R 18 and the AASHTO Accreditation policies established by the AASHTO Committee on Materials and Pavements.

The scope of accreditation can be viewed on the Directory of AASHTO Accredited Laboratories (aashtoresource.org).

Jim Tymon,
AASHTO Executive Director

Moe Jamshidi,
AASHTO COMP Chair

This certificate was generated on 02/12/2020 at 10:03 AM Eastern Time. Please confirm the current accreditation status of this laboratory at aashtoresource.org/aap/accreditation-directory