BECKER
structural engineers, inc.

Structural Special Inspections Report

PowerPay Office Fit-up

Portland, Maine
March 30, 2010

Report Prepared by:

Structural Engineer of Record
Becker Structural Engineers, Inc.
75 York Street
Portland, ME 04101

PowerPay Office Fit-up

Portland, Maine
March 30, 2010

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BECKER
structural engineers, inc.

Statement of Special Inspections

PowerPay Office Fit-up

Portland, Maine
March 31, 2009

Statement Prepared by
Structural Engineer of Record
Becker Structural Engineers, Inc.
75 York Street
Portland, ME 04101
207. 879. 1838

Owner
Portland Public Market, LLC.
280 Fore Street
Portland, ME 04101
877. 877. 3737

Architect of Record
Winton Scott Architects
5 Milk Street
Portland, ME 04101
207. 774. 4811

Contractor
Wright-Ryan Construction
10 Danforth Street
Portland, ME 04101
207. 773. 3625

Statement of Special Inspections - Exhibit A

Project: *PowerPay Office Fit-up*

Location: *Portland, Maine*

Owner: *Portland Public Market, LLC*

This *Statement of Special Inspections* encompass the following discipline:

☒ Structural ☐ Mechanical/Electrical/Plumbing
☐ Architectural ☐ Other: _____

Design Professional in Responsible Charge: *Paul B. Becker, P.E.*

Firm Name: *Becker Structural Engineers, Portland, ME*

(Note: *Statement of Special Inspections* for other disciplines may be included under a separate cover)

This *Statement of Special Inspections* is submitted as a condition for permit issuance in accordance with the Special Inspection and Structural Testing requirements of the Building Code. It includes a schedule of Special Inspection services applicable to this project as well as the name of the Structural Special Inspection Coordinator (SSIC) and the identity of other approved agencies to be retained for conducting these inspections and tests.

The Structural Special Inspection Coordinator shall keep records of all inspections and shall furnish inspection reports to the Building Code Official (BCO) and the Structural Registered Design Professional in Responsible Charge (SRDP). Discovered discrepancies shall be brought to the immediate attention of the Contractor for correction. If such discrepancies are not corrected, the discrepancies shall be brought to the attention of the Building Official and the Structural Registered Design Professional in Responsible Charge. The Special Inspection program does not relieve the Contractor of his or her responsibilities.

Interim reports shall be submitted to the Building Official and the Structural Registered Design Professional in Responsible Charge at an interval determined by the SSIC and the BCO.

A *Final Report of Special Inspections* documenting completion of all required Special Inspections, testing and correction of any discrepancies noted in the inspections shall be submitted to the BCO prior to issuance of a Certificate of Use and Occupancy.

Job site safety and means and methods of construction are solely the responsibility of the Contractor.

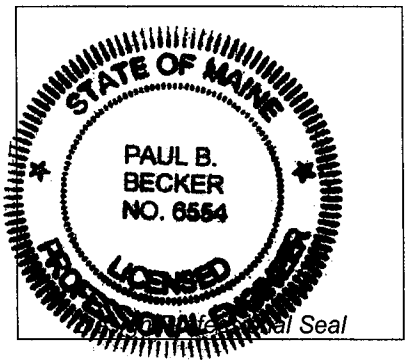
Interim Report Frequency: ☒ *Upon request of Building Official* _____ or ☐ per attached schedule.

Prepared by:

Paul B. Becker, P.E.

(type or print name of the Structural Registered Design Professional in Responsible Charge)

Signature 5-22-09 Date



Professional Seal

Owner's Authorization:

Signature Date

Building Code Official's Acceptance:

Signature Date

Statement of Special Inspections (Continued) - Exhibit A

List of Agents

Project: *PowerPay Office Fit-up*

Location: *Portland, Maine*

Owner: *Portland Public Market, LLC*

This *Statement of Special Inspections* encompass the following discipline:

☒ Structural ☐ Mechanical/Electrical/Plumbing
☐ Architectural ☐ Other: _____

(Note: *Statement of Special Inspections* for other disciplines may be included under a separate cover)

This Statement of Special Inspections / Quality Assurance Plan includes the following building systems:

☒ Soils and Foundations
☒ Cast-in-Place Concrete
☐ Precast Concrete
☐ Masonry
☒ Structural Steel
☒ Wood Construction
☐ Spray Fire Resistant Material
☐ Cold-Formed Steel Framing
☐ Exterior Insulation and Finish System
☐ Mechanical & Electrical Systems
☐ Architectural Systems
☐ Special Cases

Special Inspection Agencies	Firm	Address, Telephone, e-mail
1. Structural Special Inspection Coordinator (SSIC)	*Becker Structural Engineers, Inc. (BSE)*	*75 York Street Portland, ME 04107 (207) 879-1838 info@beckerstructural.com*
2. Special Inspector (SI 1)	*Becker Structural Engineers, Inc. (BSE)*	*75 York Street Portland, ME 04107 (207) 879-1838 info@beckerstructural.com*
3. Special Inspector (SI 2)	*S.W. Cole Engineering, Inc. (SWC)*	*286 Portland Road Gray, ME 04039-9586 (207) 657-2866*
4. Testing Agency (TA 1)	*S.W. Cole Engineering, Inc. (SWC)*	*286 Portland Road Gray, ME 04039-9586 (207) 657-2866*
5. Testing Agency (TA 2)		
6. Other (O1)		

Note: The inspectors and testing agencies shall be engaged by the Owner or the Owner's Agent, and not by the Contractor or Subcontractor whose work is to be inspected or tested. Any conflict of interest must be disclosed to the Building Official, prior to commencing work.

Statement of Special Inspections (Continued) - Exhibit A

Final Report of Special Inspections (SSIC/SI 1)

[To be completed by the Structural Special Inspections Coordinator (SSIC/SI 1). Note that all Agent's Final Reports must be received prior to issuance.]

Project: *PowerPay Office Fit-up*
Location: *Portland, Maine*
Owner: *PowerPay LLC*
Owner's Address: *280 Fore Street*
Portland, Maine 04101
Architect of Record: *Steve Weatherhead* (name) *Winton Scott Architects* (firm)
Structural Registered Design Professional in Responsible Charge: *Paul B. Becker* (name) *Becker Structural Engineers* (firm)

To the best of my information, knowledge and belief, the Special Inspections required for this project, and itemized in the *Statement of Special Inspections* submitted for permit, have been performed and all discovered discrepancies have been reported and resolved other than the following:

Comments:

(Attach continuation sheets if required to complete the description of corrections.)

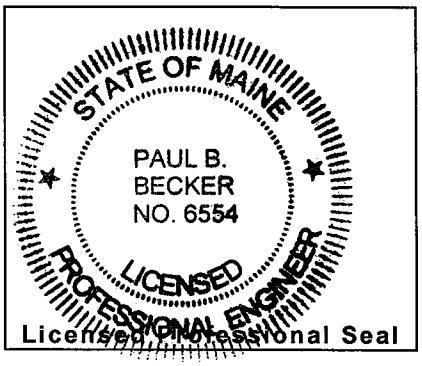
Interim reports submitted prior to this final report form a basis for and are to be considered an integral part of this final report.

Respectfully submitted,
Structural Special Inspection Coordinator

PAUL B. BECKER
(Type or print name)

BECKER STRUCTURAL ENGINEERS INC
(Firm Name)

Signature 3-29-10 Date



Licensed Professional Seal

Statement of Special Inspections (Continued) - Exhibit A

Special Inspector's/Agent's Final Report

Project: *PowerPay Office Fit-up*

Special Inspector or Agent: *S.W. Cole Engineering, Inc.*

(name) *(firm)*

Designation: SI-2

To the best of my information, knowledge and belief, the Special Inspections or testing required for this project, and designated for this Inspector/Agent in the *Statement of Special Inspections* submitted for permit, have been performed and all discovered discrepancies have been reported and resolved other than the following:

Comments:

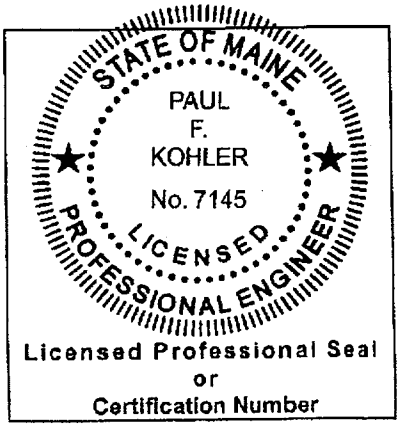
(Attach continuation sheets if required to complete the description of corrections.)

Interim reports submitted prior to this final report form a basis for and are to be considered an integral part of this final report.

Respectfully submitted,
Special Inspector or Agent:

PAUL F. KOHLER
(Type or print name)

PFK 3/9/10
Signature Date



Licensed Professional Seal
or
Certification Number

Statement of Special Inspections (Continued) - Exhibit A

Special Inspector's/Agent's Final Report

Project: *PowerPay Office Fit-up*

Special Inspector or Agent: *S.W. Cole Engineering, Inc.*

(name) *(firm)*

Designation: TA1

To the best of my information, knowledge and belief, the Special Inspections or testing required for this project, and designated for this Inspector/Agent in the *Statement of Special Inspections* submitted for permit, have been performed and all discovered discrepancies have been reported and resolved other than the following:

Comments:

(Attach continuation sheets if required to complete the description of corrections.)

Interim reports submitted prior to this final report form a basis for and are to be considered an integral part of this final report.

Respectfully submitted,
Special Inspector or Agent:

Roger E. Domingo
(Type or print name)

Signature 3/9/2010
Date

SEAL NOT REQUIRED FOR TESTING AGENCY

Licensed Professional Seal or Certification Number

Special Inspections – Exhibit B

Qualifications of Inspectors and Test Agency
List of Minimum Qualifications
Schedule of Structural Inspections

Qualifications of Inspectors and Testing Technicians

The qualifications of all personnel performing Special Inspection and testing activities are subject to the approval of the Building Official. The credentials of all Inspectors and testing technicians shall be provided if requested.

Key for Minimum Qualifications of Inspection Agents:

When the Registered Design Professional in Responsible Charge deems it appropriate that the individual performing a stipulated test or inspection have a specific certification or license as indicated below, such designation shall appear below the *Agency Number* on the Schedule.

PE/SE	Structural Engineer – a licensed SE or PE specializing in the design of building structures
PE/GE	Geotechnical Engineer – a licensed PE specializing in soil mechanics and foundations
EIT	Engineer-In-Training – a graduate engineer who has passed the Fundamentals of Engineering examination

American Concrete Institute (ACI) Certification

ACI-CFTT	Concrete Field Testing Technician – Grade 1
ACI-CCI	Concrete Construction Inspector
ACI-LTT	Laboratory Testing Technician – Grade 1&2
ACI-STT	Strength Testing Technician

American Welding Society (AWS) Certification

AWS-CWI	Certified Welding Inspector
AWS/AISC-SSI	Certified Structural Steel Inspector

American Society of Non-Destructive Testing (ASNT) Certification

ASNT	Non-Destructive Testing Technician – Level II or III.

International Code Council (ICC) Certification

ICC-SMSI	Structural Masonry Special Inspector
ICC-SWSI	Structural Steel and Welding Special Inspector
ICC-SFSI	Spray-Applied Fireproofing Special Inspector
ICC-PCSI	Prestressed Concrete Special Inspector
ICC-RCSI	Reinforced Concrete Special Inspector

National Institute for Certification in Engineering Technologies (NICET)

NICET-CT	Concrete Technician – Levels I, II, III & IV
NICET-ST	Soils Technician - Levels I, II, III & IV
NICET-GET	Geotechnical Engineering Technician - Levels I, II, III & IV

Exterior Design Institute (EDI) Certification

EDI-EIFS	EIFS Third Party Inspector

Other

_____ _____

Schedule of Structural Inspections – **Soils & Foundation**

Schedule of Special Inspections – Exhibit B

SOILS & FOUNDATION CONSTRUCTION

Project: PowerPay Office Fit-up, Portland, ME
Date Prepared: 03/31/2009

VERIFICATION AND INSPECTION IBC Section 1704.7, 1704.8, 1704.9	Y/N	EXTENT: CONTINUOUS, PERIODIC, SUBMITTAL, OR NONE	COMMENTS	AGENT	AGENT QUALIFICATION	DATE	INITIAL
1. Verify existing soil conditions, fill placement and load bearing requirements							
a. Prior to placement of prepared fill, determine that the site has been prepared in accordance with the approved soils report.	Y	P	IBC 1704.7.1	SI2	PE/GE or EIT	06/2009	NRM
b. During placement and compaction of fill material, verify material being used and maximum lift thickness comply with the approved soils report.	Y	C	IBC 1704.7.2	SI2	PE/GE or EIT	06/2009	NRM
c. Test in-place dry density of compacted fill complies with the approved soils report.	Y	P	IBC 1704.7.2	TA1	NICET-ST or NICET-GET	06/2009	NRM
2. Pile foundations:							
a. Observe and record procedures for static load testing of piles.	N	C	IBC 1704.8	SI2	PE/GE or EIT		
b. Observe and record procedures for dynamic load testing of piles.	N	C		SI2	PE/GE or EIT		
c. Record installation of each pile and results of load test. Include cutoff and tip elevations of each pile relative to permanent reference.	N	C		TA1	NICET-GET		
d. Test welded splices of steel piles	N	C	AWS D1.1	TA1	AWS-CWI		
3. Pier foundations: Verify installation of pier foundations for buildings assigned to Seismic Design Category C, D, E or F.	N	C	IBC 1704.9	SI2	PE/GE or EIT		
a. Verify pier diameter and length	N	C		SI2	PE/GE or EIT		
b. Verify pier embedment (socket) into bedrock	N	P		SI2	PE/GE or EIT		
c. Verify suitability of end bearing strata	N	P		SI2	PE/GE or EIT		

Soils and Foundations Construction has been reviewed in accordance with sections 1704.7, 8 & 9 of the IBC Code

Special Inspector NRM Date 2/11/10

S.W.COLE ENGINEERING, INC. • Geotechnical Engineering • Field & Lab Testing • Scientific & Environmental Consulting

DAILY CONSTRUCTION REPORT

Project: Powerpay Office Fit Up
SWCE Project No.: 09-0318
Client: Portland Public Market LLC
Date: 6-10-09
Weather: Sunny, 60 – 70.

Work in Progress: Excavation for proposed interior footings.

Work Performed by SWC Rep.: Performed subgrade observations of interior spread footing for new mezzanine level.

General Observations, Discussions, Etc: Subgrade soils consisted of gravelly sand with silt. Recommended contractor moisture condition and re-compact surficial soils disturbed from excavation with jumping jack compactor prior to installation of reinforcing steel.

On Site: 13:00 – 14:00
Attachments: None
Sheet: 1 of 1

SWC Rep.: TJB
Rev. by: RED

GRAY, ME OFFICE
286 Portland Road, Gray, ME 04039, Tel (207) 657-2866, Fax (207) 657-2840, (E) infogray@swcole.com, (I) www.swcole.com

S.W.COLE ENGINEERING, INC. • *Geotechnical Engineering* • *Field & Lab Testing* • *Scientific & Environmental Consulting*

DAILY CONSTRUCTION REPORT

Project: Powerpay Office Fit Up
SWCE Project No.: 09-0318
Client: Portland Public Market LLC
Date: 6-11-09
Weather: Sunny, 60 – 70.

Work in Progress: Excavation for proposed interior footings.
Work Performed by SWC Rep.: Performed subgrade observations and in-situ density testing on footing subgrade material between columns lines PA and PG.

General Observations, Discussions, Etc: At the time of our initial visit, M.C. Hall was in the process of using a mini-excavator equipped with a small digging bucket to excavate for proposed column footings. The site was not ready for in-depth subgrade observations during our initial visit; so, as scheduled by Millard with Wright-Ryan a follow-up site visit was scheduled for 1:00. During our morning visit, we collected a composite soil sample from the excavation spoils for laboratory grain size and proctor testing. Excavation was still underway in the afternoon, with the column locations between N1 and N3 largely complete and only the existing slab sections removed throughout the remainder of the building. Subgrade soils observed generally consisted of brown gravelly silty sand with zones of sandier material with less gravel mixed in where old utility runs had existed or were nearby. In-situ densities ranged from 112.6-pcf to 129.6-pcf due to the variability of the existing fill soils. In our opinion, the material is too inconsistent to accurately test using composite sampling techniques. We hand dug several shallow test pits in order to make further observations and did not note the presence of any unacceptable soils. The in-place material generally appeared to be well compacted except for the top few inches that was disturbed during excavation. We recommended to Wright-Ryan that a plate compactor weighing a minimum of 500-lb or a "jumping jack" be used to compact the soils disturbed during excavation at each column location. The material observed appeared to be acceptable for foundation support given the 3.0-ksf maximum assumed bearing pressure. We understand that a site visit will be coordinated for tomorrow when the remainder of the excavation has been completed to allow for addition subgrade observations.

On Site: 8:00 – 9:30 and 1:00 – 2:30
SWC Rep.: K. Gimpel
Attachments: None
Rev. by: RED
Sheet: 1 of 1

GRAY, ME OFFICE
286 Portland Road, Gray, ME 04039, Tel (207) 657-2866, Fax (207) 657-2840, (E) infogray@swcole.com, (I) www.swcole.com

S.W.COLE ENGINEERING, INC. • Geotechnical Engineering • Field & Lab Testing • Scientific & Environmental Consulting

DAILY CONSTRUCTION REPORT

Project: Powerpay Office Fit Up
SWCE Project No.: 09-0318
Client: Portland Public Market LLC
Date: 6-15-09
Weather: Sunny, 60 – 70.

Work in Progress: Excavation for proposed interior footings.

Work Performed by SWC Rep.: Performed subgrade observations of interior spread footing for new mezzanine level.

General Observations, Discussions, Etc: Subgrade soils consisted of gravelly sand with silt. Recommended contractor moisture condition and re-compact surficial soils disturbed from excavation with jumping jack compactor prior to installation of reinforcing steel.

On Site: 13:30 – 14:00
Attachments: None
Sheet: 1 of 1

SWC Rep.: TJB
Rev. by: RED

GRAY, ME OFFICE
286 Portland Road, Gray, ME 04039, Tel (207) 657-2866, Fax (207) 657-2840, (E) infogray@swcole.com, (I) www.swcole.com

S.W.COLE ENGINEERING, INC. • *Geotechnical Engineering* • *Field & Lab Testing* • *Scientific & Environmental Consulting*

DAILY CONSTRUCTION REPORT

Project: Powerpay Office Fit Up
SWCE Project No.: 09-0318
Client: Portland Public Market LLC
Date: 6-18-09
Weather: Sunny, 60 – 70.

Work in Progress: Excavation for proposed interior footings.

Work Performed by SWC Rep.: Performed subgrade observations of interior spread footing for new mezzanine level.

General Observations, Discussions, Etc: Subgrade soils consisted of gravelly sand with silt. Recommended contractor moisture condition and re-compact surficial soils disturbed from excavation with jumping jack compactor prior to installation of reinforcing steel.

On Site: 10:00 – 10:30
Attachments: None
Sheet: 1 of 1

SWC Rep.: TJB
Rev. by: RED

GRAY, ME OFFICE
286 Portland Road, Gray, ME 04039, Tel (207) 657-2866, Fax (207) 657-2840, (E) infogray@swcole.com, (I) www.swcole.com

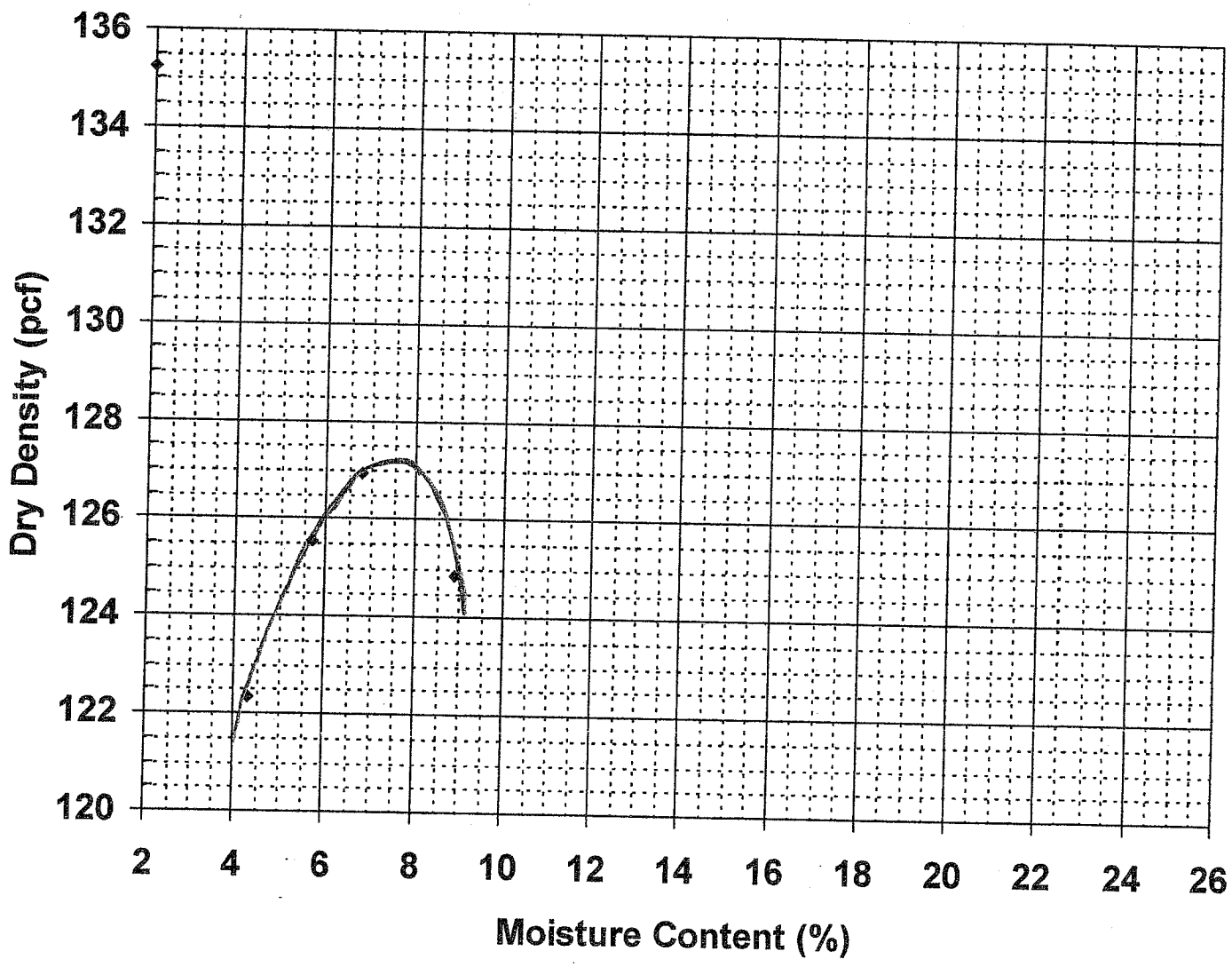
S.W.COLE ENGINEERING, INC.

Report of Moisture-Density

Method ASTM D-1557 MODIFIED **Procedure C**

Project Name	PORTLAND ME - POWER PAY OFFICE FIT UP - MATERIALS TESTING	Project Number	09-0318
Client	PORTLAND PUBLIC MARKET LLC	Lab ID	10956G
Material Type	GRANULAR FILL	Date Received	6/11/2009
Material Source	IN-PLACE COMPOSITE	Date Completed	6/11/2009
		Tested By	TIMOTHY POULIN

Moisture-Density Relationship Curve



Maximum Dry Density (pcf)	127.3	Corrected Dry Density (pcf)	**130.5**
Optimum Moisture Content (%)	7.9	Corrected Moisture Content (%)	**7.1**
Percent Oversized	13.0%		

Comments

Roger E. Domingo

286 Portland Road, Gray, ME 04039-9586 • Tel (207) 657-2866 • Fax (207) 657-2840 • www.swcole.com

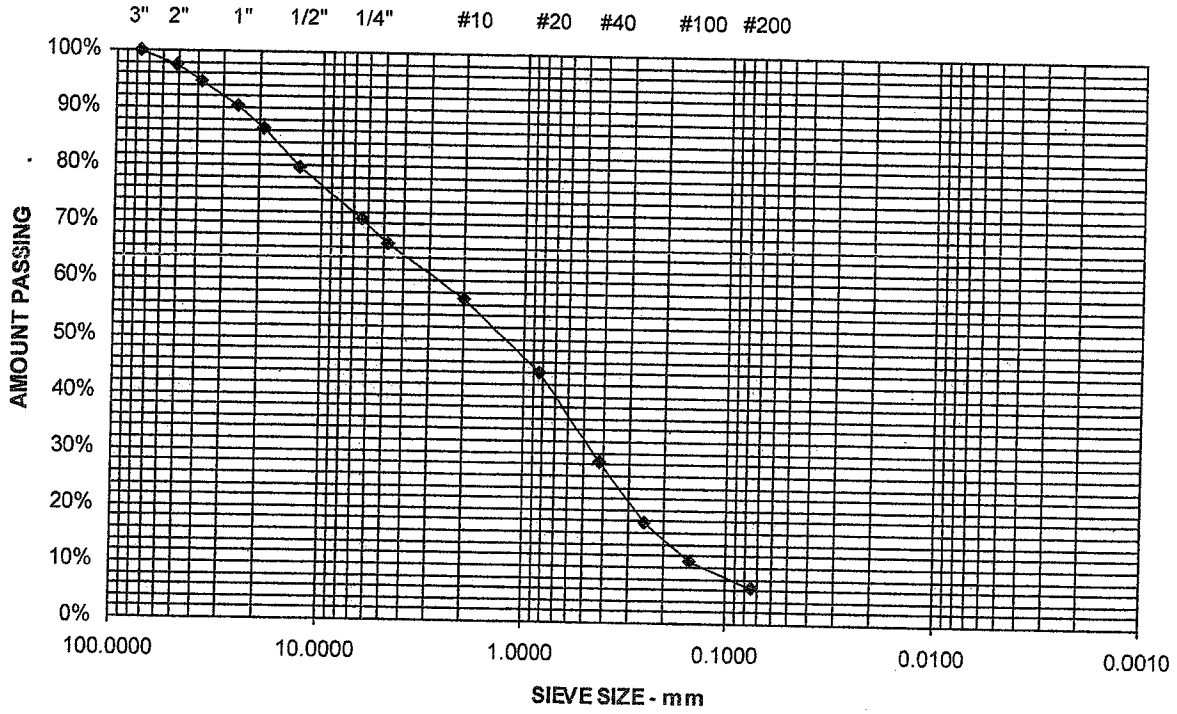
S.W.COLE ENGINEERING, INC.

Report of Gradation

ASTM C-117 & C-136

Project Name	PORTLAND ME - POWER PAY OFFICE FIT UP - MATERIALS TESTING	Project Number	09-0318
Client	PORTLAND PUBLIC MARKET LLC	Lab ID	10956G
Material Type	GRANULAR FILL	Date Received	6/11/2009
Material Source	IN-PLACE COMPOSITE	Date Complete	6/11/2009
		Tested By	

STANDARD DESIGNATION (mm/µm)	SIEVE SIZE	AMOUNT PASSING (%)	SPECIFICATIONS (%)
150 mm	6"	100	
125 mm	5"	100	
100 mm	4"	100	
75 mm	3"	100	
50 mm	2"	97	
38.1 mm	1-1/2"	95	
25.0 mm	1"	90	
19.0 mm	3/4"	87	
12.5 mm	1/2"	80	
6.3 mm	1/4"	71	
4.75 mm	No. 4	67	
2.00 mm	No. 10	57	
850 um	No. 20	44	
425 um	No. 40	29	
250 um	No. 60	18	
150 um	No. 100	11	
75 um	No. 200	6.2	



Comments

Roger E. Domingo

286 Portland Road, Gray, ME 04039-9586 • Tel (207) 657-2866 • Fax (207) 657-2840 • www.swcole.com

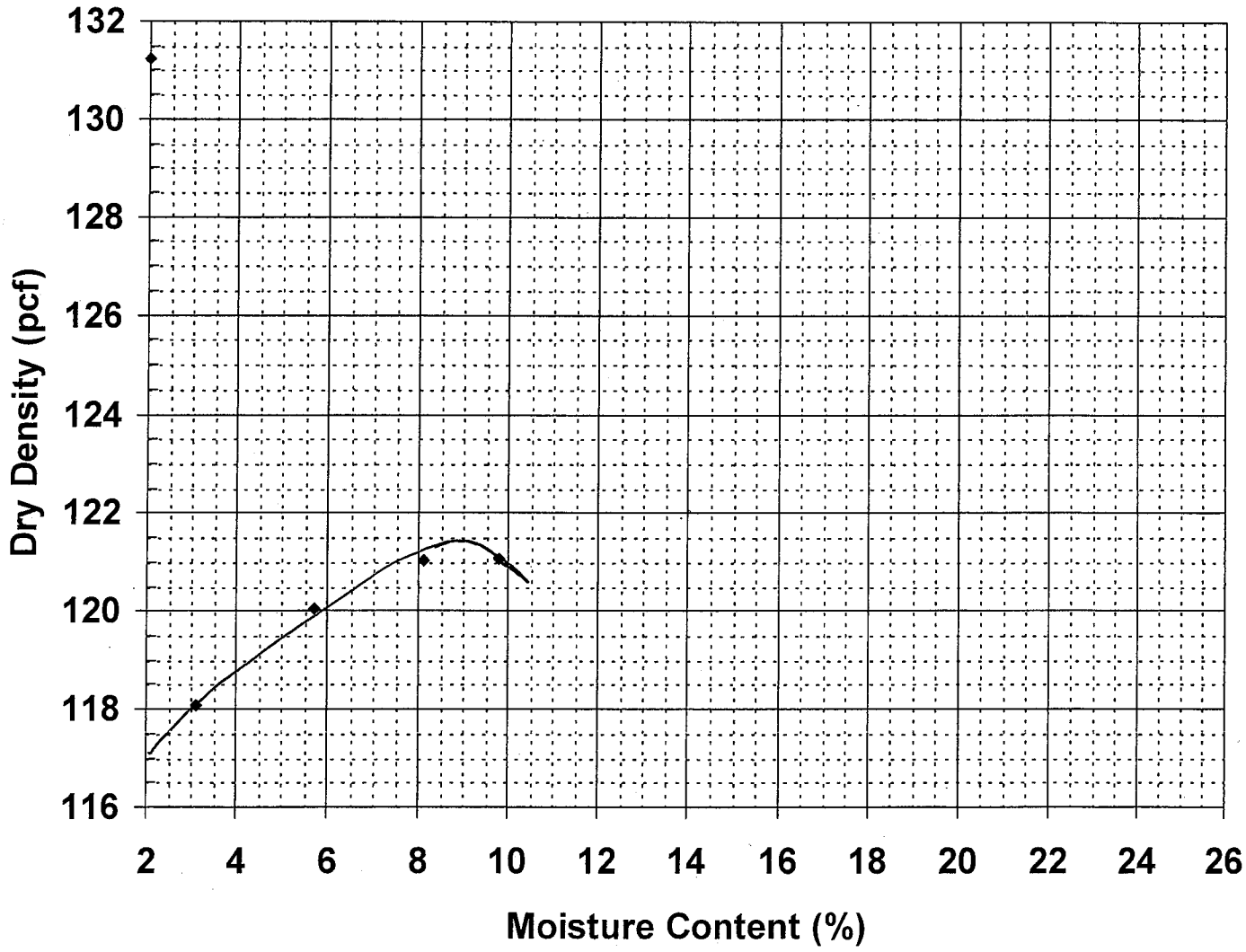
S.W.COLE ENGINEERING, INC.

Report of Moisture-Density

Method ASTM D-1557 MODIFIED Procedure B

Project Name	PORTLAND ME - POWER PAY OFFICE FIT UP - MATERIALS TESTING	Project Number	09-0318
Client	PORTLAND PUBLIC MARKET LLC	Lab ID	11181G
Material Type	COMMON BORROW	Date Received	7/24/2009
Material Source	ON-SITE	Date Completed	7/29/2009
		Tested By	TIMOTHY POULIN

Moisture-Density Relationship Curve



Maximum Dry Density (pcf)	121.5
Optimum Moisture Content (%)	9.1
Percent Oversized	11.0%

Corrected Dry Density (pcf)	**124.6**
Corrected Moisture Content (%)	**8.3**

Comments

Roger E. Domingo

286 Portland Road, Gray, ME 04039-9586 • Tel (207) 657-2866 • Fax (207) 657-2840 • www.swcole.com

Schedule of Structural Inspections – **Concrete**

Schedule of Special Inspections – Exhibit B
CONCRETE CONSTRUCTION

Project: PowerPay Office Fit-up, Portland, ME
Date Prepared: 03/27/2009

VERIFICATION AND INSPECTION IBC Section 1704.4	Y/N	EXTENT: CONTINUOUS, PERIODIC, SUBMITTAL, OR NONE	COMMENTS	AGENT	AGENT QUALIFICATION	DATE	INITIAL
1. Inspection of reinforcing steel, including prestressing tendons, and placement	Y	P	ACI 318: 3.5, 7.1-7.7	SI1	PE/SE or EIT	6/09- 1/10	NRM
2. Inspection of reinforcing steel welding in accordance with Table 1704.3, Item 5B	N		Welding of Reinf Not Allowed	TA1	AWS-CWI		
3. Inspect bolts to be installed in concrete prior to and during placement of concrete where allowable loads have been increased	N	C	IBC 1912.5	SI1	PE/SE or EIT		
4. Verifying use of required design mix	Y	P	ACI 318: Ch 4, 5.2-5.4	SI1	PE/SE or EIT	6/09-1/10	NRM
5. At time fresh concrete is sampled to fabricate specimens for strength test, perform slump and air content test and temperature	Y	C	ASTM C 172 ASTM C 31 ACI 318: 5.6, 5.8	TA1	ACI-CFTT or ACI-STT	6/9-1/10	NRM
6. Inspection of concrete and shotcrete placement for proper application techniques	Y	C	ACI 318: 5.9, 5.10	SI1	PE/SE or EIT	6/9-1/10	NRM
7. Inspection for maintenance of specified curing temperature and techniques	Y	P	ACI 318: 5.11-5.13	SI1	PE/SE or EIT	6/9-1/10	NRM
8. Inspection of Prestressed Concrete							
a. Application of prestressing force.	N	C	ACI 318: 18.20	SI1	PE/SE or EIT		
b. Grouting of bonded prestressing tendons in seismic force resisting system	N	C	ACI 318: 18.18.4	SI1	PE/SE or EIT		
9. Erection of precast concrete members	N	P	ACI 318: Ch 16	SI1	PE/SE or EIT		
10. Verification of in-situ concrete strength, prior to stressing of tendons in post-tensioned concrete and prior to removal of shores and forms beans and structural slabs	N	P	ACI 318: 6.2	TA1	ACI-STT		

Concrete Construction has been reviewed in accordance with section 1704.4 of the IBC Code

Special Inspector NRM Date 2/11/10

BECKER
structural engineers, inc.

03300

Project:	PowerPay Office S.I.
Location:	Portland, ME
Becker Job No:	2120

OBSERVATION REPORT
Cast in Place Concrete

Date:	6-16-09
Time:	3:00 PM
Temp:	70 F
Weather:	Inside - dry

Observation Location: footings PA/P1 through PC/P3

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	☒	☐	☐	☐	
Quantity	☒	☐	☐	☐	
Condition	☒	☐	☐	☐	
Placement	☒	☐	☐	☐	
Embed/Anchors	☒	☐	☐	☐	PB/P1 to be omitted
Lap Splices	☐	☐	☐	☒	
Hot Weather	☐	☐	☐	☒	
Cold Weather	☐	☐	☐	☒	
Bond Beams	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	

Notes:

Signed: Nathan Merrill, E.I.

75 York Street, Portland, ME 04101-4701 ■ Tel 207-879-1838 ■ Fax 207-879-1822

BECKER
structural engineers, inc.

03300

Project:	PowerPay Office S.I.
Location:	Portland, ME
Becker Job No:	2120

OBSERVATION REPORT
Cast in Place Concrete

Date:	6-17-09
Time:	10:00 AM
Temp:	70 F
Weather:	Indoors - dry

Observation Location: footings PD/P1 through PF/P3 and PB/P1

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	☒	☐	☐	☐	
Quantity	☒	☐	☐	☐	
Condition	☒	☐	☐	☐	
Placement	☒	☐	☐	☐	
Embed/Anchors	☒	☐	☐	☐	PF/P1 to be omitted
Lap Splices	☐	☐	☐	☒	
Hot Weather	☐	☐	☐	☒	
Cold Weather	☐	☐	☐	☒	
Bond Beams	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	

Notes:

Signed: Nathan Merrill, E.I.

75 York Street, Portland, ME 04101-4701 ■ Tel 207-879-1838 ■ Fax 207-879-1822

BECKER
structural engineers, inc.

03300

Project:	PowerPay Office S.I.
Location:	Portland, ME
Becker Job No:	2120

OBSERVATION REPORT
Cast in Place Concrete

Date:	6-19-09
Time:	8:00 AM
Temp:	70 F
Weather:	Indoors - dry

Observation Location: footings PG/P1 through PK/P4, PF/P1, and footings for exercise room

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	☒	☐	☐	☐	
Quantity	☒	☐	☐	☐	
Condition	☒	☐	☐	☐	
Placement	☒	☐	☐	☐	
Embed/Anchors	☒	☐	☐	☐	PH/P1, PH/P3, and double column pier to be omitted
Lap Splices	☐	☐	☐	☒	
Hot Weather	☐	☐	☐	☒	
Cold Weather	☐	☐	☐	☒	
Bond Beams	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	

Notes:

Signed: Nathan Merrill, E.I.

75 York Street, Portland, ME 04101-4701 ■ Tel 207-879-1838 ■ Fax 207-879-1822

BECKER
structural engineers, inc.

03300

Project:	PowerPay Office S.I.
Location:	Portland, ME
Becker Job No:	2120

OBSERVATION REPORT
Cast in Place Concrete

Date:	6-24-09
Time:	8:00 AM
Temp:	70 F
Weather:	Indoors - dry

Observation Location: footings CA/C1 through CC/C6 and PH/P3

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	☒	☐	☐	☐	
Quantity	☒	☐	☐	☐	
Condition	☒	☐	☐	☐	
Placement	☒	☐	☐	☐	
Embed/Anchors	☒	☐	☐	☐	
Lap Splices	☐	☐	☐	☒	
Hot Weather	☐	☐	☐	☒	
Cold Weather	☐	☐	☐	☒	
Bond Beams	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	

Notes:

Signed: Nathan Merrill, E.I.

75 York Street, Portland, ME 04101-4701 ■ Tel 207-879-1838 ■ Fax 207-879-1822

BECKER
structural engineers, inc.

03300

Project:	PowerPay Office S.I.
Location:	Portland, ME
Becker Job No:	2120

OBSERVATION REPORT
Cast in Place Concrete

Date:	7-2-09
Time:	3:00 PM
Temp:	60 F
Weather:	Indoors - dry

Observation Location: single footing at Elm St entrance, pier @ P1/PH, and pier @ double column

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	☒	☐	☐	☐	
Quantity	☒	☐	☐	☐	
Condition	☒	☐	☐	☐	
Placement	☒	☐	☐	☐	
Embed/Anchors	☒	☐	☐	☐	
Lap Splices	☐	☐	☐	☒	
Hot Weather	☐	☐	☐	☒	
Cold Weather	☐	☐	☐	☒	
Bond Beams	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	

Notes:
Concrete placement in Cumberland Ave and Preble St wings completed, area in "knuckle" (between grids PA and C6) remain.

Signed: Nathan Merrill, E.I.

75 York Street, Portland, ME 04101-4701 ■ Tel 207-879-1838 ■ Fax 207-879-1822

BECKER
structural engineers, inc.

03300

Project:	PowerPay Office S.I.
Location:	Portland, ME
Becker Job No:	2120

OBSERVATION REPORT
Cast in Place Concrete

Date:	7-10-09
Time:	10:00 AM
Temp:	70 F
Weather:	Sunny - dry

Observation Location: Strip footings for exterior radius foundation wall between existing grids W1 & N2

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	☒	☐	☐	☐	
Quantity	☐	☒	☐	☐	See notes beliw
Condition	☐	☒	☐	☐	See notes below
Placement	☒	☐	☐	☐	
Embed/Anchors	☒	☐	☐	☐	
Lap Splices	☐	☐	☐	☒	
Hot Weather	☐	☐	☐	☒	
Cold Weather	☐	☐	☐	☒	
Bond Beams	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	

Notes:
Quantity of reinforcement in retaining wall footing between existing grids N1.6 & A2.5 unsatisfactory, G/C is aware and will provide photo of completed work prior to placement. Cover of same reinforcement was noted as insufficient. G/C noted concrete bricks will be used to raise bar to obtain adequate cover. Photo will be provided prior to placement.

Signed: Nathan Merrill, E.I.

75 York Street, Portland, ME 04101-4701 ■ Tel 207-879-1838 ■ Fax 207-879-1822

BECKER
structural engineers, inc.

03300

Project:	PowerPay Office S.I.
Location:	Portland, ME
Becker Job No:	2120

OBSERVATION REPORT
Cast in Place Concrete

Date:	7-16-09
Time:	8:00 AM
Temp:	60 F
Weather:	Cloudy - dry

Observation Location: Exterior radius foundation wall between existing grids W1 & N2

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	☒	☐	☐	☐	See notes below
Quantity	☒	☐	☐	☐	
Condition	☒	☐	☐	☐	
Placement	☒	☐	☐	☐	
Embed/Anchors	☒	☐	☐	☐	
Lap Splices	☐	☐	☐	☒	
Hot Weather	☐	☐	☐	☒	
Cold Weather	☐	☐	☐	☒	
Bond Beams	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	

Notes:
In place vertical reinforcement for radius wall between exist piers N1/A2.5 & N1.6/A1.2 where observed to be #4@12" o.c., detailed in construction documents as #5@12" o.c. G/C proposed installing additional #5@24"o.c. This is an adequate solution to provide required amount of reinforcement. Observed installation of additional bars.

Signed: Nathan Merrill, E.I.

75 York Street, Portland, ME 04101-4701 ■ Tel 207-879-1838 ■ Fax 207-879-1822

BECKER
structural engineers, inc.

03300

Project:	PowerPay Office S.I.
Location:	Portland, ME
Becker Job No:	2120

OBSERVATION REPORT
Cast in Place Concrete

Date:	8-7-09
Time:	3:00 PM
Temp:	75 F
Weather:	Indoors - dry

Observation Location: Interior slab infill from grid line PG to grid line PJ, at extended café terrace, café kitchen and at Manager Office 115 and 116.

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	☒	☐	☐	☐	
Quantity	☒	☐	☒	☐	see notes below
Condition	☒	☐	☐	☐	
Placement	☒	☐	☐	☐	
Embed/Anchors	☒	☐	☐	☐	
Lap Splices	☐	☐	☐	☒	
Hot Weather	☐	☐	☐	☒	
Cold Weather	☐	☐	☐	☒	
Bond Beams	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	

Notes:
At many locations dowels were omitted at joint where existing/new slabs meet. G/C made it known that dowels would be installed prior to placement. Also, continuous #4 bar was omitted in nosing of new slab steps. G/C made it known that bar would be installed prior to placement. Follow-up inspection scheduled for morning of placement to verify. G/C was reminded of note on S1.1 that plan layout of contraction joints must be submitted for engineer review and that joints are to be cut/tooled per ACI requirements.

Signed: Nathan Merrill, E.I.

75 York Street, Portland, ME 04101-4701 ■ Tel 207-879-1838 ■ Fax 207-879-1822

BECKER
structural engineers, inc.

03300

Project:	PowerPay Office S.I.
Location:	Portland, ME
Becker Job No:	2120

OBSERVATION REPORT
Cast in Place Concrete

Date:	8-10-09
Time:	10:30 AM
Temp:	75 F
Weather:	Indoors - dry

Observation Location: Interior slab infill from grid line PD to grid line PG.

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	☒	☐	☐	☐	
Quantity	☒	☐	☐	☐	
Condition	☒	☐	☐	☐	
Placement	☒	☐	☐	☐	
Embed/Anchors	☒	☐	☐	☐	
Lap Splices	☐	☐	☐	☒	
Hot Weather	☐	☐	☐	☒	
Cold Weather	☐	☐	☐	☒	
Bond Beams	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	

Notes:

Signed: Nathan Merrill, E.I.

75 York Street, Portland, ME 04101-4701 ■ Tel 207-879-1838 ■ Fax 207-879-1822

BECKER
structural engineers, inc.

03300

Project:	PowerPay Office S.I.
Location:	Portland, ME
Becker Job No:	2120

OBSERVATION REPORT
Cast in Place Concrete

Date:	8-19-09
Time:	11:30 AM
Temp:	75 F
Weather:	Indoors - dry

Observation Location: Interior slab infill from grid line PA to grid line PD.

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	☒	☐	☐	☐	
Quantity	☒	☐	☐	☐	
Condition	☒	☐	☐	☐	
Placement	☒	☐	☐	☐	
Embed/Anchors	☒	☐	☐	☐	
Lap Splices	☐	☐	☐	☒	
Hot Weather	☐	☐	☐	☒	
Cold Weather	☐	☐	☐	☒	
Bond Beams	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	

Notes:

Signed: Nathan Merrill, E.I.

75 York Street, Portland, ME 04101-4701 ■ Tel 207-879-1838 ■ Fax 207-879-1822

BECKER
structural engineers, inc.

03300

Project:	PowerPay Office S.I.
Location:	Portland, ME
Becker Job No:	2120

OBSERVATION REPORT
Cast in Place Concrete

Date:	8-26-09
Time:	9:00 AM
Temp:	75 F
Weather:	Indoors - dry

Observation Location: Elevated slab from grid C1-C6 & "knuckle" between grid C6 & PA

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	☒	☐	☐	☐	
Quantity	☒	☐	☐	☐	
Condition	☒	☐	☐	☐	
Placement	☐	☒	☐	☐	see note below
Embed/Anchors	☒	☐	☐	☐	
Lap Splices	☐	☐	☐	☒	
Hot Weather	☐	☐	☐	☒	
Cold Weather	☐	☐	☐	☒	
Bond Beams	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	

Notes:
At slab penetrations, reinforcing bars at opening were observed to be oriented incorrectly with respect to metal deck span. G/C made it known bars would be relocated prior to placement. Notified G/C welded wire fabric was observed at numerous locations with insufficient cover. G/C made it known that chairs would be placed below fabric at locations of insufficient cover prior to placement.

Signed: Nathan Merrill, E.I.

75 York Street, Portland, ME 04101-4701 ■ Tel 207-879-1838 ■ Fax 207-879-1822

BECKER
structural engineers, inc.

03300

Project:	PowerPay Office S.I.
Location:	Portland, ME
Becker Job No:	2120

OBSERVATION REPORT
Cast in Place Concrete

Date:	9-2-09
Time:	4:00 PM
Temp:	75 F
Weather:	Indoors - dry

Observation Location: Slab on grade between grid C3-C6

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	☒	☐	☐	☐	
Quantity	☒	☐	☐	☐	
Condition	☒	☐	☐	☐	
Placement	☒	☐	☐	☐	
Embed/Anchors	☐	☐	☐	☒	
Lap Splices	☐	☐	☐	☒	
Hot Weather	☐	☐	☐	☒	
Cold Weather	☐	☐	☐	☒	
Bond Beams	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	

Notes:

Signed: Nathan Merrill, E.I.

75 York Street, Portland, ME 04101-4701 ■ Tel 207-879-1838 ■ Fax 207-879-1822

Corporate Office
38 Preble St. P.O. Box 1521
Portland, Maine 04101
207-774-6355 Fax 207-761-5694

June 3, 2009

Wright-Ryan Construction
10 Danforth Street
Portland, ME 04101

RE: Power Pay Offices

Dear Sirs,

Enclosed please find a copy of the mix designs and a trailer card for the above reference project:

Mix #1	3000 psi, ¾-inch	Optional: Mid-range
Mix #2	3000 psi, ¾-inch, No Air	Optional: Mid-range
Mix #3	4500 psi, ¾-inch	Optional: Mid-range

In order to better assure you that the approved design mix is shipped, please note that Dragon Products will not ship concrete until a stamped approved submittal has been received by Dragon Products. Be sure to use the above **mix number and description** when ordering concrete for your project. Please be sure that the appropriate personnel on your project have this mix design information.
WARNING: Plastic concrete is a highly corrosive material with an alkalinity level of ph 12 to ph 13. If not handled properly it can cause severe alkali burns. Please see enclosed Material Safety Data Sheet for further information.

Please include us on the distribution list for any concrete test reports that are generated from this project. If you have any questions of I can be of any further assistance, please do not hesitate to contact me at 207-774-6355.

Sincerely,

Mark West
Technical Services

Enclosure
cc: Phil Nunley

DRAGON®
PRODUCTS COMPANY

PROJECT MIX DESIGN
TRAILER CARD

Power Pay Offices
Wright-Ryan

Mix No.	Strength (psi)	Agg. Size	Description	Optional Admixtures
1	3000	¾-inch		Mid-range
2	3000	¾-inch	No Air	Mid-range
3	4500	¾-inch		Mid-range

Supplied by: Dragon Concrete

Dispatch:
800-773-2951

Area Rep: Phil Nunley
Tech. Services: Mark West
207-774-6355

Power Pay Offices
Wright-Ryan

Mix No.	Strength (psi)	Agg. Size	Description	Optional Admixtures
1	3000	¾-inch		Mid-range
2	3000	¾-inch	No Air	Mid-range
3	4500	¾-inch		Mid-range

Supplied by: Dragon Concrete

Dispatch:
800-773-2951

Area Rep: Phil Nunley
Tech. Services: Mark West
207-774-6355

Dragon Products Company, Inc.
Material Safety Data Sheet
For
Ready Mix Concrete
October 2002

Section I – Identity

Material Name:	Portland cement concrete
Manufacturer's Name:	Dragon Products Company, Inc.
Address:	38 Prebble Street, PO Box 1521 Portland, ME 04101
Chemical Name:	Not Applicable
Chemical Family:	Portland cement product
Chemical Formula:	Mixture cementitious material, aggregates and water
Trade Name & Synonyms:	Ready mix concrete; concrete
Molecular Weight:	Not Applicable
Material Use:	Construction materials

Section II – Hazardous Ingredients

Concrete is a mixture of inert gravel or rock, sand, portland cement and water. It may also contain chemical admixtures, and/or flyash, and/or granulated slag, and/or silica fume, and/or color pigment. The chemical admixtures are present in quantities comprising less than 2% of the material.

Hazardous Ingredients

Portland cement (CAS 65997-15-1)	10 – 20%
Quartz (SiO_3) (CAS 14808-60-7)	3 – 7%
Portlandite ($Ca(OH)_2$) (CAS 1305-62-0)	2 – 4%

The hazardous ingredients in plastic (wet) concrete cannot become airborne. However, water added to the materials reacts with some of the ingredients to form calcium hydroxide, a corrosive chemical, which will irritate the eyes and skin upon contact. Concrete dust from dried portland cement concrete may also contain hazardous ingredients in sufficient concentrations to cause skin, eye, or respiratory irritation.

Section III – Physical Data

Boiling Point (°F.)	N/A
Vapor Pressure (mm Hg.)	N/A

Vapor Density (Air=1)	N/A
Solubility in water	0.1%
pH	12 – 13
Specific Gravity (H_2O=1)	1.5 – 2.9
Percent, Volatile By Volume (%)	N/A
Evaporation Rate	N/A
Appearance and Odor	Gray unless color pigment has been added.

Section IV – Fire and Explosion Hazard Data

N/A

Section V – Health Hazard Data

(a) Plastic Concrete

Toxicological Properties

Plastic concrete has an alkalinity level of pH12 to pH13.

Route of Entry:	Skin contact, eye contact, ingestion.
Effects of Acute Exposure:	Plastic concrete can cause dry skin, alkali burns, eye irritations and burns. Ingestion my cause irritation of the throat.
Effects of Chronic Exposure:	Damage to the epidermis and dermis (outer layers of skin).

(b) Hardened or "Set" Concrete

Toxicological Properties

In place, hardened concrete does not present a health hazard. Sawing or other demolition techniques may result in exposure to dust, which may contain portland cement, portlandite, quartz, and trace admixtures. The ingredients in concrete

Section V – Health Hazard Data (Cont'd)

dust, when in contact with water or perspiration, may cause the same health effects as plastic concrete.

The following information concerns dry concrete dust:

Route of Entry:	Skin contact, eye contact, inhalation, and ingestion.
Effects of Acute Exposure:	Concrete dusts can cause dry skin and skin, eye, and upper respiratory tract irritation.

Effects of Chronic Exposure: Concrete dust can cause inflammation of the tissue lining, the interior of the nose and the cornea (white) of the eye. Hypersensitive people may develop allergic dermatitis.

Chronic exposure to respirable dust containing quartz at levels exceeding exposure limits has caused silicosis.

Section VI – First Aid Measures

Wash exposed areas of the body with soap and water. Irrigate eyes with large amounts of water. Consult a physician in cases of severe exposure. In case of accidental ingestion, drink two or three glasses of milk, call a physician and do not induce vomiting.

Section VII – Reactivity Data

Stability:	Product is stable
Conditions to Avoid:	N/A
Incompatibility (Materials to avoid):	Acids
Hazardous Decomposition Products:	N/A
Hazardous Polymerization:	Will not occur
Conditions to Avoid:	N/A

Section VIII – Spill or Leak Procedures

Leak and Spill Procedure: Sweep and shovel into waste disposal containers. Flush with water hose for final clean-up of floors, walkways, etc. Ready mixed concrete or flushing water should not be allowed to reach surface water (rivers, lakes, streams).

Waste Disposal: At approved landfill or waste disposal sites in accordance with all applicable state, federal and local regulations.

Section IX – Special Protection Information

Personal Equipment:

Use gloves, boots and clothing to prevent skin contact. Wear safety glasses or goggles to prevent contact with eyes. Wear an approved respirator if exposed to dust from hardened concrete when sawing or using other demolition methods.

Engineering Controls:

Provide ventilation when sawing or using other demolition techniques to maintain dust concentrations below exposure limits.

Section X – Special Precautions

See: Section V – Health Hazard Data
Section VIII – Spill and Leak Procedures
Section IX – Special Protection Information

The information contained herein is based on knowledge believed to be reliable, but Dragon Products Company makes no warranties, expressed or implied, as to the accuracy or adequacy thereof. Nothing herein excused the recipient hereof from such duties as shall be imposed by the Occupational Safety & Health Act of 1970 and regulations issued pursuant thereto.

Corporate Offices
38 Preble St. • P.O. Box 1521
Portland, Maine 04104
207-774-6355 • Fax 207-761-5694

seeMIX II Mix Report
304120
Strength Compressive:3,000 psi
6/3/2009

Contractor : WRIGHT - RYAN CONSTRUCTION
Project : POWER PAY OFFICES
Source of Concrete : DRAGON PRODUCTS COMPANY
Construction Type : MIX #1
Placement : CHUTE, PUMP

Weights per Cubic Yard (Saturated, Surface-Dry)

	Quantity	Density	Yield, ft³
DRAGON, TYPE II, lb	300	3.150	1.53
LAFARGE, NEWCEM, lb	200	2.820	1.14
Water, lb	265	1.000	4.25
3/4" QUARRY STONE, ASTM C-33, lb	1,750	2.700	10.39
FINE AGGREGATE, ASTM C-33, lb	1,348	2.650	8.15
BASF: GLENIUM 7500, oz (US)	7.5	1.000	0.01
BASF: AE-90, oz (US)	2.5	1.000	0.00
(OPTIONAL) BASF: G-7500, MID RANGE DOSE, oz +	12.5	1.000	0.01
Total Air, %	6.0 ± 1.5		1.63
		TOTAL	27.10

Water/Cement Ratio, lbs/lb	0.53
Slump, High, in	4.00
Low, in	2.00
Concrete Unit Weight, pcf	142.61
Yield, %	100.4

Exposure Condition : Severe exposure

6" MAX SLUMP WITH MID-RANGE

Prepared by :

Mark R. West
TECHNICAL SERVICES

Corporate Offices
38 Preble St. • P.O. Box 1521
Portland, Maine 04104
207-774-6355 • Fax 207-761-5694

seeMIX II Mix Report
304145
Strength Compressive:3,000 psi
6/3/2009

Contractor : WRIGHT - RYAN CONSTRUCTION
Project : POWER PAY OFFICES
Source of Concrete : DRAGON PRODUCTS COMPANY
Construction Type : MIX #2
Placement : CHUTE, PUMP

Weights per Cubic Yard (Saturated, Surface-Dry)

	Quantity	Density	Yield, ft³
DRAGON, TYPE II, lb	312	3.150	1.59
LAFARGE, NEWCEM, lb	208	2.820	1.18
Water, lb	280	1.000	4.49
3/4" QUARRY STONE, ASTM C-33, lb	1,800	2.700	10.68
FINE AGGREGATE, ASTM C-33, lb	1,421	2.650	8.60
BASF: GLENIUM 7500, oz (US)	7.8	1.000	0.01
(OPTIONAL) BASF: G-7500, MID-RANGE DOSE, oz +	13.0	1.000	0.01
Total Air, %	2.0 ± 1.5		0.54
		TOTAL	27.10

Water/Cement Ratio, lbs/lb	0.54
Slump, High, in	4.00
Low, in	2.00
Concrete Unit Weight, pcf	148.44
Yield, %	100.4

6" MAX SLUMP WITH MID-RANGE
AIR CONTENT MAY EXCEED 3% WITH MID-RANGE

Prepared by : Mark R. West
TECHNICAL SERVICES

Corporate Offices
38 Preble St. • P.O. Box 1521
Portland, Maine 04104
207-774-6355 • Fax 207-761-5694

seeMIX II Mix Report
454110
Strength Compressive:4,500 psi
6/3/2009

Contractor : WRIGHT - RYAN CONSTRUCTION
Project : POWER PAY OFFICES
Source of Concrete : DRAGON PRODUCTS COMPANY
Construction Type : MIX #3
Placement : CHUTE

Weights per Cubic Yard (Saturated, Surface-Dry)	Quantity	Density	Yield, ft³
DRAGON, TYPE II, lb	378	3.150	1.92
LAFARGE, NEWCEM, lb	252	2.820	1.43
Water, lb	265	1.000	4.25
3/4" QUARRY STONE, ASTM C-33, lb	1,830	2.700	10.86
FINE AGGREGATE, ASTM C-33, lb	1,154	2.650	6.98
BASF: GLENIUM 7500, oz (US)	9.5	1.000	0.01
BASF: AE-90, oz (US)	3.2	1.000	0.00
(OPTIONAL) BASF: G-7500, MID-RANGE DOSE, oz +	15.8	1.000	0.02
Total Air, %	6.0 ± 1.5		1.63
		TOTAL	27.10

Water/Cement Ratio, lbs/lb	0.42
Slump, High, in	4.00
Low, in	2.00
Concrete Unit Weight, pcf	143.22
Yield, %	100.4

Exposure Condition : Severe exposure

6" MAX SLUMP WITH MID-RANGE

Prepared by : Mark R. West
TECHNICAL SERVICES

DRAGON® PRODUCTS COMPANY

Summit Geoengineering Services
434 Cony Road, Augusta, Maine 04330
Phone: (207) 621-8334 Fax: (207) 626-9094

Project Name: MTA Administration Building - Portland, Maine
Client: HNTB Corporation
Supplier: Dragon

Project Number: 14022
Mix Designation: 3/4" Aggregate
Design Strength: 3,000 psi

Cylinder Set Number	Date Cast	Slump (inches)	Air Content (%)	Concrete Temp. °F	3 Day Result (psi) AVG.	7 Day Result (psi) AVG.	14 Day Result (psi) AVG.	28 Day Result (psi)	28 Day Result (psi)	28 Day AVG. (psi)	Range	Design Strength (PSI)	3 Test 28 Day Moving Ave.	28 Day Running Average	LOCATION OF PLACEMENT
C3-FC	22-Feb	4-3/4*	6.4	55		2760		4040	3910	3975	130	3,000		3975	Foundation footings entire 2 line and 1B to 2 line
C3	22-Feb	4-3/4*	6.4	55		2920		4270	4210	4240	60	3,000		4108	Foundation footings entire 1 line and 1B to 2 line
C4-FC	26-Feb	3-3/4*	6.4	64		3310		4720	4570	4645	150	3,000	4287	4287	Foundation footings A and B lines
C4	26-Feb	3-3/4*	6.4	64		3350		4810	4720	4765	90	3,000	4550	4406	Foundation footings A and B lines
C5-FC	29-Feb	5-1/4*	6.2	51		3750		5130	5090	5110	40	3,000	4840	4547	Foundation footings A and B4 line to 6 line, 6 line to C line
C5	29-Feb	5-1/4*	6.2	51		3710		5160	4870	5015	290	3,000	4963	4625	Foundation footings A and B4 line to 6 line, 6 line to C line
C8	12-Mar	3 3/4"	6.0	63		2820		4170	4110	4140	60	3,000	4755	4556	Footing Line 6C to E4
C8-FC	12-Mar	3 3/4	6	63		2440		4020	3850	3935	170	3,000	4363	4478	Footing Line 6C to E5
C12	27-Mar	4	6.2	65		3190		4450	4340	4395	110	3,000	4157	4469	Foundation footings, E-line from 5 to 3
C12-FC	27-Mar	4	6.2	65		2440		4120	4050	4085	70	3,000	4138	4431	Foundation footings, E-line from 5 to 3
C16	7-Apr	3 1/2	5	63		3840		5500	5450	5475	50	3,000	4652	4525	Finish Line E Footings
C16-FC	7-Apr	3 1/2	5	63		3200		4850	4710	4780		3,000	4780		Finish Line E Footings
C23	18-Apr	4 1/4	7.4	67		2860		4050	3840	3945	210	3,000	4733	3657	F5 - T Footings (Upper Portions) on D2 and C2.5
C23-FC	18-Apr	4 1/4	7.4	67		2790		3830	3620	3725	210	3,000	4150	3661	F5 - T Footings (Upper Portions) on D2 and C2.5
C24	18-Apr	4 1/4	6.4	64		3010		4250	4070	4160	180	3,000	3943	3688	F5 - T Footings (Upper Portions) on D2 and C2.5
C24-FC	18-Apr	4 1/4	6.4	64		2420		3920	3830	3875	90	3,000	3920	3698	F5 - T Footings (Upper Portions) on D2 and C2.5
C25	23-Apr	5	4	70		2890		4290	4270	4280	20	3,000	4105	3727	Front Entrance - East Side Footings
C25-FC	23-Apr	5	4	70		2230	2880	3990		1995	3990	3,000			Front Entrance - East Side Footings
C26	24-Apr	4	6	68		3330		4770	4610	4690	160	3,000	3655	3692	F8 - T Footing on Line D-5
C26F	24-Apr	4	6	68		2900		4530	4480	4505		3,000	3730		F8 - T Footing on Line D-5
C27	2-May	5	6	65		2580	3280	4120	4050	4085	70	3,000	3590	3905	F5 - T Footing, Line D - 3.1; F6 - T Footing, Line D + 3.9
C27-FC	2-May	5	6	65		2290	3500	4080	4000	4040	80	3,000	4272	3911	F5 - T Footing, Line D - 3.1; F6 - T Footing, Line D + 3.9
C28	28-Apr	4 1/2	6	62		3850		5590	5480	5535	110	3,000	4553	3976	Interior Footings 5C, 3.9C, 3.1C
C28-FC	28-Apr	4 1/2	6	62		3080		5540	5480	5510	60	3,000	5028	4035	Interior Footings 5C, 3.9C, 3.1C
C32	7-May	4	6	70		3350		4890	4580	4735	310	3,000	5260	4061	Loading Dock Foundation Footings
C32-FC	7-May	4	6	70		2760		4020	3700	3860	320	3,000	4702	4054	
C37	20-Jun	7	6	75		3590						3000			Foundation For Patio
C44	2-Jul	6*	5.3	82.3		3270						3000			Patio foundation footing

FOR ACCEPTABLE CONCRETE, ACI STATES THAT THE AVERAGE OF ALL SETS OF THREE CONSECUTIVE STRENGTH TESTS EQUAL OR EXCEED THE SPECIFIED STRENGTH, AND THAT NO INDIVIDUAL STRENGTH TEST (AVERAGE OF TWO CYLINDERS) FALLS BELOW THE SPECIFIED STRENGTH BY MORE THAN 500 PSI.

Remarks: *Denotes slump after addition of superplasticizer.

PAYNE ROAD BRIDGE - 4500 PSI
Mix: WK454180PAYNERD F'c: 4500 psi
09/10/08

MIX DESCRIPTION
==========

WK454180PAYNERD ---------- 4500 psi ---------- 0/ 0/ 0

Sample Date	Sample ID	Air Tmp deg F	Con Tmp deg F	Air Cont %	Slump in	7 day Comp psi	28 day Comp psi	Moving Avg: 3 28 day Comp psi
12/ 1/ 5	01	42	61	6.5	5.00	4360	5540	-
12/ 9/ 5	02	24	71	5.8	4.00	3390	5575	-
12/21/ 5	03	27	70	6.9	4.50	3900	6065	5727
1/ 3/ 6	04	28	59	6.9	4.75	4170	5570	5737
1/ 9/ 6	05	20	62	5.5	6.50	4080	5375	5670
5/17/ 6	06	58	62	5.8	3.75	4590	6060	5668
5/17/ 6	07	69	64	5.4	5.75	4030	5965	5800
6/23/ 6	09	71	73	6.6	5.50	3460	4670	5565
8/16/ 6	10	80	74	5.9	6.75	3640	5690	5442
8/18/ 6	11	84	78	6.3	6.00	4090	5360	5240
8/24/ 6	12	72	74	6.1	7.00	3890	5520	5523
8/28/ 6	13	76	74	6.6	6.75	3980	5700	5527
8/31/ 6	14	72	75	5.1	4.50	4050	6050	5757
9/12/ 6	15	62	64	5.8	7.50	4690	5435	5728
9/12/ 6	16	66	67	6.0	6.25	3760	5515	5667
9/14/ 6	17	71	71	5.4	5.25	4380	5620	5523
9/15/ 6	18	72	76	6.2	6.25	3460	5850	5662
9/19/ 6	19	73	71	5.8	5.50	3950	6405	5958
9/20/ 6	20	67	71	6.3	6.50	4580	5935	6063
9/22/ 6	21	68	70	5.8	7.50	3320	5180	5840
10/13/ 6	22	68	68	7.0	8.00	4180	6035	5717
10/16/ 6	23	68	70	7.0	5.50	4110	5785	5667
10/17/ 6	24	68	60	6.2	5.50	4210	5560	5793
10/25/ 6	25	68	69	6.0	4.25	4380	6035	5793
10/25/ 6	26	68	61	5.5	5.50	4110	6040	5878
10/25/ 6	27	68	61	5.8	4.75	4170	6445	6173
10/31/ 6	28	68	65	7.0	5.50	4690	6340	6275
11/ 3/ 6	29	68	60	7.3	5.50	3290	5605	6130
1/29/ 7	30	-	59	6.8	5.25	3960	5175	5707
1/29/ 7	31	-	57	7.0	8.00	4050	5120	5300
2/ 1/ 7	32	-	56	6.8	5.50	4250	5465	5253
2/22/ 7	33	-	60	5.4	4.00	3330	4745	5110
2/22/ 7	34	-	50	5.6	5.50	3220	5005	5072

Concrete Test Report Summary

Sample Date	Sample ID	Air Tmp deg F	Con Tmp deg F	Air Cont %	Slump in	7 day Comp psi	28 day Comp psi	Moving Avg: 3 28 day Comp psi
2/28/ 7	35	-	66	6.8	6.00	4440	5760	5170
2/28/ 7	36	-	60	6.8	5.00	4270	5155	5307
3/12/ 7	37	-	53	5.2	6.00	4260	5150	5355
3/15/ 7	38	-	61	6.3	6.00	3580	4860	5055
3/19/ 7	39	-	54	6.8	5.25	4200	6065	5358
3/19/ 7	40	-	54	6.8	5.25	4030	6030	5652
3/22/ 7	41	-	70	6.8	5.50	4760	6540	6212
3/28/ 7	42	-	58	6.0	5.00	4450	5735	6102
5/ 4/ 7	43	-	63	5.5	6.50	5260	6075	6117
5/ 7/ 7	44	-	67	6.6	6.50	4390	6025	5945
5/23/ 7	45	-	60	5.3	7.00	5410	5900	6000
5/23/ 7	46	-	61	5.5	4.00	5570	5835	5920
5/23/ 7	47	-	60	5.3	5.00	4880	5475	5737
6/ 8/ 7	48	-	69	5.4	5.50	5130	6660	5990
Count		28	47	47	47	47	47	45
Average		62	65	6.2	5.68	4178	5696	5686
Standard Deviation		17	7	0.6	1.03	543	460	319
Range		20	50	5.1	3.75	3220	4670	5055
		84	78	7.3	8.00	5570	6660	6275
Coefficient of Variation		27.61	10.49	10.07	18.11	13.01	8.07	5.61

DRAGON PRODUCTS COMPANY
P.O. Box 191, U.S. Route 1 • Thomaston, Maine 04861 • 207-594-5555

March 13, 2009

Dragon Products Company
38 Preble Street
PO Box 1521
Portland, Maine 04104

Attn: Mark West,

At your request, we are supplying the following certification in accordance with the proposed usage of Dragon Products Company's Portland Cement, Type I/II.

It is herein certified that Dragon Products Company's Portland Cement, Type I/II, as manufactured at Thomaston, Maine, meets the requirements of ASTM Specification C-150 for both Type I and Type II Portland Cements.

Dragon Products Company's Portland Cement, Type I/II conforms to the material requirements of ASTM Specification C-270 and when used with other materials and proportioning which meet the requirements of this Specification, produces mortar in compliance with ASTM Specification.C-270.

Very truly yours,

Jennifer K. Colburn

Jennifer K. Colburn
Quality Control Manager

Enclosure

DRAGON PRODUCTS COMPANY
P.O. Box 191, U.S. Route 1 • Thomaston, Maine 04861 • 207-594-5555

MILL TEST RESULTS
Laboratory at Thomaston, Maine

Date: May, 2009
Cement Type: I / II

CHEMICAL DATA	Percent
Silicon Dioxide	19.8
Aluminum Dioxide	4.0
Ferric Oxide	3.1
Calcium Oxide	61.7
Magnesium Oxide	3.5
Sulphur Trioxide	3.7
Loss on Ignition	1.4
Insoluble Residue	0.3
Tricalcium Silicate	59
Dicalcium Silicate	12
Tricalcium Aluminate	5
Sum of C3S + 4.75*C3A	85
Sodium Oxide	0.7
Potassium Oxide	1.0
Equivalent Alkalies	1.4

(Chemical Analysis all per ASTM C 114)

PHYSICAL DATA	
Specific Surface Blaine (sq m /kg) *(Per ASTM C 204)*	377
Percent Passing 325 Mesh. *(Per ASTM C 430)*	96.8
Compressive Strength (psi) *(Per ASTM C 109)*	
1 day	2270
3 day	3910
7 day	4980
28 day	
Vicat Setting Time *(Per ASTM C 191)*	
Initial (min.)	120
Final (min.)	230
Air Content (%) *(Per ASTM C 185)*	6.9
Autoclave Expansion (%) *(Per ASTM C 151)*	0.09
Expansion in water (%) *(Per ASTM C 1038)*	0.013
Heat of Hydration (%) *(Per ASTM C186)*	80

Certified by:

Jennifer K. Colburn

We hereby certify that this cement complies with current ASTM C 150, AASHTO M-85 and CSA A3001 Type GU specifications.

Testing was completed by Brian Secord and/or Richard Erickson.
This mill test report is generated for silos produced in the calendar month prior to the date upon this report.

LAFARGE
NORTH AMERICA

Cement

Annual NewCem Certification Statement - 2009

December 10, 2008

This is to certify that all NewCem® Ground Granulated Blast-Furnace Slag produced and distributed by Lafarge North America, from our Sparrows Point Plant, Baltimore, Maryland, complies with the current chemical and physical requirements of ASTM C 989-06, Grade 120 and AASHTO M 302-06, Grade 120.

No changes occurred to the formulation, manufacturing process, distribution facilities or product quality specifications during 2008.

Sincerely,

Thomas R. Griffiths

Digitally signed by Thomas R. Griffiths
DN: CN = Thomas R. Griffiths, C = US, O = Lafarge, OU = Sparrows Point Plant
Reason: I am the author of this document
Date: 2008.12.15 13:15:38 -05'00'

Thomas R. Griffiths
Quality Control Manager

US East Region
Sparrows Point Plant
2001 Wharf Road
Baltimore, MD 21219
Phone: (410) 388-1177
Fax: (410) 388-1206

LAFARGE NORTH AMERICA

NewCem

Mill Test Certificate - Sparrows Point Plant

Chemical

		Specification
Sulfide Sulfur (S), %:	1.1	2.5 max.
Sulfate Ion (as SO_3), %:	2.7	4.0 max.
Equivalent Alkalies, %:	0.55	n/a

Certification: NSF Certified to NSF/ANSI 61

Sample Identification

NewCem shipping composite sample results for the month of :

April-09

Physical

		Specification
Slag Activity Index, %:		
7 Day	112	95
28 Day	133	115
Compressive Strength, psi:		
7 Day	5,120	n/a
28 Day	7,083	n/a
Fineness:		
Blaine; cm^2/g	5,315	n/a
45 Micron:		
% retained	2	20 max.
Other:		
Air Content, %	3	12 max.
Specific Gravity:	2.93	n/a

This ground granulated blast furnace slag complies with the current specification of the chemical and physical requirements of ASTM C-989, AASHTO M-302; Grade 120. NewCem is guaranteed to meet all applicable MDOT, FDOT, GADOT, PennDOT, SCDOT, NJDOT, NY DOT and VADH specifications.

Lafarge North America
US East Region
Sparrows Point Plant
2001 Wharf Rd, Baltimore, MD 21219
Telephone: (410) 388-1177 x202

Thomas R. Griffiths
Quality Control Manager

5/8/2009
Date

DRAGON PRODUCTS COMPANY
COARSE AGGREGATE QUALITY & PHYSICAL PROPERTIES
SUMMARY SHEET

THE FOLLOWING TESTS WERE PERFORMED IN ACCORDANCE WITH THE APPLICABLE STANDARDS. THE REFERENCED SPECIFICATION IN ALL CASES IS ASTM C-33.

Source: Pike, Wells ¾" Blend

A. UNIT WEIGHT AND VOIDS IN AGGREGATE (ASTM C-29) DATE: 07-28-2005

Dry Rodded Unit Weight: 93.9 PCF

B. SOUNDNESS OF AGGREGATE (ASTM C-88) DATE: 07-28-2005

Solution Types: Sodium ____ Magnesium X

Loss: 1.6 % Specification: 18 %

C. LIGHTWEIGHT PARTICLES IN AGGREGATE (ASTM C-123) DATE: N/A

Sample: ____ % Specification: ____ %

D. SPECIFIC GRAVITY AND ABSORPTION (ASTM C-128) DATE: 05-16-2008

Specific Gravity (SSD): 2.78 Absorption: .45 %

E. LOS ANGELES ABRASION (ASTM C-131) DATE: 05-01-2008

Sample Loss: 21.5 % Specification: 50 % Max

F. CLAY LUMPS AND FRIABLE PARTICLES (ASTM C-142) DATE: 07-28-2005

Sample: 0.2 % Specification: 3.0 % Max

G. POTENTIAL ALKALI-AGGREGATE REACTIVITY (ASTM C-227) DATE: N/A

6-month mortar bar change in length: ____ %

H. POTENTIAL ALKALI-AGGREGATE REACTIVITY (ASTM C-1260) DATE: 07-28-2005

16-day change in length: 0.03 %

I. FLAT AND ELONGATED PARTICLES (ASTM C-4791) DATE: 07-28-2005

Percentage Fractured and Elongated: 1.1 %

PLEASE SEE ATTACHED FIELD TEST OF AGGREGATE FOR:
J. Materials Finer than No. 200 Sieve (ASTM C-117),
K. Sieve Analysis (ASTM C-136).
L. Moisture Content (ASTM C-566)

DRAGON PRODUCTS COMPANY
FINE AGGREGATE QUALITY & PHYSICAL PROPERTIES
SUMMARY SHEET

THE FOLLOWING TESTS WERE PERFORMED IN ACCORDANCE WITH THE APPLICABLE STANDARDS. THE REFERENCED SPECIFICATION IN ALL CASES IS ASTM C-33.

Source: Pike, Westbrook

A. UNIT WEIGHT AND VOIDS IN AGGREGATE (ASTM C-29) DATE: 3-12-2007

Dry Rodded Density: 89.3 PCF

B. SOUNDNESS OF AGGREGATE (ASTM C-88) DATE: 3-19-2007

Solution Types: Sodium _____ Magnesium X

Loss: 3.55 % Specification: 18 %

C. LIGHTWEIGHT PARTICLES IN AGGREGATE (ASTM C-123) DATE: N/A

Sample: _____ % Specification: _____ %

D. SPECIFIC GRAVITY AND ABSORPTION (ASTM C-128) DATE: 3-13-2007

Specific Gravity (SSD): 2.60 Absorption: 0.9 %

E. CLAY LUMPS AND FRIABLE PARTICLES (ASTM C-142) DATE: 3-19-2007

Sample: 0.9 % Specification: 3.0 % Max

F. POTENTIAL ALKALI-AGGREGATE REACTIVITY (ASTM C-227) DATE: N/A

6-month mortar bar change in length: _____ %

G. POTENTIAL ALKALI-AGGREGATE REACTIVITY (ASTM C-1260) DATE: 7-28-2005

16-day change in length: 0.03 %

PLEASE SEE ATTACHED FIELD TEST OF AGGREGATE FOR:
H. Materials Finer than No. 200 Sieve (ASTM C-117),
I. Sieve Analysis (ASTM C-136),
J. Organic Impurities (ASTM C40),
K. Moisture Content (ASTM C566).

FIELD TESTS of AGGREGATES

Fine Aggregate: Source: Pike, Westbrook

Sieve Size:	Weight Retained	Percent Retained	Percent Passing	Specified Range
3/8"			100	100
#4			96.2	95 -100
#8			92	80 - 100
#16			78.1	50 - 85
#30			46.5	25 - 60
#50			14.7	5 - 30
#100			4.1	0 - 10
pan		FM:	2.68	2.3 - 3.1

Date Sampled: April, 2008
Weight of sample (wet): _____
Weight of sample (dry): _____

Tests:	Results:
ASTM C 136	see chart (right)
ASTM C 117	1.20%
ASTM C 40	<1

Coarse Aggregate # 1: Source: Pike, Wells Size: **3/8"**

Sieve Size:	Weight Retained	Percent Retained	Percent Passing	Specified Range
1/2"			100	100
3/8"			91	85 - 100
#4			14.5	10 - 30
#8			5.5	0 - 10
#16			3.4	0 - 5
pan				

Date Sampled: March, 2008
Weight of sample (wet): _____
Weight of sample (dry): _____

Tests:	Results:
ASTM C 136	see chart (right)
ASTM C 566	
ASTM C 117	0.60%

Coarse Aggregate # 2: Source: Pike, Wells Size: **3/4"**

Sieve Size:	Weight Retained	Percent Retained	Percent Passing	Specified Range	
				#67	#57
1 1/2"				———	100
1"			100	100	95 - 100
3/4"			96	90 - 100	———
1/2"			55	———	25 - 60
3/8"			32	20 - 55	———
#4			6	0 - 10	0 - 10
#8			2	0 - 5	0 - 5
pan					

Date Sampled: March, 2008
Weight of sample (wet): _____
Weight of sample (dry): _____

	Tests:	Results:
	ASTM C 136	see chart (right)
	ASTM C 566	
	ASTM C 117	0.40%

Combined Coarse Aggregate Gradation: **#67**

ASTM Size:	Percent of total CA	1"	3/4"	1/2"	3/8"	#4	#8
3/4"							
3/8"							
Combined Grading:							
Specified Range:		**100**	**90 - 100**	**-----**	**20 - 55**	**0 - 10**	**0 - 5**

Tested By: _____ Date: _____

BASF

The Chemical Company

January 15, 2009

Dragon Products Company
38 Preble Street
Portland, Maine 04104

Attention: Mark West
Project: 2009 Certifications
Project location: Maine

Certificate of Conformance
GLENIUM® 7500
BASF Construction Chemicals, LLC* Admixture for Concrete

(*Previously doing business as BASF Admixtures, Inc. and prior to that as Degussa Admixtures, Inc. and Master Builders, Inc.)

I, Richard Hubbard, Sr. Technical Marketing Specialist for BASF Construction Chemicals, LLC , Cleveland, Ohio,certify:

That GLENIUM 7500 is a high-range water-reducing admixture manufactured by BASF Construction Chemicals, LLC; and

That no calcium chloride or chloride based ingredient is used in the manufacture of GLENIUM 7500; and

That GLENIUM 7500, based on the chlorides originating from all the ingredients used in its manufacture, contributes less than 0.00017 percent (1.7 ppm) chloride ions by weight of the cement when used at the rate of 65 mL per 100 kg (1 fluid ounce per 100 pounds) of cement; and

That GLENIUM 7500 meets the requirements for a Type A, Water-Reducing and Type F, Water-Reducing, High Range Admixture specified in ASTM C 494, Corps of Engineers' CRD-C 87 and AASHTO M194, the Standard Specifications for Chemical Admixtures for Concrete.

Richard Hubbard III

Richard Hubbard
Sr. Technical Marketing Specialist BASF Construction Chemicals, LLC

BASF Construction Chemicals, LLC
23700 Chagrin Boulvard
Cleveland, OH 44122
216 839-7500 ph
www.masterbuilders.com

Master Builders
Admixture Solutions

BASF

The Chemical Company

January 15, 2009

Dragon Products Company
38 Preble Street
Portland, Maine 04104

Attention: Mark West
Project: 2009 Certifications
Project location: Maine

Certificate of Conformance
MB-AE™ 90
BASF Construction Chemicals, LLC* Air-Entraining Admixture for Concrete

(*Previously doing business as BASF Admixtures, Inc. and prior to that as Degussa Admixtures, Inc. and Master Builders, Inc.)

I, Richard Hubbard, Sr. Technical Marketing Specialist for BASF Construction Chemicals, LLC , Cleveland, Ohio,certify:

That MB-AE 90 is a BASF Construction Chemicals, LLC Air-Entraining Admixture for concrete; and

That no calcium chloride or chloride based ingredient is used in the manufacture of MB-AE 90; and

That MB-AE 90, based on the chlorides originating from all the ingredients used in its manufacture, contributes less than 0.000068 percent (0.68 ppm) chloride ions by weight of the cement when used at the rate of 65 mL per 100 kg (1 fluid ounce per 100 pounds) of cement; and

That MB-AE 90 meets the requirements of ASTM C 260, Corps of Engineers' CRD-C 13 and AASHTO M154, the Standard Specifications for Air-Entraining Admixtures for Concrete.

Richard Hubbard III

Richard Hubbard
Sr. Technical Marketing Specialist BASF Construction Chemicals, LLC

BASF Construction Chemicals, LLC
23700 Chagrin Boulvard
Cleveland, OH 44122
216 839-7500 ph
www.masterbuilders.com

Master Builders
Admixture Solutions

BASF

The Chemical Company

3 4 | 03 30 00 Cast-in-Place Concrete | 03 40 00 Precast Concrete | 03 70 00 Mass Concrete | 04 05 13 Masonry Grouting

GLENIUM® 7500

High-Range Water-Reducing Admixture

Description

GLENIUM® 7500 high-range water-reducing admixture is based on the next generation of polycarboxylate technology found in all of the Glenium 7000 series products. This technology combines state-of-the-art molecular engineering with a precise understanding of regional cements to provide specific and exceptional value to all phases of the concrete construction process.

GLENIUM 7500 admixture is very effective in producing concrete mixtures with different levels of workability including applications that require self-consolidating concrete (SCC). The use of GLENIUM 7500 admixture results in faster setting characteristics as well as improved early age compressive strength. GLENIUM 7500 admixture meets ASTM C 494/C 494M provisional compliance requirements for Type A, water-reducing, and Type F, high-range water-reducing, admixtures.

Applications

Recommended for use in:

- Concrete with varying water reduction requirements (5-40%)
- Concrete where control of workability and setting time is critical
- Concrete where high flowability, increased stability, high early and ultimate strengths, and improved durability are needed
- Production of Rheodynamic® Self-Consolidating Concrete (SCC) mixtures
- 4x4™ Concrete for fast-track construction
- Pervious Concrete mixtures

Features

- Excellent early strength development
- Controls setting characteristics
- Optimizes slump retention/setting relationship
- Consistent air entrainment
- Dosage flexibility

Benefits

- Faster turnover of forms due to accelerated early strength development
- Reduces finishing labor costs due to optimized set times
- Use in fast track construction
- Minimizes the need for slump adjustments at the jobsite
- Less jobsite QC support required
- Fewer rejected loads
- Optimizes concrete mixture costs

Performance Characteristics

Concrete produced with GLENIUM 7500 admixture achieves significantly higher early age strength than first generation polycarboxylate high-range water-reducing admixtures. GLENIUM 7500 admixture also strikes the perfect balance between workability retention and setting characteristics in order to provide efficiency in placing and finishing concrete.

Guidelines for Use

Dosage: GLENIUM 7500 admixture has a recommended dosage range of 2-15 fl oz/cwt (130-975 mL/100 kg) of cementitious materials. For most applications, dosages in the range of 5-8 fl oz/cwt (325-520 mL/100 kg) will provide excellent performance. For high performance and Rheodynamic Self-Consolidating Concrete mixtures, dosages of up to 12 fl oz/cwt (780 mL/100 kg) of cementitious materials can be utilized. Because of variations in concrete materials, jobsite conditions and/or applications, dosages outside of the recommended range may be required. In such cases, contact your local BASF Construction Chemicals representative.

Mixing: GLENIUM 7500 admixture can be added with the initial batch water or as a delayed addition. However, optimum water reduction is generally obtained with a delayed addition.

Master Builders

Product Data: GLENIUM® 7500

Product Notes

Corrosivity – Non-Chloride, Non-Corrosive: GLENIUM 7500 admixture will neither initiate nor promote corrosion of reinforcing steel embedded in concrete, prestressing steel or of galvanized steel floor and roof systems. Neither calcium chloride nor other chloride-based ingredients are used in the manufacture of GLENIUM 7500 admixture.

Compatibility: GLENIUM 7500 admixture is compatible with most admixtures used in the production of quality concrete, including normal, mid-range and high-range water-reducing admixtures, air-entrainers, accelerators, retarders, extended set control admixtures, corrosion inhibitors, and shrinkage reducers.

Do not use GLENIUM 7500 admixture with admixtures containing beta-naphthalene sulfonate. Erratic behaviors in slump, workability retention and pumpability may be experienced.

Storage and Handling

Storage Temperature: GLENIUM 7500 admixture must be stored at temperatures above 40 °F (5 °C). If GLENIUM 7500 admixture freezes, thaw and reconstitute by mechanical agitation.

Shelf Life: GLENIUM 7500 admixture has a minimum shelf life of 6 months. Depending on storage conditions, the shelf life may be greater than stated. Please contact your BASF Construction Chemicals representative regarding suitability for use and dosage recommendations if the shelf life of GLENIUM 7500 admixture has been exceeded.

Packaging

GLENIUM 7500 admixture is supplied in 55 gal (208 L) drums, 275 gal (1040 L) totes and by bulk delivery.

Related Documents

Material Safety Data Sheets: GLENIUM 7500 admixture.

Additional Information

For additional information on GLENIUM 7500 admixture or on its use in developing concrete mixtures with special performance characteristics, contact your BASF Construction Chemicals representative.

The Admixture Systems business of BASF Construction Chemicals is a leading provider of innovative additives for specialty concrete used in the ready mix, precast, manufactured concrete products, underground construction and paving markets throughout the NAFTA region. The Company's respected Master Builders brand products are used to improve the placing, pumping, finishing, appearance and performance characteristics of concrete.

BASF Construction Chemicals, LLC
Admixture Systems
www.masterbuilders.com
United States 23700 Chagrin Boulevard, Cleveland, Ohio 44122-5544 ▩ Tel: 800 628-9990 ▩ Fax: 216 839-8821
Canada 1800 Clark Boulevard, Brampton, Ontario L6T 4M7 ▩ Tel: 800 387-5862 ▩ Fax: 905 792-0651

Master Builders

BASF

The Chemical Company

3 | 03 30 00 03 40 00 03 70 00 | Product Data Cast-in-Place Concrete Precast Concrete Mass Concrete

MB-AE™ 90

Air-Entraining Admixture

Description

MB-AE 90 air-entraining admixture is for use in concrete mixtures. It meets the requirements of ASTM C 260, AASHTO M 154 and CRD-C 13.

Applications

Recommended for use in:

- Concrete exposed to cyclic freezing and thawing
- Production of high-quality normal or lightweight concrete (heavyweight concrete normally does not contain entrained air)

Features

- Ready-to-use in the proper concentration for rapid, accurate dispensing

Benefits

- Improved resistance to damage from cyclic freezing and thawing
- Improved resistance to scaling from deicing salts
- Improved plasticity and workability
- Reduced permeability – increased watertightness
- Reduced segregation and bleeding

Performance Characteristics

Concrete durability research has established that the best protection for concrete from the adverse effects of freezing and thawing cycles and deicing salts results from: proper air content in the hardened concrete, a suitable air-void system in terms of bubble size and spacing, and adequate concrete strength, assuming the use of sound aggregates and proper mixing, transporting, placing, consolidation, finishing and curing techniques. MB-AE 90 admixture can be used to obtain adequate freeze-thaw durability in a properly proportioned concrete mixture, if standard industry practices are followed.

Air Content Determination: The total air content of normal weight concrete should be measured in strict accordance with ASTM C 231, "Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method" or ASTM C 173/C 173M, "Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method." The air content of lightweight concrete should only be determined using the Volumetric Method. The air content should be verified by calculating the gravimetric air content in accordance with ASTM C 138/C 138M, "Standard Test Method for Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete." If the total air content, as measured by the Pressure Method or Volumetric Method and as verified by the Gravimetric Method, deviates by more than 1-1/2%, the cause should be determined and corrected through equipment calibration or by whatever process is deemed necessary.

Guidelines for Use

Dosage: There is no standard dosage for MB-AE 90 admixture. The exact quantity of air-entraining admixture needed for a given air content of concrete varies because of differences in concrete-making materials and ambient conditions. Typical factors that might influence the amount of air entrained include: temperature, cementitious materials, sand gradation, sand-aggregate ratio, mixture proportions, slump, means of conveying and placement, consolidation and finishing technique.

Master Builders

Product Data: MB-AE™ 90

The amount of MB-AE 90 admixture used will depend upon the amount of entrained air required under actual job conditions. In a trial mixture, use 1/4 to 4 fl oz/cwt (16-260 mL/100 kg) of cementitious material. Measure the air content of the trial mixture, and, if needed, either increase or decrease the quantity of MB-AE 90 admixture to obtain the desired air content.

In mixtures containing water-reducing or set-control admixtures, the amount of MB-AE 90 admixture needed may be somewhat less than the amount required in plain concrete.

Due to possible changes in the factors that can affect the dosage of MB-AE 90 admixture, frequent air content checks should be made during the course of the work. Adjustments to the dosage should be based on the amount of entrained air required in the mixture at the point of placement.

If an unusually high or low dosage of MB-AE 90 admixture is required to obtain the desired air content, consult your BASF Construction Chemicals representative. In such cases, it may be necessary to determine that, in addition to a proper air content in the fresh concrete, a suitable air-void system is achieved in the hardened concrete.

Dispensing and Mixing: Add MB-AE 90 admixture to the concrete mixture using a dispenser designed for air-entraining admixtures, or add manually using a suitable measuring device that ensures accuracy within plus or minus 3% of the required amount.

For optimum, consistent performance, the air-entraining admixture should be dispensed on damp, fine aggregate. If the concrete mixture contains fine lightweight aggregate, field evaluations should be conducted to determine the best method to dispense the air-entraining admixture.

Precaution

In a 2005 publication from the Portland Cement Association (PCA R&D Serial No. 2789), it was reported that problematic air-void clustering that can potentially lead to above normal decreases in strength was found to coincide with late additions of water to air-entrained concretes. Late additions of water include the conventional practice of holding back water during batching for addition at the jobsite. Therefore, caution should be exercised with delayed additions of water to air-entrained concrete. Furthermore, an air content check should be performed after any post-batching addition to an air-entrained concrete mixture.

Product Notes

Corrosivity – Non-Chloride, Non-Corrosive: MB-AE 90 admixture will neither initiate nor promote corrosion of reinforcing and prestressing steel embedded in concrete, or of galvanized floor and roof systems. No calcium chloride or other chloride-based ingredients are used in the manufacture of this admixture.

Compatibility: MB-AE 90 admixture may be used in combination with any BASF Construction Chemicals admixture, unless stated otherwise on the data sheet for the other product. When used in conjunction with other admixtures, each admixture must be dispensed separately into the concrete mixture.

Storage and Handling

Storage Temperature: MB-AE 90 admixture should be stored and dispensed at 31 °F (-0.5 °C) or higher. Although freezing does not harm this product, precautions should be taken to protect it from freezing. If MB-AE 90 admixture freezes, thaw at 35 °F (2 °C) or above and completely reconstitute by mild mechanical agitation. ***Do not use pressurized air for agitation.***

Shelf Life: MB-AE 90 admixture has a minimum shelf life of 18 months. Depending on storage conditions, the shelf life may be greater than stated. Please contact your BASF Construction Chemicals representative regarding suitability for use and dosage recommendations if the shelf life of MB-AE 90 admixture has been exceeded.

Safety: Chemical goggles and gloves are recommended when transferring or handling this material.

Packaging

MB-AE 90 admixture is supplied in 55 gal (208 L) drums, 275 gal (1040 L) totes and by bulk delivery.

Related Documents

Material Safety Data Sheets: MB-AE 90 admixture.

Additional Information

For additional information on MB-AE 90 admixture, or its use in developing a concrete mixture with special peformance characteristics, contact your BASF Construction Chemicals representative.

The Admixture Systems business of BASF Construction Chemicals is a leading provider of innovative additives for specialty concrete used in the ready mix, precast, manufactured concrete products, underground construction and paving markets throughout the NAFTA region. The Company's respected Master Builders brand products are used to improve the placing, pumping, finishing, appearance and performance characteristics of concrete.

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NSF Certified to NSF/ANSI 61

Master Builders

MTA Administration Building
ACI 214 Summary OF PDMTABLD34 [3000 psi]

ACI 214 SUMMARY

Statistical Strength Summary

Average strength based on 15 tests	:	4596 psi	
Overall Standard Deviation	:	483 psi	
Control is Very Good			
Overall coefficient of variation	:	10.51 %	
Overall within-test coefficient of variation	:	2.96 %	
Control is Excellent			
Chance of strength falling below 3000 psi	:	-	%
Chance of strength falling below 2500 psi	:	-	%
Chance of "Average of 3" below 3000 psi	:	-	%
ACI 214 Minimum Recommended Strength	:	3805 psi	
Standard deviation adjusted for 15 tests	:	560 psi	
Chance of strength less than specified - 500	<=	1 in 100	
Chance of "Average of 3" less than specified	<=	1 in 100	

A.H. Harris & Sons, Inc.®

CONSTRUCTION SPECIALTIES

Since 1916

HARRIS CONSTRUCTION GROUT

DESCRIPTION

A specially formulated nonshrink, nonmetallic cementitious grout designed for grouting of equipment, column bases, precast walls, tilt-up panels, tie holes, anchor bolts and other general construction grouting applications.

FEATURES

- High compressive strength
- Fluid, pumpable
- Nonstaining, nonrusting
- Nonshrink for maximum bearing
- Does not contain corrosive chemicals
- Does not contain chlorides

PACKAGING

55 lb. (25 kg) triple-lined, moisture-resistant bag

YIELD

Yield per 55 lbs. (25 kg) mixed according to instructions with 9-10 pints of water is approximately 0.50 ft³ (0.014 m³).

APPLICABLE STANDARDS

Harris Construction Grout meets or exceeds:

- CRD C-621 "Corps of Engineers Specification for Non-Shrink Grout."
- ASTM C-1107 "Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Non-Shrink)," Grades A, B and C at a Fluid Consistency.
- ASTM C-827, "Standard Test Method for Change in Height at Early Ages of Cylindrical Specimens from Cementitious Mixtures."
- ASTM C-1090, "Standard Test Method for Measuring Changes in Height of Cylindrical Specimens from Hydraulic Cement Grouts."

Compressive Strength (ASTM-C-109)

Plastic - mixed at 8.0 pints (3.8 liters)

psi	MPa	
5,000	34.5	(at 3 days)
7,300	50.3	(at 7 days)
10,500	72.4	(at 28 days)

Flowable - mixed at 9.0 pints (4.3 liters)

psi	MPa	
4,500	31.0	(at 3 days)
5,800	40.0	(at 7 days)
8,000	59.3	(at 28 days)

Fluid - mixed at 10.0 pints (4.7 liters)

psi	MPa	
3,500	24.1	(at 3 days)
5,000	34.5	(at 7 days)
7,200	49.6	(at 28 days)

Expansion Percentage (CRD-C-621)

Plastic - mixed at 8.0 pints (3.8 liters)

expansion	
0.05%	(at 3 days)
0.05%	(at 7 days)
0.05%	(at 28 days)

Flowable - mixed at 9.0 pints (4.3 liters)

expansion	
0.03%	(at 3 days)
0.03%	(at 7 days)
0.03%	(at 28 days)

Fluid - mixed at 10.0 pints (4.7 liters)

expansion	
0.01%	(at 3 days)
0.01%	(at 7 days)
0.01%	(at 28 days)

APPLICATION

Preparation: Remove all dirt, oil, and loose or foreign material. Any metal in contact with grout must be free of rust, oil, grease, and other foreign matter which would limit bond. Concrete surface must be sound and roughened to insure proper bonding. Prior to placing grout, surface should be saturated for a minimum period of four hours and preferably twenty-four hours. Remove all excess water before placement of grout. Bolts, base plates, and equipment must be secure and rigid before placement of grout.

Forms: Allow for the continuous placement of grout. Provisions for venting to avoid air entrapment must be made. Placing from one side, provide a 45° angle in the forms to a height suitable to provide a head of grout during placement. On all sides provide a minimum 1" (2.54 cm) horizontal clearance between the base plate and forms. Forms should be at least 1" (2.54 cm) higher than the bottom of the base plate.

Mixing: Do NOT mix by hand. Use a mechanical mixer: For small jobs use a ½" (.64 cm) low speed drill with a mortar mixing paddle. For large jobs, use a mortar mixer.

APPLICATION continued

Start with minimum water requirements. Always add water to mixer first, then slowly add powder. Use only the amount of water required for the desired placement consistency. Mixing water requirements are noted:

Plastic - 55 lbs. grout (25 kg) mixed with 7.0 to 8.0 pints (3.3 to 3.8 liters) of water

Flowable - 55 lbs. grout (25 kg) mixed with 8.0 to 9.0 pints (3.8 to 4.3 liters) of water

Fluid - 55 lbs. grout (25 kg) mixed with 9.0 to 10.0 pints (4.3 to 4.7 liters) of water

Test data and recommended water amounts are based on laboratory conditions. Actual field results may vary based on jobsite conditions.

Curing: Immediately cover with clean wet rags (do not use burlap) and keep moist until final set. After final set, remove rags and apply an ASTM-C-309 curing compound, such as Harris KurSeal.

Deep Applications: Prewashed and graded 3/8" (1 cm) pea gravel may be used in applications thicker than 2" (5.1 cm):

2" to 5" (5.2-12.7 cm): Add 25% of 3/8" (1cm) pea gravel per 55 lb bag of grout.

5" (12.7 cm) and over: Add 50% of 3/8" (1 cm) pea gravel per 55 lb bag of grout.

Hot Weather Conditions: Provide shade for area to be grouted. Use cool or chilled mixing water. Protect grout from direct sun exposure for up to twenty-four hours after grouting. The maximum temperature (ambient and substrate) for grouting is 85°F (29°C). The maximum grout temperature should not exceed 80°F (27°C). For additional information, refer to ACI 305 (Recommended Practices for Hot Weather Concreting).

Cold Weather Conditions: Raise the temperature of the area to be grouted with space heaters or steam. Warm the mixing water. Cover and insulate the grout to retain warmth. The minimum temperature (ambient, substrate and grout) for grouting is 40°F (5°C). For additional information, refer to ACI 306 (Recommended Practices for Cold Weather Concreting).

Placing: Place continuously and quickly. Start from one side to avoid air entrapment. Be sure grout fills spaces and remains in contact with plate. DO NOT VIBRATE. A minimum of 1" (2.54 cm) vertical clearance should be maintained for base plate grouting applications. Thinner vertical clearances may require the use of another type of grout.

LIMITED WARRANTY

A.H. Harris & Sons Inc. ("Harris") warrants that at the time of shipment to its customers the product it sells or rents conform to its usual standards and are free from defects which would materially affect the product's ability to perform as represented. IF ANY HARRIS PRODUCT IS PROVEN TO BE DEFECTIVE THE CUSTOMER'S EXCLUSIVE REMEDY IS TO HAVE HARRIS REPLACE THE DEFECTIVE PRODUCT WITH A PRODUCT OF LIKE QUALITY OR AT HARRIS' OPTION TO REFUND THE PURCHASE PRICE. IN NO EVENT SHALL HARRIS' LIABILITY, IF ANY, WHETHER FOUNDED IN CONTRACT OR TORT (INCLUDING NEGLIGENCE) EXCEED THE PURCHASE PRICE OF THE DEFECTIVE PRODUCTS NOR SHALL HARRIS BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES OR FOR ANY CLAIM BROUGHT MORE THAN ONE YEAR AFTER THE SALE OF THE PRODUCT BY HARRIS TO ITS CUSTOMER. THE FOREGOING WARRANTIES ARE EXCLUSIVE AND HARRIS MAKES NO OTHER WARRANTIES WITH RESPECT TO ITS PRODUCTS, EXPRESS OR IMPLIED, INCLUDING NO WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE. Harris does not intend any of its products to be used in a way that would infringe any patent or copyright.

Consult A.H. Harris for questions and comments regarding mixing, placing, curing and applications for Harris Construction Grout.

A.H. Harris & Sons, Inc.
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Portland, Maine 04104
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seeMIX II Mix Report
308140M
Strength Compressive:3,000 psi
9/2/2009

Contractor : WRIGHT - RYAN CONSTRUCTION
Project : POWER PAY OFFICES
Source of Concrete : DRAGON PRODUCTS COMPANY
Construction Type : MIX #4
Placement : CHUTE, CRANE, PUMP

Weights per Cubic Yard (Saturated, Surface-Dry)

	Quantity	Density	Yield, ft³
DRAGON, TYPE II, lb	318	3.150	1.62
LAFARGE, NEWCEM, lb	212	2.820	1.20
Water, lb	285	1.000	4.57
3/8" QUARRY STONE, ASTM C-33, lb	1,600	2.700	9.50
FINE AGGREGATE, ASTM C-33, lb	1,552	2.650	9.39
BASF: GLENIUM 7500, MID-RANGE DOSE, oz (US)	13.3	1.000	0.01
Total Air, %	3.0 ± 1.5		0.81
		TOTAL	27.10

Water/Cement Ratio, lbs/lb	0.54
Slump, High, in	6.00
Low, in	2.00
Concrete Unit Weight, pcf	146.42
Yield, %	100.4

NEWCEM PERCENTAGE MAY BE ADJUSTED FOR AMBIENT TEMP VARIATIONS
AIR CONTENT MAY EXCEED 3% WITH MID-RANGE

Prepared by :

TECHNICAL SERVICES

PROJECT MIX DESIGN
TRAILER CARD

Power Pay Offices
Wright-Ryan

Mix No.	Strength (psi)	Agg. Size	Description	Optional Admixtures
1	3000	¾-inch		Mid-range
2	3000	¾-inch	No Air	Mid-range
3	4500	¾-inch		Mid-range
4	3000	3/8-inch	No air, w/ mid-range	

Supplied by: Dragon Concrete

Dispatch:
800-773-2951

Area Rep: Phil Nunley
Tech. Services: Mark West
207-774-6355

Power Pay Offices
Wright-Ryan

Mix No.	Strength (psi)	Agg. Size	Description	Optional Admixtures
1	3000	¾-inch		Mid-range
2	3000	¾-inch	No Air	Mid-range
3	4500	¾-inch		Mid-range
4	3000	3/8-inch	No air, w/ mid-range	

Supplied by: Dragon Concrete

Dispatch:
800-773-2951

Area Rep: Phil Nunley
Tech. Services: Mark West
207-774-6355

GRACE

STRUX® 90/40

Synthetic macro fiber reinforcement

ASTM C1116

Product Description

STRUX® 90/40 synthetic macro fiber reinforcement is a unique form of high strength, high modulus synthetic macro reinforcement that is evenly distributed throughout the concrete matrix. STRUX 90/40 adds toughness, impact and fatigue resistance to concrete. Unlike traditional microfiber reinforcement, STRUX 90/40 is specifically engineered to provide high, post-crack control performance. Reinforced concrete with STRUX 90/40 has been shown to reliably achieve average residual strength values in excess of 150 psi (1.0 MPa) at dosages that can easily be batched and finished. It consists of synthetic macro fibers 1.55 in. (40 mm) in length with an aspect ratio of 90 that have specifically been designed to replace welded wire fabric, steel fibers, light rebar and other secondary reinforcement in slab-on-ground flooring, thin-walled precast applications and composite steel floor deck. STRUX 90/40 is a user-friendly fiber reinforcement which is easier and safer to use, compared to these other types of reinforcement.

Uses

Slab-on-Ground

STRUX 90/40 is specially designed for ease of use, rapid dispersion, good finishability and improved pumpability in slab-on-ground flooring and many precast applications. STRUX 90/40 may be used in commercial floors, industrial floors, residential floors, other flat work applications and form work applications. The addition rate of STRUX 90/40 can be easily calculated using Grace's SDS Software, using several factors such as compressive strength of concrete, modulus of sub-grade reaction, thickness of concrete and applied load. Please consult your Grace sales representative for proper addition rate of STRUX 90/40 for your application. Always consult local building codes (refer to Engineering Bulletin 1).

Composite Steel Floor Deck for Normal and Lightweight Concrete

STRUX 90/40 can be used as a suitable alternative to WWF specified for temperature and shrinkage reinforcement for composite steel floor decks. STRUX 90/40 complies with *American National Standards Institute/Steel Deck Institute* (ANSI/SDI C-1.0) design code provision for minimum reinforcing at minimum addition rate of 4 lbs/yd³ (2.4 kg/m³). STRUX 90/40 is UL (U.S.) and ULC (Canada) classified with fire ratings up to 2 hours for D700, F700, D800, F800, D900 and F900 except 909 at a maximum addition rate of 5 lbs/yd³ (3.0 kg/m³).

Addition Rates

STRUX 90/40 addition rates are dependent on the specific application and desired properties and will vary between 3.0 to 12.0 lbs/yd³ (1.8 to 7.0 kg/m³).

Mix Design

The utilization of STRUX 90/40 may require the use of a superplasticizer such as ADVA® to restore the required workability. In addition, slight increases in fine aggregate contents may be needed.

STRUX 90/40 may be added to concrete at any point during the batching or mixing process. After fiber addition, the concrete must be mixed at the minimum of 70 revolutions to ensure adequate dispersion.

Please contact your Grace representative with any questions. For more detailed instructions refer to Technical Bulletin TB-1200.

Product Advantages

- Savings from lower labor costs and fewer construction days
- Enhances safety by eliminating handling of steel fibers, welded wire fabrics or light rebar
- Eliminates concerns of proper positioning of reinforcement
- Provides superior crack control due to the geometry and elastic modulus
- Abrasion resistance and will not corrode
- Controls plastic and drying shrinkage cracks

CLASSIFIED c UL us

STRUX® 90/40 fiber as marketed by W. R. Grace & Co.-Conn. is classified by Underwriters Laboratories Inc. for use as an alternative, or in addition to, the welded wire fabric in 1, 1½ and 2 hr floor-ceiling D700, F700, D800, F800, D900 and F900 (except 909) Series Designs. Fibers to be added to the concrete mix at maximum addition rate of 5 lbs/yd³ (3.0 kg/m³).

Compatibility with Other Admixtures and Batch Sequencing

STRUX 90/40 is compatible with all Grace admixtures. Their action in concrete is mechanical and will not affect the hydration process of the cement or compressive strength. Each liquid admixture should be added separately to the concrete mix.

Packaging

STRUX 90/40 is available in 1.0 lb or 5.0 lb (.5 kg or 2.3 kg) Concrete-Ready™ bags.

STRUX 90/40 Properties

Specific gravity	0.92
Absorption	None
Modulus of elasticity	1,378 ksi (9.5 GPa)
Tensile strength	90 ksi (620 MPa)
Melting point	320°F (160°C)
Ignition point	1,094°F (590°C)
Alkali, acid & salt resistance	High

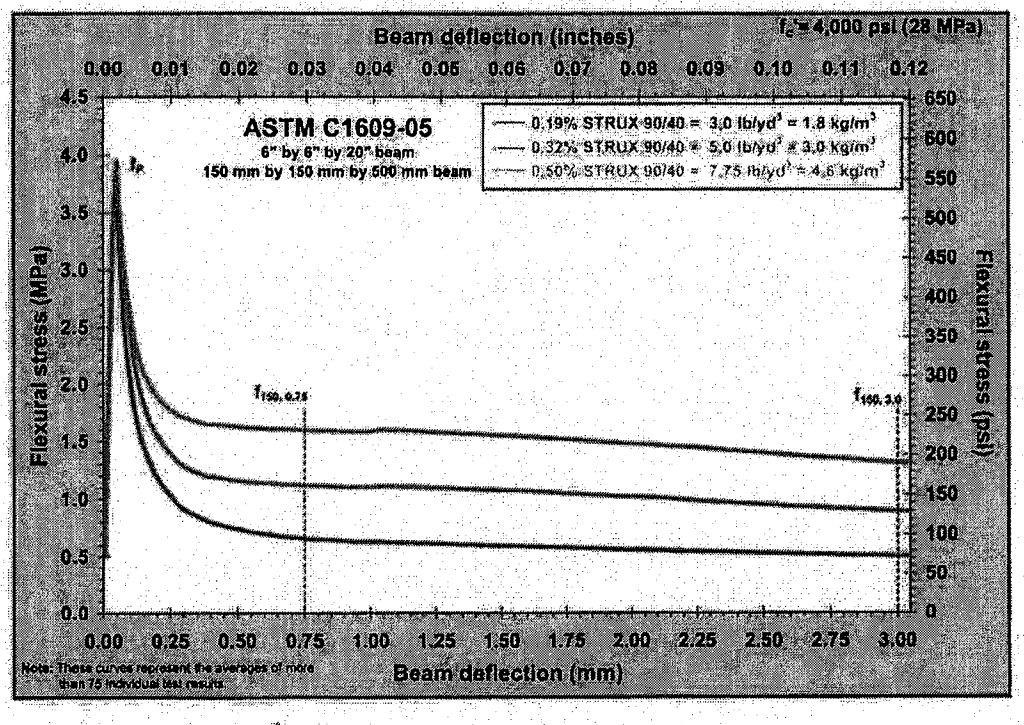
Flexural Strength and Toughness (Compressive Strength: 4,000 psi) according to ASTM C1609-05

STRUX 90/40 Dosage Rate	Specimen cross-section		Peak Load P_p (lbf)	Peak Strength f_p (psi)	Peak-load deflection δ_p (in.)	Residual loads		Residual strengths		Toughness $T_{150,3.0}$ (lbf-in.)	JCI-SF4[1] $f_{e,3}$ (psi)	TR34[2] $R_{e,3}$ (%)
	Width (in.)	Depth (in.)				$P_{150,0.75}$ (lbf)	$P_{150,3.0}$ (lbf)	$f_{150,0.75}$ (psi)	$f_{150,3.0}$ (psi)			
0.19% (3.0 lbs/yd³)	6.00	5.95	6,702	565	0.0019	1,299	952	110	80	160	115	20.0%
0.32% (5.0 lbs/yd³)	6.00	6.00	7,064	595	0.0020	1,905	1,558	160	130	240	165	28.5%
0.50% (7.75 lbs/yd³)	6.00	5.95	6,860	580	0.0020	2,770	2,251	230	190	330	230	40.5%

Flexural Strength and Toughness (Compressive Strength: 28 MPa) according to ASTM C1609-05

STRUX 90/40 Dosage Rate	Specimen cross-section		Peak Load P_p (N)	Peak Strength f_p (MPa)	Peak-load deflection δ_p (mm)	Residual loads		Residual strengths		Toughness $T_{150,3.0}$ (Joule)	JCI-SF4[1] $f_{e,3}$ (MPa)	TR34[2] $R_{e,3}$ (%)
	Width (mm)	Depth (mm)				$P_{150,0.75}$ (N)	$P_{150,3.0}$ (N)	$f_{150,0.75}$ (MPa)	$f_{150,3.0}$ (MPa)			
0.19% (1.8 kg/m³)	152	151	29,813	3.90	0.048	5,776	4,236	0.75	0.55	18	0.80	20.0%
0.32% (3.0 kg/m³)	152	152	31,422	4.10	0.050	8,472	6,932	1.10	0.90	27	1.15	28.5%
0.50% (4.6 kg/m³)	152	151	30,513	4.00	0.050	12,323	10,012	1.60	1.30	37	1.60	40.5%

1) Japan Concrete Institute (JCI) *Standard Test Method for Flexural Strength and Flexural Toughness of Fiber Reinforced Concrete, (Standard SF4), JCI Standards for Test Methods of Fiber Reinforced Concrete*, Japan Concrete Institute, 1983. 2) The Concrete Society *Technical Report 34 Concrete industrial ground floors—A guide to their design and construction*, The Society, Crowthorne, 2003.



www.graceconstruction.com

North American Customer Service: 1-877-4AD-MIX1 (1-877-423-6491)

STRUX-5M Printed in U.S.A. 11/07 FA/LI/1M

GRACE

Construction

SikaQuick® 1000

Rapid hardening repair mortar with extended working time

Description	SikaQuick 1000 is a 1-component, rapid hardening, early strength gaining, cementitious, patching material for concrete.
Where to Use	■ Use on grade, above, and below grade on concrete. ■ Highway overlays and repairs. ■ Structural repair material for concrete roadways, parking structures, bridges, dams and ramps. ■ Full depth patching repairs. ■ Economical patching material for horizontal repairs of concrete and mortar.
Advantages	■ Specially suited for hot weather applications when extended working time is required. ■ Rapid hardening as defined by ASTM C-928. ■ Allows application of an epoxy coating within 6 hours (73°F/50%R.H.). ■ Freeze/thaw resistant. ■ Easy to use, labor-saving material. ■ Contains no added chlorides. ■ Not gypsum-based. ■ High early strength. ■ Open to foot traffic in 4 hours; to vehicle traffic in 6 hours (at 73°F). ■ Easily applied to clean, sound substrate. ■ Not a vapor barrier.
Coverage	Approximately 0.42 cu. ft. When extended with 25 lbs. of 3/8 in. gravel yield is approximately 0.58 cu. ft.
Packaging	50-lb. multi-wall bag.

Typical Data (Material and curing conditions @ 73°F (23°C) and 50% R.H.) (Water/powder = 0.10)

Shelf Life	1 year in original, unopened bag.		
Storage Conditions	Store dry at 40°-95°F (4°-35°C). **For best results, condition material to 65°-75°F before using.**		
Color	Concrete gray.		
Mixing Ratio	Approximately 4.5 - 5 pints of liquid per 50 lb. bag.		
Application Life	Approximately 30 minutes after adding powder to the water.		
Compressive Strength, psi		**Mortar - ASTM C-109**	***Concrete - ASTM C-39**
	3 hours	1,250 psi (8.6 MPa)	1,000 psi (6.9 MPa)
	1 day	4,000 psi (27.6 MPa)	3,500 psi (24.1 MPa)
	7 days	5,000 psi (34.5 MPa)	4,500 psi (31.0 MPa)
	28 days	7,000 psi (48.2 MPa)	5,500 psi (37.9 MPa)
Flexural Strength, psi (ASTM C-78)			
	1 day	700 psi (4.8 MPa)	600 psi (4.1 MPa)
	7 days	900 psi (6.2 MPa)	900 psi (6.2 MPa)
	28 days	1,000 psi (6.9 MPa)	1,000 psi (6.9 MPa)
Splitting Tensile Strength, psi (ASTM C-496)			
	1 day	300 psi (2.0 MPa)	
	7 days	400 psi (2.7 MPa)	
	28 days	500 psi (3.4 MPa)	
Bond Strength, psi (ASTM C-882) modified			
	1 day	1750 psi (12.0 MPa)	1,000 psi (10.3 MPa)
	7 days	2000 psi (13.8 MPa)	1,500 psi (17.2 MPa)
	28 days	2500 psi (17.2 MPa)	2,000 psi (18.6 MPa)
Direct Tensile Bond, psi (ACI 503)	**28 days**	300 psi (substrate failure)	
Drying Shrinkage, % (ASTM C-596)	**28 days**	0.06	
Modulus of Elasticity, psi (ASTM C-469)	**28 days**	4.6×10^6	
Chloride Permeability, Coulombs (ASTM C-1202)	**28 days**	< 1000	
Freeze/Thaw Resistance, % (ASTM C-666)	**28 days**	98%	
Scaling Resistance, lb./ft² (ASTM C-672)	**50 cycles**	0.080	
Initial Set, Minutes (ASTM C-266)	40-90		
Final Set, Minutes (ASTM C-266)	60-120		
Abrasion Resistance, Inches of Wear at 1 hr. (ASTM C-779)	**28 days**	0.026	

* Material was tested with an addition rate of 25 lbs. of clean, well-graded, saturated surface dry, low-absorption and high-density coarse aggregate. Water was added to achieve a 7 in. slump.

**Independent certificates available upon request.

Construction

How to Use

Surface Preparation

Surface must be clean and sound. Remove all deteriorated concrete, dirt, oil, grease, and other bond-inhibiting materials from the area to be repaired. Be sure repair area is not less than 1/4 in. deep. Preparation work should be done by appropriate means. Obtain an exposed aggregate surface with a minimum surface profile of ± 1/8 in. (CSP-6) on clean, sound concrete. To ensure optimum repair results, the effectiveness of decontamination and preparation should be assessed by a pull-off test. Saw cutting of edges is preferred and a dovetail is recommended. Saturate surface to be repaired with clean water. Substrate should be saturated surface dry (SSD) prior to application.

Priming

For priming of reinforcing steel use Sika Armatec 110 EpoCem (consult Technical Data Sheet).

Concrete Substrate: Prime the prepared substrate with a scrub coat of SikaQuick 1000 prior to placement of the mortar. The repair mortar has to be applied into the wet scrub coat before it dries.

Mixing

Mechanically mix in an appropriately sized mortar mixer. Wet down all tools and mixer to be used.
With water: Start with 4.5 pints of water added to the mixing vessel. Add 1 bag of SikaQuick 1000 while continuing to mix. Add up to another 1/2 pint of water to achieve desired consistency. Do not over-water.
With Latex R: Pour 4.5 pints of Sika Latex R into the mixing container. Slowly add powder, mix and adjust as above.
With diluted Latex R: Sika Latex R may be diluted up to 5:1 (water: Sika Latex R) for projects requiring minimal polymer-modification. Pour 4.5 pints of the mixture into the mixing container. Slowly add powder, mix and adjust as above.
For applications greater than 1 in. in depth, add 3/8 in. coarse aggregate. The aggregate must be non-reactive (reference ASTM C-1260, C-227 and C-289), clean, well graded, saturated surface dry, have low absorption and high density, and comply with ASTM C-33 size number 8 per Table 2.
Note: Variances in aggregate may result in different strengths. The addition rate is 25 lbs. of aggregate per bag of SikaQuick 1000. (25 lbs. of 3/8 in. aggregate is approximately 2.0 gallons by loose volume of aggregate).
Do not exceed a slump of 7 in. This may cause excessive bleeding and retardation and will reduce the strength and performance of the material.

Application

The prepared mortar must be scrubbed into substrate. Be sure to fill all pores and voids. Force material against edge of repair, working toward center. After filling repair, screed off excess. Allow concrete to set to desired stiffness, then finish. If a smoother finish is desired, a magnesium float should be used. Mixing, placing, and finishing should not exceed 30 minutes maximum.
To control setting times, cold water should be used in hot weather and hot water used in cold weather.

Curing

As per ACI recommendations for portland cement concrete, curing is required. Moist cure with wet burlap and polyethylene, a fine mist of water or a curing compound meeting ASTM C-309. Moist cure should commence immediately after finishing. If necessary, protect newly applied material from rain. To prevent from freezing, cover with insulating material.

Limitations

- Minimum ambient and surface temperatures 45°F and rising.
- Minimum application thickness 1/4 in. as a mortar and 1 in. extended with aggregate.
- Maximum application thickness 1 in. as a mortar and 6 in. extended with aggregate.
- Do not feather edge.
- Do not exceed 7 in. slump when extended.
- Use only potable water.
- Variations in aggregates may produce differences in strengths from the typical values stated in Sika's Technical Data.
- As with all cement based materials, avoid contact with aluminum to prevent adverse chemical reaction and possible product failure. Insulate potential areas of contact by coating aluminum bars, rails, posts etc. with an appropriate epoxy such as Sikadur Hi-Mod 32.
- Do not use Sika Armatec 110 EpoCem as a bonding agent with SikaQuick 1000.

Caution
Irritant

Skin/Eye/Respiratory Irritant: Avoid breathing dust. Dust may cause respiratory tract irritation. May cause delayed lung injury (silicosis).
Warning: This product contains crystalline silica, which in the state of California, is known to cause cancer.

First Aid

Eyes: Rinse thoroughly with water a minimum of 15 minutes. Consult a physician. **Skin:** Wash thoroughly with soap and water. Remove contaminated clothing. **Inhalation:** Remove person to fresh air. Consult a physician. **Ingestion:** Dilute with water. Consult a physician. In all cases, if symptoms persist contact a physician.

Handling and Storage

Avoid contact. Wear suitable personal protective equipment (chemical resistant goggles/gloves/clothing). Remove contaminated clothing and launder before reuse. Use in the presence of adequate ventilation. In the absence of adequate ventilation, wear a properly fitted NIOSH respirator. Uncured material can be removed with water. Cured material can only be removed mechanically. Store in a cool, dry area. Keep bag tightly closed.

Clean Up

In case of spill, wear protective equipment (chemical resistant gloves/goggles/clothing). Ventilate area. In the absence of adequate ventilation, use a properly fitted NIOSH respirator. Confine spill. Vacuum or scoop into an appropriate container. Dispose of in accordance with current applicable local, state and federal regulations. In case of emergency, call CHEMTREC at 1-800-424-9300. 703-527-3887 (outside USA & Canada).

Visit our website at www.sikaconstruction.com **1-800-933-SIKA NATIONWIDE**

Regional Information and Sales Centers. For the location of your nearest Sika sales office, contact your regional center.

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201 Polito Avenue
Lyndhurst, NJ 07071
Phone: 800-933-7452
Fax: 201-933-6225

Sika Canada Inc.
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Pointe Claire
Quebec H9R 4A9
Phone: 514-697-2610
Fax: 514-694-2792

Sika Mexicana S.A. de C.V.
Carretera Libre Celaya Km. 8.5
Fracc. Industrial Balvanera
Corregidora, Queretaro
C.P. 76920
Phone: 52 442 2385800
Fax: 52 442 2250537

S.W.COLE ENGINEERING, INC.

Concrete Construction Observation Report

Project Name/Location:	PowerPay Office Fit-Up	**Project No:**	09-0318
Client/Client's Rep.:	Portland Public Market, LLC	**Date:**	06/17/09
Concrete Contractor:	Wright Ryan Construction	**Sheet:**	1 of 1
Placement Location:	Lines P1, P2, P3 - (PA-PD)	**SWCE Rep.:**	SJC
Placement Type:	Footing ☒ Wall ☐ Column ☐ Slab ☐ Other ☐	**Arrived at Site:**	9:45 AM
		Left Site:	11:00 AM

PRE PLACEMENT OBSERVATIONS	**In Compliance**		**N/O**	**Comments**
Bar Size (diameter, length, bend and anchorage)	Yes ☐	No ☐	☒	Inspected by Becker
Location (# of bars, spacing, and cover)	Yes ☐	No ☐	☒	
Splicing (weld joint, overlap)	Yes ☐	No ☐	☒	
Stability (wiring, chairs, and spacers)	Yes ☐	No ☐	☒	
Reinforcement free from mud, oil, rust, or other nonmetallic coatings	Yes ☐	No ☐	☒	
Reinforcement appears in conformance to specifications	Yes ☐	No ☐	☒	
Soil subgrade prepared in accordance with project specifications	Yes ☐	No ☐	☒	

Referenced Drawings	**Date**	**Page**	**Rev.**	**ASTM**	**GRADE**
				A 615 ☐	40 ☐ 50 ☐ 60 ☐
				A 616 ☐	75 ☐
				A 617 ☐	
				A 706 ☐	A 775 Epoxy ☐

CONCRETE PLACEMENT OBSERVATIONS	**In Compliance**		**N/O**	**Comments**
Required mix used	Yes ☒	☐	☐	3000 psi, ¾"
Placement and consolidation of concrete observed	Yes ☒	☐	☐	
Concrete properly conveyed to all areas of placement	Yes ☒	☐	☐	
Depth of layer maximum limits not exceeded	Yes ☒	☐	☐	
Internal vibration (depth of insertion, spacing, time, vertical insertion, no conveyance of concrete by vibration)	Yes ☒	☐	☐	Vibrator Used
Even layering around openings and embedments	Yes ☒	☐	☐	
Removal of temporary ties and spacers	Yes ☐	☐	☒	

FIELD TESTING OF CONCRETE PERFORMED Yes ☒ No ☐

***CYLINDER SET NO:** 973-1 ←**refer to associated concrete test report*

POST PLACEMENT OBSERVATIONS	**In Compliance**		**N/O**	**Comments**
Specified finish	Yes ☒	☐	☐	Trowel
Protection of surfaces from cracking due to rapid drying	Yes ☐	☐	☒	
Proper curing procedures implemented	Yes ☐	☐	☒	

NON-CONFORMANCE ITEMS OBSERVED Yes ☐ No ☒

Non-Conformance Item Description:

Action Taken by SWCE:

Person(s) Notified:

N/O = Not Observed

Notes:

Attachments: None

Reviewed By: RED

RED

S.W.COLE ENGINEERING, INC.

Report of Concrete Compressive Strength

ASTM C-31 & C-39

Project Name: PORTLAND ME - POWER PAY OFFICE FIT UP - MATERIALS TESTING

Project Number: 09-0318

Client: PORTLAND PUBLIC MARKET LLC

Client Contract Number:

General Contractor:

Concrete Supplier: DRAGON PRODUCTS

PLACEMENT INFORMATION

Date Cast: 6/17/2009 **Time Cast:** 10:45 **Date Received:** 6/18/2009

Placement Location: FOOTINGS: LINE P1 (PA-PD) PS (PA-PD) P3 (PA-PD)

Placement Method: BUCKET

Cylinders Made By: SJC

Placement Vol. (yd^3): 10

Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) **Maximum (°F)**

DELIVERY INFORMATION

Admixtures: GLENIUM

TEST RESULTS

Slump (in) (C-143): **Slump WR:** 4

Air Content (%) (C-231): **Air WR:** 6.0

Air Temp (°F): 75

Conc. Temp (°F) (C-1064): 74

Load Number: 1

Mixer Number: 190

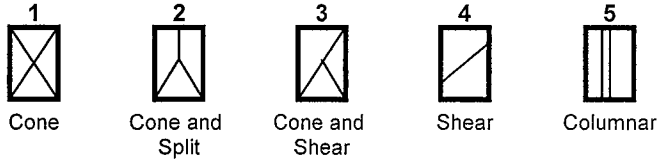
Ticket Number: 3932127

Cubic Yards: 10

Design (psi): **3000**

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area(In)²	Date Of Test	Cure Type	**Age (days)**	Fracture Type	Load (kips)	**Strength (psi)**
973-1A		4.00	12.57	6/24/2009	Lab	**7**	4	37.4	**2980**
973-1B		4.00	12.57	7/15/2009	Lab	**28**	4	61.8	**4920**
973-1C		4.00	12.57	7/15/2009	Lab	**28**	4	60.8	**4840**
973-1D				Hold	Lab				

Fracture Types



Remarks:

S.W.COLE ENGINEERING, INC.

Concrete Construction Observation Report

Project Name/Location:	PowerPay Office Fit-Up	**Project No:**	09-0318
Client/Client's Rep.:	Portland Public Market, LLC.	**Date:**	06/19/09
Concrete Contractor:	Wright Ryan Construction	**Sheet:**	1 of 1
Placement Location:	Lines P1 – P3 (PF – PK)	**SWCE Rep.:**	SJC
Placement Type:	Footing ☒ Wall ☐ Column ☐ Slab ☐ Other ☐	**Arrived at Site:**	9:45 AM
		Left Site:	11:45 AM

PRE PLACEMENT OBSERVATIONS	**In Compliance**		**N/O**	**Comments**
Bar Size (diameter, length, bend and anchorage)	Yes ☐	No ☐	☒	Inspected by Becker
Location (# of bars, spacing, and cover)	Yes ☐	No ☐	☒	
Splicing (weld joint, overlap)	Yes ☐	No ☐	☒	
Stability (wiring, chairs, and spacers)	Yes ☐	No ☐	☒	
Reinforcement free from mud, oil, rust, or other nonmetallic coatings	Yes ☐	No ☐	☒	
Reinforcement appears in conformance to specifications	Yes ☐	No ☐	☒	
Soil subgrade prepared in accordance with project specifications	Yes ☐	No ☐	☒	

Referenced Drawings	**Date**	**Page**	**Rev.**	**ASTM**	**GRADE**
				A 615 ☐	40 ☐ 50 ☐ 60 ☐
				A 616 ☐ A 617 ☐	75 ☐
				A 706 ☐	A 775 Epoxy ☐

CONCRETE PLACEMENT OBSERVATIONS	**In Compliance**		**N/O**	**Comments**
Required mix used	Yes ☒	☐	☐	3000 psi, ¾"
Placement and consolidation of concrete observed	Yes ☒	☐	☐	
Concrete properly conveyed to all areas of placement	Yes ☒	☐	☐	
Depth of layer maximum limits not exceeded	Yes ☒	☐	☐	
Internal vibration (depth of insertion, spacing, time, vertical insertion, no conveyance of concrete by vibration)	Yes ☒	☐	☐	Vibrator Used
Even layering around openings and embedments	Yes ☒	☐	☐	
Removal of temporary ties and spacers	Yes ☐	☐	☒	

FIELD TESTING OF CONCRETE PERFORMED Yes ☒ No ☐

***CYLINDER SET NO:** 973-2 ←**refer to associated concrete test report*

POST PLACEMENT OBSERVATIONS	**In Compliance**		**N/O**	**Comments**
Specified finish	Yes ☒	☐	☐	Trowel
Protection of surfaces from cracking due to rapid drying	Yes ☐	☐	☒	
Proper curing procedures implemented	Yes ☐	☐	☒	

NON-CONFORMANCE ITEMS OBSERVED Yes ☐ No ☒

Non-Conformance Item Description:

Action Taken by SWCE:

Person(s) Notified:

N/O = Not Observed

Notes:

Attachments: None

Reviewed By: RED

RED

S.W.COLE ENGINEERING, INC.

Report of Concrete Compressive Strength

ASTM C-31 & C-39

Project Name: PORTLAND ME - POWER PAY OFFICE FIT UP - MATERIALS TESTING

Project Number: 09-0318

Client: PORTLAND PUBLIC MARKET LLC

Client Contract Number:

General Contractor:

Concrete Supplier: DRAGON PRODUCTS

PLACEMENT INFORMATION

Date Cast: 6/19/2009 **Time Cast:** 11:25 **Date Received:** 6/22/2009

Placement Location: LINES P1-P3 (PF-PK) FOOTINGS

Placement Method: WHEELBARROW

Cylinders Made By: SJC

Placement Vol. (yd^3): 5

Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) **Maximum (°F)**

DELIVERY INFORMATION

Admixtures: GLENIUM

TEST RESULTS

Slump (in) (C-143): **Slump WR:** 4

Air Content (%) (C-231): **Air WR:** 7.4

Air Temp (°F): 67

Conc. Temp (°F) (C-1064): 69

Load Number: 1

Mixer Number: 180

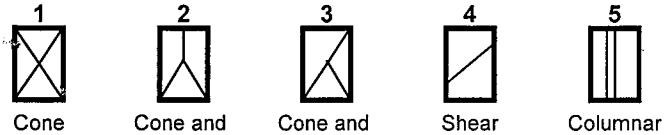
Ticket Number: 3932148

Cubic Yards: 5

Design (psi): **3000**

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area(In)²	Date Of Test	Cure Type	**Age (days)**	Fracture Type	Load (kips)	**Strength (psi)**
973-2A		4.00	12.57	6/26/2009	Lab	**7**	4	34.6	**2750**
973-2B		4.00	12.57	7/17/2009	Lab	**28**	4	56.5	**4500**
973-2C		4.00	12.57	7/17/2009	Lab	**28**	4	57.2	**4550**
973-2D				Hold	Lab				

Fracture Types



Remarks:

S.W.COLE ENGINEERING, INC.

Report of Concrete Compressive Strength

ASTM C-31 & C-39

Project Name: PORTLAND ME - POWER PAY OFFICE FIT UP - MATERIALS TESTING

Project Number: 09-0318

Client: PORTLAND PUBLIC MARKET LLC

Client Contract Number:

General Contractor:

Concrete Supplier: DRAGON PRODUCTS

PLACEMENT INFORMATION

Date Cast: 6/24/2009 **Time Cast:** 10:51 **Date Received:** 6/25/2009

Placement Location: PIER FOOTINGS C2 TO C6, E1 TO E3

Placement Method: CHUTE TO BUGGY

Placement Vol. (yd^3): 10

Cylinders Made By: VLT

Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) **Maximum (°F)**

DELIVERY INFORMATION

Admixtures: NA

TEST RESULTS

Slump (in) (C-143): **Slump WR:** 3 1/4

Air Content (%) (C-231): **Air WR:** 6.2

Air Temp (°F): 65

Conc. Temp (°F) (C-1064): 72

Load Number: 1

Mixer Number: 190

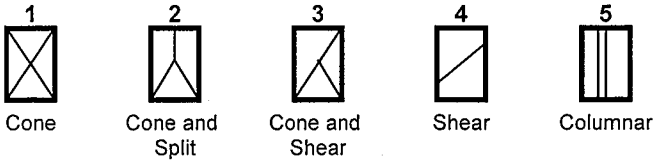
Ticket Number: 3932130

Cubic Yards: 10

Design (psi): **3000**

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area(In)²	Date Of Test	Cure Type	**Age (days)**	Fracture Type	Load (kips)	**Strength (psi)**
973-3A		4.00	12.57	7/1/2009	Lab	**7**	4	40.2	**3200**
973-3B		4.00	12.57	7/22/2009	Lab	**28**	4	62.6	**4980**
973-3C		4.00	12.57	7/22/2009	Lab	**28**	4	58.6	**4660**
973-3D				Hold	Lab				

Fracture Types



Remarks:

S.W.COLE ENGINEERING, INC.

Concrete Construction Observation Report

Project Name/Location:	PowerPay Office Fit-Up	**Project No:**	09-0318
Client/Client's Rep.:	Portland Public Market, LLC.	**Date:**	07/10/09
Concrete Contractor:	Wright Ryan Construction	**Sheet:**	1 of 1
Placement Location:	Entry Way Footings	**SWCE Rep.:**	SJC
Placement Type:	Footing ☒ Wall ☐ Column ☐ Slab ☐ Other ☐	**Arrived at Site:**	12:45 PM
		Left Site:	02:00 PM

PRE PLACEMENT OBSERVATIONS	**In Compliance**		**N/O**	**Comments**
Bar Size (diameter, length, bend and anchorage)	Yes ☐	No ☐	☒	Inspected by Becker
Location (# of bars, spacing, and cover)	Yes ☐	No ☐	☒	
Splicing (weld joint, overlap)	Yes ☐	No ☐	☒	
Stability (wiring, chairs, and spacers)	Yes ☐	No ☐	☒	
Reinforcement free from mud, oil, rust, or other nonmetallic coatings	Yes ☐	No ☐	☒	
Reinforcement appears in conformance to specifications	Yes ☐	No ☐	☒	
Soil subgrade prepared in accordance with project specifications	Yes ☐	No ☐	☒	Previously Inspected

Referenced Drawings	**Date**	**Page**	**Rev.**	**ASTM**	**GRADE**
				A 615 ☐	40 ☐ 50 ☐ 60 ☐
				A 616 ☐	
				A 617 ☐	75 ☐
				A 706 ☐	A 775 Epoxy ☐

CONCRETE PLACEMENT OBSERVATIONS	**In Compliance**		**N/O**	**Comments**
Required mix used	Yes ☒	☐	☐	3000 psi, ¾"
Placement and consolidation of concrete observed	Yes ☒	☐	☐	
Concrete properly conveyed to all areas of placement	Yes ☒	☐	☐	
Depth of layer maximum limits not exceeded	Yes ☒	☐	☐	
Internal vibration (depth of insertion, spacing, time, vertical insertion, no conveyance of concrete by vibration)	Yes ☒	☐	☐	Vibrator Used
Even layering around openings and embedments	Yes ☒	☐	☐	
Removal of temporary ties and spacers	Yes ☐	☐	☒	

FIELD TESTING OF CONCRETE PERFORMED Yes ☒ No ☐

***CYLINDER SET NO:** 973-4 ←**refer to associated concrete test report*

POST PLACEMENT OBSERVATIONS	**In Compliance**		**N/O**	**Comments**
Specified finish	Yes ☒	☐	☐	Trowel
Protection of surfaces from cracking due to rapid drying	Yes ☐	☐	☒	
Proper curing procedures implemented	Yes ☐	☐	☒	

NON-CONFORMANCE ITEMS OBSERVED Yes ☐ No ☒

Non-Conformance Item Description:

Action Taken by SWCE:

Person(s) Notified:

N/O = Not Observed

Notes: Slump – 3", Air – 6.4%, Temp – 77 F

Attachments: None

Reviewed By: RED

RED

S.W.COLE ENGINEERING, INC.

Report of Concrete Compressive Strength

ASTM C-31 & C-39

Project Name: PORTLAND ME - POWER PAY OFFICE FIT UP - MATERIALS TESTING

Project Number: 09-0318

Client: PORTLAND PUBLIC MARKET LLC

Client Contract Number:

General Contractor:

Concrete Supplier: DRAGON PRODUCTS

PLACEMENT INFORMATION

Date Cast: 7/10/2009 **Time Cast:** 1:10

Date Received: 7/11/2009

Placement Location: ENTRY WAY FOOTING SLABS

Placement Method: TAILGATE

Cylinders Made By: SJC

Placement Vol. (yd^3): 13

Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) **Maximum (°F)**

DELIVERY INFORMATION

Admixtures: GLENIUM

TEST RESULTS

Slump (in) (C-143): **Slump WR:** 3/4

Air Content (%) (C-231): **Air WR:** 6.4

Air Temp (°F): 75

Conc. Temp (°F) (C-1064): 77

Load Number: 1

Mixer Number: 193

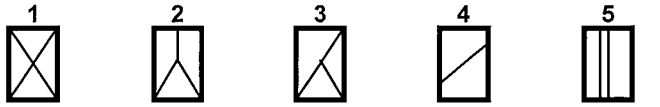
Ticket Number: 3932284

Cubic Yards: 7

Design (psi): **3000**

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area(In)²	Date Of Test	Cure Type	**Age (days)**	Fracture Type	Load (kips)	**Strength (psi)**
973-4A		4.00	12.57	7/17/2009	Lab	**7**	4	42.8	**3410**
973-4B		4.00	12.57	8/7/2009	Lab	**28**	4	66.8	**5320**
973-4C		4.00	12.57	8/7/2009	Lab	**28**	4	67.2	**5350**
973-4D				Hold	Lab				

Fracture Types



1 Cone; 2 Cone and Split; 3 Cone and Shear; 4 Shear; 5 Columnar

Remarks:

286 Portland Road, Gray, ME 04039-9586 • Tel (207) 657-2866 • Fax (207) 657-2840 • www.swcole.com

S.W.COLE ENGINEERING, INC.

Report of Concrete Compressive Strength

ASTM C-31 & C-39

Project Name: PORTLAND ME - POWER PAY OFFICE FIT UP - MATERIALS TESTING

Project Number: 09-0318

Client Contract Number:

Client: PORTLAND PUBLIC MARKET LLC

General Contractor:

Concrete Supplier: DRAGON PRODUCTS

PLACEMENT INFORMATION

Date Cast: 7/16/2009 **Time Cast:** 12:15

Date Received: 7/16/2009

Placement Location: RADIUS WALL

Placement Method: PUMP

Cylinders Made By: PD

Placement Vol. (yd³): 23

Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) **Maximum (°F)**

DELIVERY INFORMATION

Admixtures: MRWR - LOADS 2 & 3

TEST RESULTS

Slump (in) (C-143): 7

Air Content (%) (C-231): **Air WR:** 7.0

Air Temp (°F): 69

Conc. Temp (°F) (C-1064): 74

Load Number: 2

Mixer Number: 176

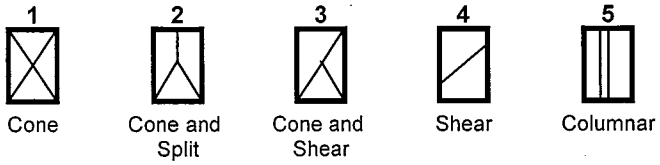
Ticket Number: 3932309

Cubic Yards: 8

Design (psi): **3000**

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area(In)²	Date Of Test	Cure Type	**Age (days)**	Fracture Type	Load (kips)	**Strength (psi)**
973-5A		4.00	12.57	7/23/2009	Lab	**7**	4	20.8	**1660**
973-5B		4.00	12.57	8/13/2009	Lab	**28**	4	44.6	**3550**
973-5C		4.00	12.57	8/13/2009	Lab	**28**	4	43.2	**3440**
973-5D				Hold	Lab				

Fracture Types



Remarks:

S.W.COLE ENGINEERING, INC.

Concrete Construction Observation Report

Project Name/Location:	PowerPay Office Fit-Up	**Project No:**	09-0318
Client/Client's Rep.:	Portland Public Market, LLC.	**Date:**	07/31/09
Concrete Contractor:	Wright Ryan Construction	**Sheet:**	1 of 1
Placement Location:	PA – PK Preble St. 2nd Story Slab	**SWCE Rep.:**	SJC
Placement Type:	Footing ☐ Wall ☐ Column ☐ Slab ☒ Other ☐	**Arrived at Site:**	7:00 AM
		Left Site:	11:00 AM

PRE PLACEMENT OBSERVATIONS	**In Compliance**		**N/O**	**Comments**
Bar Size (diameter, length, bend and anchorage)	Yes ☐	No ☐	☒	Inspected by Becker
Location (# of bars, spacing, and cover)	Yes ☐	No ☐	☒	
Splicing (weld joint, overlap)	Yes ☐	No ☐	☒	
Stability (wiring, chairs, and spacers)	Yes ☐	No ☐	☒	
Reinforcement free from mud, oil, rust, or other nonmetallic coatings	Yes ☐	No ☐	☒	
Reinforcement appears in conformance to specifications	Yes ☐	No ☐	☒	
Soil subgrade prepared in accordance with project specifications	Yes ☐	No ☐	☒	Steel Deck

Referenced Drawings	**Date**	**Page**	**Rev.**	**ASTM**	**GRADE**
				A 615 ☐	40 ☐ 50 ☐ 60 ☐
				A 616 ☐	75 ☐
				A 617 ☐	
				A 706 ☐	A 775 Epoxy ☐

CONCRETE PLACEMENT OBSERVATIONS	**In Compliance**		**N/O**	**Comments**
Required mix used	Yes ☒	☐	☐	3000 psi, ¾"
Placement and consolidation of concrete observed	Yes ☒	☐	☐	
Concrete properly conveyed to all areas of placement	Yes ☒	☐	☐	
Depth of layer maximum limits not exceeded	Yes ☒	☐	☐	
Internal vibration (depth of insertion, spacing, time, vertical insertion, no conveyance of concrete by vibration)	Yes ☒	☐	☐	
Even layering around openings and embedments	Yes ☒	☐	☐	
Removal of temporary ties and spacers	Yes ☐	☐	☒	

FIELD TESTING OF CONCRETE PERFORMED Yes ☒ No ☐

***CYLINDER SET NO:** 973-6 ←**refer to associated concrete test report*

POST PLACEMENT OBSERVATIONS	**In Compliance**		**N/O**	**Comments**
Specified finish	Yes ☐	☐	☒	
Protection of surfaces from cracking due to rapid drying	Yes ☐	☐	☒	
Proper curing procedures implemented	Yes ☐	☐	☒	

NON-CONFORMANCE ITEMS OBSERVED Yes ☐ No ☒

Non-Conformance Item Description:

Action Taken by SWCE:

Person(s) Notified:

N/O = Not Observed

Notes:

Slumps ranged from 6-7" and Wright Ryan was informed by SWCE.

Attachments: None

Reviewed By: RED

S.W.COLE ENGINEERING, INC.

Report of Concrete Compressive Strength

ASTM C-31 & C-39

Project Name: PORTLAND ME - POWER PAY OFFICE FIT UP - MATERIALS TESTING

Project Number: 09-0318

Client: PORTLAND PUBLIC MARKET LLC

Client Contract Number:

General Contractor:

Concrete Supplier: DRAGON PRODUCTS

PLACEMENT INFORMATION

Date Cast: 7/31/2009 **Time Cast:** 8:20 **Date Received:** 8/3/2009

Placement Location: PA-PK PREBLE STREET 2ND STORY SLAB

Placement Method: PUMP (NE)

Cylinders Made By: SJC

Placement Vol. (yd^3): 60

Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) **Maximum (°F)**

DELIVERY INFORMATION

Admixtures: GLENIUM

TEST RESULTS

Slump (in) (C-143): **Slump WR:** 6.5

Air Content (%) (C-231): **Air WR:** 2.0

Air Temp (°F): 69

Conc. Temp (°F) (C-1064): 79

Load Number: 2

Mixer Number: 177

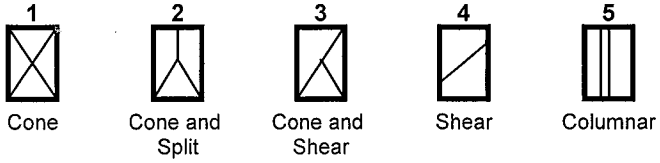
Ticket Number: 3932391

Cubic Yards: 10

Design (psi): **3000**

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area(In)²	Date Of Test	Cure Type	**Age (days)**	Fracture Type	Load (kips)	**Strength (psi)**
973-6A		4.00	12.57	8/7/2009	Lab	**7**	4	34.4	**2740**
973-6B		4.00	12.57	8/28/2009	Lab	**28**	4	61.5	**4900**
973-6C		4.00	12.57	8/28/2009	Lab	**28**	4	55.5	**4420**
973-6D				Hold	Lab				

Fracture Types



Remarks:

S.W.COLE ENGINEERING, INC.

Concrete Construction Observation Report

Project Name/Location:	PowerPay Office Fit-Up	**Project No:**	09-0318
Client/Client's Rep.:	Portland Public Market, LLC.	**Date:**	08/10/09
Concrete Contractor:	Wright Ryan Construction	**Sheet:**	1 of 1
Placement Location:	Slab on grade at Stair 1 area, PG-PH (P1-P3) Slab on grade, Equip. Storage Infill (Rm. 141)	**SWCE Rep.:**	SJC
Placement Type:	Footing ☐ Wall ☐ Column ☐ Slab ☒ Other ☐	**Arrived at Site:**	7:20 AM
		Left Site:	11:30 AM

PRE PLACEMENT OBSERVATIONS	**In Compliance**		**N/O**	**Comments**
Bar Size (diameter, length, bend and anchorage)	Yes ☐	No ☐	☒	Inspected by Becker
Location (# of bars, spacing, and cover)	Yes ☐	No ☐	☒	
Splicing (weld joint, overlap)	Yes ☐	No ☐	☒	
Stability (wiring, chairs, and spacers)	Yes ☐	No ☐	☒	
Reinforcement free from mud, oil, rust, or other nonmetallic coatings	Yes ☐	No ☐	☒	
Reinforcement appears in conformance to specifications	Yes ☐	No ☐	☒	
Soil subgrade prepared in accordance with project specifications	Yes ☐	No ☐	☒	

Referenced Drawings	**Date**	**Page**	**Rev.**	**ASTM**	**GRADE**
				A 615 ☐	40 ☐ 50 ☐ 60 ☐
				A 616 ☐ A 617 ☐	75 ☐
				A 706 ☐	A 775 Epoxy ☐

CONCRETE PLACEMENT OBSERVATIONS	**In Compliance**		**N/O**	**Comments**
Required mix used	Yes ☒	☐	☐	3000 psi, ¾", Fiber
Placement and consolidation of concrete observed	Yes ☒	☐	☐	
Concrete properly conveyed to all areas of placement	Yes ☒	☐	☐	
Depth of layer maximum limits not exceeded	Yes ☒	☐	☐	
Internal vibration (depth of insertion, spacing, time, vertical insertion, no conveyance of concrete by vibration)	Yes ☒	☐	☐	
Even layering around openings and embedments	Yes ☒	☐	☐	
Removal of temporary ties and spacers	Yes ☐	☐	☒	

FIELD TESTING OF CONCRETE PERFORMED Yes ☒ No ☐

***CYLINDER SET NO:** 973-7 ←**refer to associated concrete test report*

POST PLACEMENT OBSERVATIONS	**In Compliance**		**N/O**	**Comments**
Specified finish	Yes ☐	☐	☒	
Protection of surfaces from cracking due to rapid drying	Yes ☐	☐	☒	
Proper curing procedures implemented	Yes ☐	☐	☒	

NON-CONFORMANCE ITEMS OBSERVED Yes ☐ No ☒

Non-Conformance Item Description:

Action Taken by SWCE:

Person(s) Notified:

N/O = Not Observed

Notes:

Slumps ranged from 5.5-6".

Attachments: None

Reviewed By: RED

S.W.COLE ENGINEERING, INC.

Report of Concrete Compressive Strength

ASTM C-31 & C-39

Project Name: PORTLAND ME - POWER PAY OFFICE FIT UP - MATERIALS TESTING

Project Number: 09-0318

Client: PORTLAND PUBLIC MARKET LLC

Client Contract Number:

General Contractor:

Concrete Supplier: DRAGON PRODUCTS

PLACEMENT INFORMATION

Date Cast: 8/10/2009 **Time Cast:** 8:40 **Date Received:** 8/11/2009

Placement Location: SLAB ON GRADE AT STAIR 1 AREA PG-PH SLAB ON GRADE (P1-P3) EQUIP. STORAGE INFILL (RM 141)

Placement Method: PUMP (NE)

Placement Vol. (yd^3): 28

Cylinders Made By: SJC

Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) **Maximum (°F)**

DELIVERY INFORMATION

Admixtures: GLENIUM
FIBER MESH

TEST RESULTS

Slump (in) (C-143): **Slump WR:** 6

Air Content (%) (C-231): **Air WR:** 3.4

Air Temp (°F): 68

Conc. Temp (°F) (C-1064): 76

Load Number: 2

Mixer Number: 160

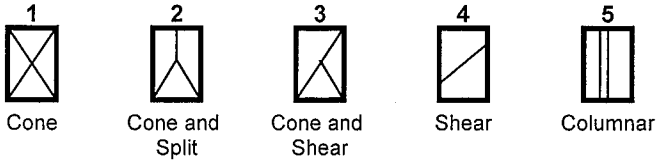
Ticket Number: 3932467

Cubic Yards: 10

Design (psi): **3000**

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area(In)²	Date Of Test	Cure Type	**Age (days)**	Fracture Type	Load (kips)	**Strength (psi)**
973-7A		4.00	12.57	8/17/2009	Lab	**7**	4	33.8	**2690**
973-7B		4.00	12.57	9/7/2009	Lab	**28**	4	54.8	**4360**
973-7C		4.00	12.57	9/7/2009	Lab	**28**	4	54.6	**4350**
973-7D				Hold	Lab				

Fracture Types



Remarks:

S.W.COLE ENGINEERING, INC.

Concrete Construction Observation Report

Project Name/Location:	PowerPay Office Fit-Up	**Project No:**	09-0318
Client/Client's Rep.:	Portland Public Market, LLC.	**Date:**	08/11/09
Concrete Contractor:	Wright Ryan Construction	**Sheet:**	1 of 1
Placement Location:	Slab on Grade. W5 - W7 (S1-S4)	**SWCE Rep.:**	SJC
Placement Type:	Footing ☐ Wall ☐ Column ☐ Slab ☒ Other ☐	**Arrived at Site:**	7:00 AM
		Left Site:	10:00 AM

PRE PLACEMENT OBSERVATIONS	**In Compliance**		**N/O**	**Comments**
Bar Size (diameter, length, bend and anchorage)	Yes ☐	No ☐	☒	Inspected by Becker
Location (# of bars, spacing, and cover)	Yes ☐	No ☐	☒	
Splicing (weld joint, overlap)	Yes ☐	No ☐	☒	
Stability (wiring, chairs, and spacers)	Yes ☐	No ☐	☒	
Reinforcement free from mud, oil, rust, or other nonmetallic coatings	Yes ☐	No ☐	☒	
Reinforcement appears in conformance to specifications	Yes ☐	No ☐	☒	
Soil subgrade prepared in accordance with project specifications	Yes ☐	No ☐	☒	

Referenced Drawings	**Date**	**Page**	**Rev.**	**ASTM**	**GRADE**
				A 615 ☐	40 ☐ 50 ☐ 60 ☐
				A 616 ☐ A 617 ☐	75 ☐
				A 706 ☐	A 775 Epoxy ☐

CONCRETE PLACEMENT OBSERVATIONS	**In Compliance**		**N/O**	**Comments**
Required mix used	Yes ☒	☐	☐	3000 psi, ¾", Fiber
Placement and consolidation of concrete observed	Yes ☒	☐	☐	
Concrete properly conveyed to all areas of placement	Yes ☒	☐	☐	
Depth of layer maximum limits not exceeded	Yes ☒	☐	☐	
Internal vibration (depth of insertion, spacing, time, vertical insertion, no conveyance of concrete by vibration)	Yes ☒	☐	☐	
Even layering around openings and embedments	Yes ☒	☐	☐	
Removal of temporary ties and spacers	Yes ☐	☐	☒	

FIELD TESTING OF CONCRETE PERFORMED Yes ☒ No ☐

***CYLINDER SET NO:** 973-8 ←**refer to associated concrete test report*

POST PLACEMENT OBSERVATIONS	**In Compliance**		**N/O**	**Comments**
Specified finish	Yes ☐	☐	☒	
Protection of surfaces from cracking due to rapid drying	Yes ☐	☐	☒	
Proper curing procedures implemented	Yes ☐	☐	☒	

NON-CONFORMANCE ITEMS OBSERVED Yes ☐ No ☒

Non-Conformance Item Description:

Action Taken by SWCE:

Person(s) Notified:

N/O = Not Observed

Notes:

Slumps ranged from 5.5-6".

Attachments: None

Reviewed By: RED

RED

S.W.COLE ENGINEERING, INC.

Report of Concrete Compressive Strength

ASTM C-31 & C-39

Project Name: PORTLAND ME - POWER PAY OFFICE FIT UP - MATERIALS TESTING

Project Number: 09-0318

Client: PORTLAND PUBLIC MARKET LLC

Client Contract Number:

General Contractor:

Concrete Supplier: DRAGON PRODUCTS

PLACEMENT INFORMATION

Date Cast: 8/11/2009 **Time Cast:** 7:55

Date Received: 8/12/2009

Placement Location: SLAB ON GRADE (W5-W7) S1-S4

Placement Method: PUMP (NE)

Placement Vol. (yd^3): 55

Cylinders Made By: SJC

Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) **Maximum (°F)**

DELIVERY INFORMATION

Admixtures: GLENIUM
FIBERMESH

TEST RESULTS

Slump (in) (C-143): **Slump WR:** 5.5

Air Content (%) (C-231): **Air WR:** 3.2

Air Temp (°F): 72

Conc. Temp (°F) (C-1064): 77

Load Number: 2

Mixer Number: 192

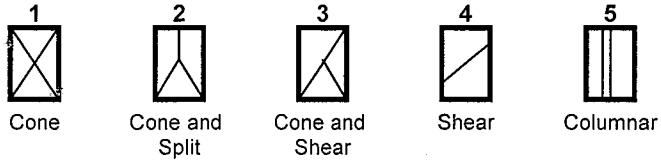
Ticket Number: 3932505

Cubic Yards: 10

Design (psi): **3000**

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area(In)²	Date Of Test	Cure Type	**Age (days)**	Fracture Type	Load (kips)	**Strength (psi)**
973-8A		4.00	12.57	8/18/2009	Lab	**7**	4	41.2	**3280**
973-8B		4.00	12.57	9/8/2009	Lab	**28**	4	57.2	**4550**
973-8C		4.00	12.57	9/8/2009	Lab	**28**	4	58.4	**4650**
973-8D				Hold	Lab				

Fracture Types



Remarks:

S.W.COLE ENGINEERING, INC.

Report of Concrete Compressive Strength

ASTM C-31 & C-39

Project Name: PORTLAND ME - POWER PAY OFFICE FIT UP - MATERIALS TESTING

Project Number: 09-0318

Client: PORTLAND PUBLIC MARKET LLC

Client Contract Number:

General Contractor:

Concrete Supplier: DRAGON PRODUCTS

PLACEMENT INFORMATION

Date Cast: 8/20/2009 **Time Cast:** 7:50 **Date Received:** 8/24/2009

Placement Location: FIRST FLOOR SLAB NE CORNER AT COLUMN LINE W-3, W-4

Placement Method: PUMP

Cylinders Made By: TKM

Placement Vol. (yd^3): 50

Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) **Maximum (°F)**

DELIVERY INFORMATION

Admixtures: GLENIUM

TEST RESULTS

Slump (in) (C-143): **Slump WR:** 5.5

Air Content (%) (C-231): **Air WR:** 3.5

Air Temp (°F): 74

Conc. Temp (°F) (C-1064): 78

Load Number: 3

Mixer Number: 185

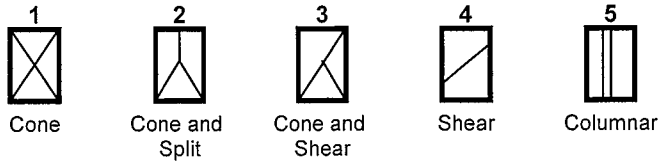
Ticket Number: 39632614

Cubic Yards: 10

Design (psi): **3000**

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area(In)²	Date Of Test	Cure Type	**Age (days)**	Fracture Type	Load (kips)	**Strength (psi)**
973-9A		4.00	12.57	8/27/2009	Lab	**7**	4	39.0	**3100**
973-9B		4.00	12.57	9/17/2009	Lab	**28**	4	69.0	**5490**
973-9C		4.00	12.57	9/17/2009	Lab	**28**	4	66.8	**5320**
973-9D				Hold	Lab				

Fracture Types



Remarks:

S.W.COLE ENGINEERING, INC.

Concrete Construction Observation Report

Project Name/Location:	PowerPay Office Fit-Up	**Project No:**	09-0318
Client/Client's Rep.:	Portland Public Market, LLC.	**Date:**	08/27/09
Concrete Contractor:	Wright Ryan Construction	**Sheet:**	1 of 1
Placement Location:	2nd Floor Cumberland Ave & Radius Slabs. Edge Forms at elevator	**SWCE Rep.:**	SJC
Placement Type:	Footing ☐ Wall ☐ Column ☐ Slab ☒ Other ☐	**Arrived at Site:**	7:00 AM
		Left Site:	10:30 AM

PRE PLACEMENT OBSERVATIONS	In Compliance		N/O	Comments
Bar Size (diameter, length, bend and anchorage)	Yes ☐	No ☐	☒	Inspected by Becker
Location (# of bars, spacing, and cover)	Yes ☐	No ☐	☒	
Splicing (weld joint, overlap)	Yes ☐	No ☐	☒	
Stability (wiring, chairs, and spacers)	Yes ☐	No ☐	☒	
Reinforcement free from mud, oil, rust, or other nonmetallic coatings	Yes ☐	No ☐	☒	
Reinforcement appears in conformance to specifications	Yes ☐	No ☐	☒	
Soil subgrade prepared in accordance with project specifications	Yes ☐	No ☐	☒	

Referenced Drawings	Date	Page	Rev.	ASTM	GRADE
				A 615 ☐	40 ☐ 50 ☐ 60 ☐
				A 616 ☐	75 ☐
				A 617 ☐	
				A 706 ☐	A 775 Epoxy ☐

CONCRETE PLACEMENT OBSERVATIONS	In Compliance		N/O	Comments
Required mix used	Yes ☒	☐	☐	3000 psi, ¾"
Placement and consolidation of concrete observed	Yes ☒	☐	☐	
Concrete properly conveyed to all areas of placement	Yes ☒	☐	☐	
Depth of layer maximum limits not exceeded	Yes ☒	☐	☐	
Internal vibration (depth of insertion, spacing, time, vertical insertion, no conveyance of concrete by vibration)	Yes ☒	☐	☐	
Even layering around openings and embedments	Yes ☒	☐	☐	
Removal of temporary ties and spacers	Yes ☐	☐	☒	

FIELD TESTING OF CONCRETE PERFORMED — Yes ☒ No ☐

***CYLINDER SET NO:** 973-10 ←**refer to associated concrete test report*

POST PLACEMENT OBSERVATIONS	In Compliance		N/O	Comments
Specified finish	Yes ☐	☐	☒	
Protection of surfaces from cracking due to rapid drying	Yes ☐	☐	☒	
Proper curing procedures implemented	Yes ☐	☐	☒	

NON-CONFORMANCE ITEMS OBSERVED — Yes ☐ No ☒

Non-Conformance Item Description:

Action Taken by SWCE:

Person(s) Notified:

N/O = Not Observed

Notes:

Slumps ranged from 5.5-6".

Attachments: None

Reviewed By: RGT

S.W.COLE ENGINEERING, INC.

Report of Concrete Compressive Strength

ASTM C-31 & C-39

Project Name: PORTLAND ME - POWER PAY OFFICE FIT UP - MATERIALS TESTING

Project Number: 09-0318

Client Contract Number:

Client: PORTLAND PUBLIC MARKET LLC

General Contractor:

Concrete Supplier: DRAGON PRODUCTS

PLACEMENT INFORMATION

Date Cast: 8/27/2009 **Time Cast:** 8:10 **Date Received:** 8/31/2009

Placement Location: 2ND FLOOR CUMBERLAND AVE & RADIUS SLAB. EDGE FORMS AT ELEVATOR

Placement Method: PUMP (NE)

Placement Vol. (yd^3): 50

Cylinders Made By: SJC

Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) **Maximum (°F)**

DELIVERY INFORMATION

Admixtures: GLENIUM

TEST RESULTS

Slump (in) (C-143): **Slump WR:** 6

Air Content (%) (C-231): **Air WR:** 2.4

Air Temp (°F): 63

Conc. Temp (°F) (C-1064): 77

Load Number: 2

Mixer Number: 176

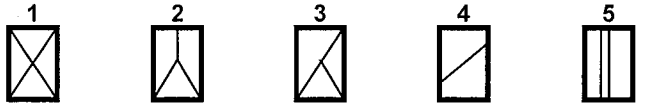
Ticket Number: 3932691

Cubic Yards: 10

Design (psi): **3000**

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area(In)²	Date Of Test	Cure Type	**Age (days)**	Fracture Type	Load (kips)	**Strength (psi)**
973-10A		4.00	12.57	9/3/2009	Lab	**7**	4	31.6	**2520**
973-10B		4.00	12.57	9/24/2009	Lab	**28**	4	60.0	**4780**
973-10C		4.00	12.57	9/24/2009	Lab	**28**	4	63.0	**5010**
973-10D				Hold	Lab				

Fracture Types



1 Cone; 2 Cone and Split; 3 Cone and Shear; 4 Shear; 5 Columnar

Remarks:

S.W.COLE ENGINEERING, INC.

Report of Concrete Compressive Strength

ASTM C-31 & C-39

Project Name: PORTLAND ME - POWER PAY OFFICE FIT UP - MATERIALS TESTING

Project Number: 09-0318

Client Contract Number:

Client: PORTLAND PUBLIC MARKET LLC

General Contractor:

Concrete Supplier: DRAGON PRODUCTS

PLACEMENT INFORMATION

Date Cast: 8/31/2009 **Time Cast:** 8:42

Date Received: 9/1/2009

Placement Location: RADIUS SLAB ON GRADE

Placement Method: PUMP*

Cylinders Made By: VLT

Placement Vol. (yd³): 50

Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) **Maximum (°F)**

DELIVERY INFORMATION

Admixtures: FIBERMESH, MRWR - GLENIUM

TEST RESULTS

Slump (in) (C-143): **Slump WR:** 6

Air Content (%) (C-231): **Air WR:** 3.8

Air Temp (°F): 60

Conc. Temp (°F) (C-1064): 77

Load Number: 1

Mixer Number: 192

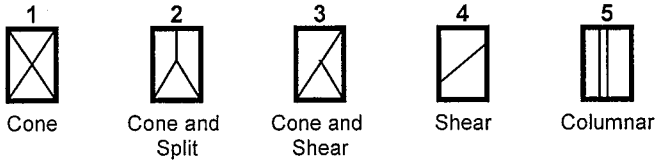
Ticket Number: 393279

Cubic Yards: 10

Design (psi): **3000**

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area(In)²	Date Of Test	Cure Type	**Age (days)**	Fracture Type	Load (kips)	**Strength (psi)**
973-11A		4.00	12.57	9/7/2009	Lab	**7**	4	31.0	**2470**
973-11B		4.00	12.57	9/28/2009	Lab	**28**	4	50.4	**4010**
973-11C		4.00	12.57	9/28/2009	Lab	**28**	4	57.2	**4550**
973-11D				Hold	Lab				

Fracture Types



Remarks: * NORTHEAST CONCRETE

S.W.COLE ENGINEERING, INC.

Report of Concrete Compressive Strength

ASTM C-31 & C-39

Project Name: PORTLAND ME - POWER PAY OFFICE FIT UP - MATERIALS TESTING

Project Number: 09-0318

Client: PORTLAND PUBLIC MARKET LLC

Client Contract Number:

General Contractor:

Concrete Supplier: DRAGON PRODUCTS

PLACEMENT INFORMATION

Date Cast: 9/3/2009 **Time Cast:** 9:20

Date Received: 9/4/2009

Placement Location: SLAB COL. PA-PD, P1-P3

Placement Method: PUMP (NE)

Cylinders Made By: TJH

Placement Vol. (yd^3): 75

Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) **Maximum (°F)**

DELIVERY INFORMATION

Admixtures: FIBERMESH
GLENIUM - MIDRANGE

TEST RESULTS

Slump (in) (C-143): **Slump WR:** 4.5

Air Content (%) (C-231): **Air WR:** 3.5

Air Temp (°F): 67

Conc. Temp (°F) (C-1064): 73

Load Number: 4

Mixer Number: 189

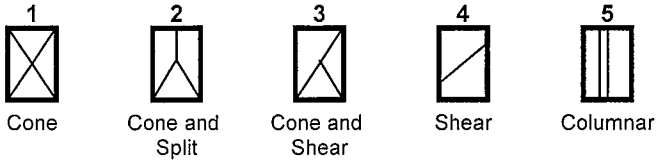
Ticket Number: 3932797

Cubic Yards: 10

Design (psi): **3000**

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area(In)²	Date Of Test	Cure Type	**Age (days)**	Fracture Type	Load (kips)	**Strength (psi)**
973-12A		4.00	12.57	9/10/2009	Lab	**7**	4	31.4	**2500**
973-12B		4.00	12.57	10/1/2009	Lab	**28**	4	54.0	**4300**
973-12C		4.00	12.57	10/1/2009	Lab	**28**	4	49.0	**3900**
973-12D				Hold	Lab				

Fracture Types



Remarks:

S.W.COLE ENGINEERING, INC.

Report of Concrete Compressive Strength

ASTM C-31 & C-39

Project Name: PORTLAND ME - POWER PAY OFFICE FIT UP - MATERIALS TESTING

Project Number: 09-0318

Client: PORTLAND PUBLIC MARKET LLC

Client Contract Number:

General Contractor:

Concrete Supplier: DRAGON PRODUCTS

PLACEMENT INFORMATION

Date Cast: 9/17/2009 **Time Cast:** 8:31 **Date Received:** 9/18/2009

Placement Location: INTERIOR RAMP AT PREBLE ST SIDE OF BUILDING
INTERIOR RAMP AT I.T. ROOM SLAB AT LINE C 3

Placement Method: PUMP*

Placement Vol. (yd^3): 30

Cylinders Made By: VLT

Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) **Maximum (°F)**

DELIVERY INFORMATION

Admixtures: FIBERMESH, MRWR - GLENIUM

TEST RESULTS

Slump (in) (C-143): **Slump WR:** 4

Air Content (%) (C-231): **Air WR:** 3.0

Air Temp (°F): 53

Conc. Temp (°F) (C-1064): 72

Load Number: 1

Mixer Number: 176

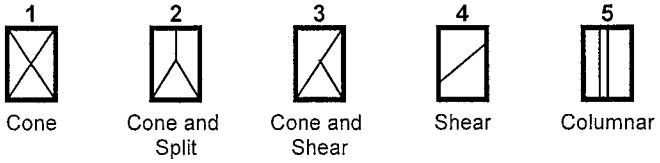
Ticket Number: 332996

Cubic Yards: 10

Design (psi): **3000**

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area(In)²	Date Of Test	Cure Type	**Age (days)**	Fracture Type	Load (kips)	**Strength (psi)**
973-13A		4.00	12.57	9/24/2009	Lab	**7**	4	31.6	**2520**
973-13B		4.00	12.57	10/15/2009	Lab	**28**	4	51.0	**4060**
973-13C		4.00	12.57	10/15/2009	Lab	**28**	4	55.4	**4410**
973-13D				Hold	Lab				

Fracture Types



Remarks:

S.W.COLE ENGINEERING, INC.

Report of Concrete Compressive Strength

ASTM C-31 & C-39

Project Name: PORTLAND ME - POWER PAY OFFICE FIT UP - MATERIALS TESTING

Project Number: 09-0318

Client Contract Number:

Client: PORTLAND PUBLIC MARKET LLC

General Contractor:

Concrete Supplier: DRAGON PRODUCTS

PLACEMENT INFORMATION

Date Cast: 9/28/2009 **Time Cast:** 9:28 **Date Received:** 9/29/2009

Placement Location: SLAB ON DECK - 2ND FLOOR CONFERENCE ROOM + AROUND ELEVATOR

Placement Method: PUMP*

Cylinders Made By: VLT

Placement Vol. (yd^3): 14

Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) **Maximum (°F)**

DELIVERY INFORMATION

Admixtures: MRWR

TEST RESULTS

Slump (in) (C-143): **Slump WR:** 4.5

Air Content (%) (C-231): **Air WR:** 2.3

Air Temp (°F): 63

Conc. Temp (°F) (C-1064): 73

Load Number: 1

Mixer Number: 176

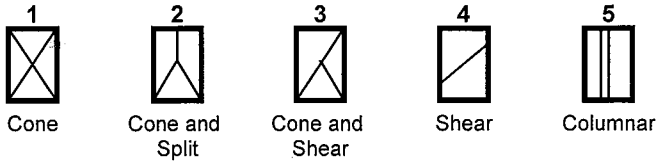
Ticket Number: 3933123

Cubic Yards: 10

Design (psi): **3000**

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area($In)^2$	Date Of Test	Cure Type	**Age (days)**	Fracture Type	Load (kips)	**Strength (psi)**
973-14A		4.00	12.57	10/5/2009	Lab	**7**	4	31.2	**2480**
973-14B		4.00	12.57	10/26/2009	Lab	**28**	4	55.2	**4390**
973-14C		4.00	12.57	10/26/2009	Lab	**28**	4	59.8	**4760**
973-14D				Hold	Lab				

Fracture Types



Remarks: *NORHTEAST CONCRETE PUMPING

286 Portland Road, Gray, ME 04039-9586 • Tel (207) 657-2866 • Fax (207) 657-2840 • www.swcole.com

S.W.COLE ENGINEERING, INC.

Report of Concrete Compressive Strength

ASTM C-31 & C-39

Project Name: PORTLAND ME - POWER PAY OFFICE FIT UP - MATERIALS TESTING

Project Number: 09-0318

Client Contract Number:

Client: PORTLAND PUBLIC MARKET LLC

General Contractor:

Concrete Supplier: DRAGON PRODUCTS

PLACEMENT INFORMATION

Date Cast: 12/23/2009 **Time Cast:** 7:35 **Date Received:** 12/24/2009

Placement Location: 2nd level mezanine radius, 2nd level exercise room

Placement Method: PUMP

Cylinders Made By: TBA

Placement Vol. (yd^3): 13.5

Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) **Maximum (°F)**

DELIVERY INFORMATION

Admixtures: Glenium 7500

TEST RESULTS

Slump (in) (C-143): 7

Air Content (%) (C-231): 2

Air Temp (°F): 12

Conc. Temp (°F) (C-1064): 62

Load Number: 1

Mixer Number: 176

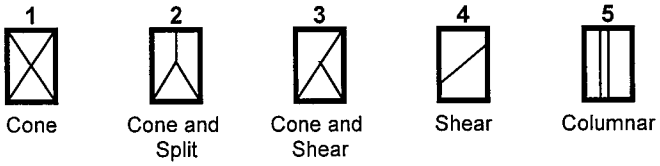
Ticket Number: 3934041

Cubic Yards: 10

Design (psi): **3000**

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area($In)^2$	Date Of Test	Cure Type	**Age (days)**	Fracture Type	Load (kips)	**Strength (psi)**
973-15A		4.00	12.57	12/30/2009	Lab	**7**	4	53.6	**4270**
973-15B		4.00	12.57	1/20/2010	Lab	**28**	4	68.4	**5440**
973-15C		4.00	12.57	1/20/2010	Lab	**28**	4	70.2	**5590**
973-15D				Hold	Lab				

Fracture Types



Remarks:

Schedule of Structural Inspections – **Steel**

Schedule of Special Inspections – Exhibit B
STEEL CONSTRUCTION

Project: PowerPay Office Fit-up, Portland, ME
Date Prepared: 03/27/2009

VERIFICATION AND INSPECTION IBC Section 1704.3	Y/N	EXTENT: CONTINUOUS, PERIODIC, SUBMITTAL, OR NONE	COMMENTS	AGENT	AGENT QUALIFICATION	DATE	INITIAL
1. Material verification of high-strength bolts, nuts and washers:							
a. Identification markings to conform to ASTM standards specified in the approved construction documents.	Y	S	Applicable ASTM material specifications; AISC 335, Section A3.4; AISC LRFD, Section A3.3	SI1	PE/SE or EIT	7/09 - 2/10	NRM
b. Manufacturer's certificate of compliance required.	Y	S		SI1	PE/SE or EIT	2/10	NRM
2. Inspection of high-strength bolting							
a. Bearing-type connections.	Y	P	AISC LRFD Section M2.5 IBC Sect 1704.3.3	TA1	AWS/AISC-SSI	7/09 - 8/09	NRM
b. Slip-critical connections.	Y	C or P (method dependent)		TA1	AWS/AISC-SSI	7/09 - 8/09	NRM
3. Material verification of structural steel (IBC Sect 1708.4):							
a. Identification markings to conform to ASTM standards specified in the approved construction documents.	Y	S	ASTM A 6 or ASTM A 568 IBC Sect 1708.4	SI1	PE/SE or EIT	7/09 - 2/10	NRM
b. Manufacturers' certified mill test reports.	Y	S	ASTM A 6 or ASTM A 568 IBC Sect 1708.4	SI1	PE/SE or EIT	2/10	NRM
4. Material verification of weld filler materials:							
a. Identification markings to conform to AWS specification in the approved construction documents.	Y	S	AISC, ASD, Section A3.6; AISC LRFD, Section A3.5	SI1	PE/SE or EIT	7/09 - 2/10	NRM
b. Manufacturer's certificate of compliance required.	Y	S		SI1	PE/SE or EIT	2/10	NRM

Steel Construction has been reviewed in accordance with section 1704.3 of the IBC Code

Special Inspector NRM Date 2/11/10

Schedule of Special Inspections – Exhibit B
STEEL CONSTRUCTION

Project: PowerPay Office Fit-up, Portland, ME
Date Prepared: 03/27/2009

VERIFICATION AND INSPECTION IBC Section 1704.3	Y/N	EXTENT: CONTINUOUS, PERIODIC, SUBMITTAL, OR NONE	COMMENTS	AGENT	AGENT QUALIFICATION	DATE	INITIAL
5. Submit current AWS D1.1 welder certificate for all field welders who will be welding on this project.	Y	S	AWS D1.1	SI1	PE/SE or EIT	2/10	NRM
6. Inspection of welding (IBC 1704.3.1): a. Structural steel:							
1) Complete and partial penetration groove welds.	Y	C	AWS D1.1	TA1	AWS-CWI	7/09-2/10	NRM
2) Multipass fillet welds.	Y	C		TA1	AWS-CWI	7/09-2/10	NRM
3) Single-pass fillet welds> 5/16"	Y	C		TA1	AWS-CWI	7/09-2/10	NRM
4) Single-pass fillet welds< 5/16"	Y	P		TA1	AWS-CWI	7/09-2/10	NRM
5) Floor and Roof deck welds.	Y	P	AWS D1.3	TA1	AWS-CWI	7/09-2/10	NRM
b. Reinforcing steel (IBC Sect 1903.5.2):							
1) Verification of weldability of reinforcing steel other than ASTM A706.	N		Welding of Reinforcement not permitted	N/A			
2) Reinforcing steel-resisting flexural and axial forces in intermediate and special moment frames, and boundary elements of special reinforced concrete shear walls and shear reinforcement.	N	C	AWS D1.4 ACI 318: 3.5.2	TA1	AWS-CWI		
3) Shear reinforcement.	N	C		TA1	AWS-CWI		
4) Other reinforcing steel.	N	P		TA1	AWS-CWI		
7. Inspection of steel frame joint details for compliance (IBC Sect 1704.3.2) with approved construction documents:							
a. Details such as bracing and stiffening.	Y	P		SI1	PE/SE or EIT	7/09-2/10	NRM
b. Member locations.	Y	P		SI1	PE/SE or EIT	7/09-2/10	NRM
c. Application of joint details at each connection.	Y	P		SI1	PE/SE or EIT	7/09-2/10	NRM

Steel Construction has been reviewed in accordance with section 1704.3 of the IBC Code

Special Inspector NRM Date 2/11/10

Schedule of Special Inspection Services – Exhibit B

FABRICATION AND IMPLEMENTATION PROCEDURES – STRUCTURAL STEEL

Project: PowerPay Office Fit-up, Portland, ME
Date Prepared: 03/27/2009

VERIFICATION AND INSPECTION IBC Section 1704.2	Y/N	EXTENT: CONTINUOUS, PERIODIC, SUBMITTAL, OR NONE	COMMENTS	AGENT	AGENT QUALIFICATION	DATE	INITIAL
1. Fabrication Procedures: Review of fabricator's written procedural and quality control manuals and periodic auditing of fabrication practices by an approved special inspection agency. At the completion of fabrication, the approved fabricator shall submit a certificate of compliance to the building code official stating that the work was performed in accordance with the approved construction documents. -OR- 2. AISC Certification	Y	S	Fabricator shall submit one of the two qualifications	SI1	PE/SE or EIT	2/10	NRM
3. At completion of fabrication, the approved fabricator shall submit a certificate of compliance to the building code official stating that the work was performed in accordance with the approved construction documents.	Y	S	IBC 1704.2.2	SI1	PE/SE or EIT	2/10	NRM

Fabricator Qualifications have been reviewed in accordance with section 1704.2 of the IBC Code

Special Inspector 2/11/10 Date NRM

BECKER
structural engineers, inc.

05120

OBSERVATION REPORT
Structural Steel

Date:	7-8-09
Time:	8:00 AM
Temp:	60 F
Weather:	Indoor - dry

Project:	PowerPay Office
Location:	Portland, ME
Becker Job No:	2120

Observation Location:
Steel erection (in progress): Mezzanine structural steel from grid PA-PK & exercise room floor

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Bolt Condition	☒	☐	☒	☐	Test report required
Weld Condition	☒	☐	☒	☐	Test report required
Anchor Bolts, Nuts, & Washers	☒	☐	☐	☐	
Grout/Leveling Plates	☒	☐	☐	☐	
Fit Up/Plumbness	☐	☒	☐	☐	see notes below
Metal Deck Welds	☐	☐	☒	☐	
Pour Stops	☐	☐	☒	☐	
Bracing	☐	☐	☒	☐	
Additional Items	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	

Notes:
Plumbness of columns supporting exercise room framing un-satisfactory. G/C is aware of condition and is working towards a solution. G/C believes conflict between as-built drawings and existing conditions is responsible.

Signed: Nathan Merrill, E.I.

75 York Street, Portland, ME 04101-4701 ■ Tel 207-879-1838 ■ Fax 207-879-1822

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structural engineers, inc.

05120

OBSERVATION REPORT
Structural Steel

Date:	8-26-09
Time:	9:00 AM
Temp:	75 F
Weather:	Indoor - dry

Project:	PowerPay Office
Location:	Portland, ME
Becker Job No:	2120

Observation Location:
Mezzanine structural steel from grid C1-C6 & "knuckle" between grids C6 & PA

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Bolt Condition	☒	☐	☒	☐	Test report required - see note below
Weld Condition	☒	☐	☐	☐	Test report required
Anchor Bolts, Nuts, & Washers	☐	☐	☐	☒	see note below
Grout/Leveling Plates	☐	☐	☐	☒	see note below
Fit Up/Plumbness	☒	☐	☐	☐	
Metal Deck Welds	☒	☐	☐	☐	Test report required
Pour Stops	☒	☐	☐	☐	
Bracing	☐	☐	☐	☒	
Additional Items	☐	☒	☐	☐	see note below
Additional Items	☐	☐	☐	☒	

Notes:
Omitted bolts observed at W18x40 support post near existing grid W2/S2. G/C made it know that bolts will be installed prior to deck slab placement. Anchors bolts and leveling plates for this area will be observed prior to ground floor slab placement. L4x4 beam support at expansion joint per SKS-16 observed to be installed in wrong location. L4x4 shall be located 1'-0" from "bridge" perimeter beam centerline. G/C made it known that L4x4 would be removed and installed in correct location prior to elevated concrete slab placement.

Signed: Nathan Merrill, E.I.

75 York Street, Portland, ME 04101-4701 ■ Tel 207-879-1838 ■ Fax 207-879-1822

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structural engineers, inc.

05120

OBSERVATION REPORT
Structural Steel

Date:	11-4-09
Time:	2:00 PM
Temp:	45 F
Weather:	overcast

Project:	PowerPay Office
Location:	Portland, ME
Becker Job No:	2120

Observation Location:
Dunnage Frames for roof top mechanical units and channel reinforcement at roof purlins

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Bolt Condition	☒	☐	☐	☐	
Weld Condition	☒	☐	☐	☐	
Anchor Bolts, Nuts, & Washers	☐	☐	☐	☒	
Grout/Leveling Plates	☐	☐	☐	☒	
Fit Up/Plumbness	☒	☐	☐	☐	
Metal Deck Welds	☐	☐	☐	☒	
Pour Stops	☐	☐	☐	☒	
Bracing	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	

Notes:

Signed: Nathan Merrill, E.I.

75 York Street, Portland, ME 04101-4701 ■ Tel 207-879-1838 ■ Fax 207-879-1822

BECKER
structural engineers, inc.

05120

OBSERVATION REPORT
Structural Steel

Date:	1-5-10
Time:	8:00 AM
Temp:	60 F
Weather:	Indoor - dry

Project:	PowerPay Office
Location:	Portland, ME
Becker Job No:	2120

Observation Location:
Floor demolition and infill @ future café stair. Mezzanine floor infill @ executive conference room.

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Bolt Condition	☒	☐	☐	☐	
Weld Condition	☒	☐	☐	☐	
Anchor Bolts, Nuts, & Washers	☐	☐	☒	☐	see notes below
Grout/Leveling Plates	☐	☐	☒	☐	see notes below
Fit Up/Plumbness	☒	☐	☐	☐	
Metal Deck Welds	☒	☐	☐	☐	
Pour Stops	☐	☐	☐	☒	
Bracing	☐	☐	☒	☐	see notes below
Additional Items	☐	☒	☐	☐	see notes below
Additional Items	☐	☐	☐	☒	

Notes:
New post at future stair opening was found to have no anchor bolts or grout below base plate. G/C was made aware that the post must be anchored into foundation wall below as soon as possible in order to stabilize the post with grouting under base plate to follow. Open web floor joist bracing in vicinity to future stair opening was found to be discontinued due to installation of new W beam. It was made known to G/C that continuous bracing should be reinstalled. New W beam was found to lack connectivity to deck as specified on SKS-30. Holes in top flange shall be provided and anchored to slab above as specified. Existing bent plate slab edge at mezzanine infill was found to be continuous across new expansion joint location. G/C was made aware that slab edge must be cut back in order to provide specified continuous joint per SKS-26.

Signed: Nathan Merrill, E.I.

75 York Street, Portland, ME 04101-4701 ■ Tel 207-879-1838 ■ Fax 207-879-1822

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structural engineers, inc.

05120

OBSERVATION REPORT
Structural Steel

Date:	2-10-10
Time:	11:00 AM
Temp:	60 F
Weather:	Indoor - dry

Project:	PowerPay Office
Location:	Portland, ME
Becker Job No:	2120

Observation Location:
Butt Glazed wall support stanchions/bracing. Framing at future café stair.

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Bolt Condition	☒	☐	☐	☐	
Weld Condition	☒	☐	☐	☐	
Anchor Bolts, Nuts, & Washers	☒	☐	☐	☐	
Grout/Leveling Plates	☐	☐	☒	☐	see notes below
Fit Up/Plumbness	☒	☐	☐	☐	
Metal Deck Welds	☒	☐	☐	☐	
Pour Stops	☐	☐	☐	☒	
Bracing	☒	☐	☐	☐	
Additional Items	☐	☐	☒	☐	see notes below
Additional Items	☐	☐	☐	☒	

Notes:
New post at future stair opening was found to have no anchor bolts or grout below base plate. G/C was made aware that the post must be anchored into foundation wall below as soon as possible in order to stabilize the post with grouting under base plate to follow. New W beam was found to lack connectivity to deck as specified on SKS-30. Holes in top flange shall be provided and anchored to slab above as specified. G/C will send photos when completed.

Signed: Nathan Merrill, E.I.

75 York Street, Portland, ME 04101-4701 ■ Tel 207-879-1838 ■ Fax 207-879-1822

WELDER, WELDING OPRATOR, OR TACK WELDER QUALIFICATION TEST RECORD

Name of Welder	Jon Howland				
Firm	James A McBrady Co		Identification No.	7230	
Welding Procedure Specification No.	102	Rev.	N/A	Date	Jan 26, 2007

Variables	Record Actual Values Used in Qualification	Qualification Range
Process/Type [Table 4.10, Item (1)]	MCAW	
Electrode (single or multiple) [Table 4.10, Item (2	1/16 E70C-6M H4	052, 1/16
Current Polarity	300 Amps DC+	
Position [Table 4.10, Item (6)]	1G	1G
Weld Progression [Table 4.10, Item (6)]		
Backing (YES or NO) [Table 4.10 Item (7)]	Yes	Yes
Material/Spec.	Group 1 to Group 1	Group 1 And Group 2
Base Metal		
Thickness: (Plate)		
Groove	1 "	Unlimited
Fillet	N/A	F & H Unlimited
Thickness: (Pipe/Tube)		
Groove	N/A	Unlimited
Fillet	N/A	F & H Unlimited
Diameter :(Pipe)		
Groove	N/A	OVER 24" DIA.
Fillet	N/A	OVER 24" DIA.
Filler Metal [Table 4.10, Item (3)]		
Spec. No.	A5.20	
Class	E 70C-6M H4	
F-No. [Table 4.10, Item (2)]	F6	F6
Gas/Flux Type [Table 4.10item (3)]	75%Argon/ 25% CO2	
Other	N/A	N/A

VISUAL INSPECTION (4.8.1)

Acceptable YES or NO

QC 1 YES Brad Wells CWI # 00050221 CWI

Guided Bend Test Results (4.30.5)

Type	Result	Type	Result

Fillet Test Results (4.30.2.3 and 4.30.4.1)

Appearance	N/A	Fillet Size	N/A
Fracture Test Root Penetration	N/A	Macroetch	N/A

(Describe the location, nature, and size of any crack or tearing of the specimen.)

Inspected by Brad Wells CWI # 00050221 Test Number N/A

Organization Maine Oxy Date Aug 25, 2006

RADIOGRAPHIC TEST RESULTS (4.30.3.1)

Film Identification Number	Results	Remarks	Film Identification Number	Results	Remarks
Jon Howland	PASS				

Interpreted by [signature] Test Number CMH-07-0192

Organization Quality Assurance Labs Date 1/29/07

We, the undersigned, certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in accordance with the requirements of section 4 of AWS D1.1, (_____) Structural Welding Code ---- Steel.

Manufacturer or Contractor _____ Authorized By _____

Date _____

WELDER, WELDING OPERATOR, OR TACK WELDER QUALIFICATION TEST RECORD

Type of Welder _____
Name Brian Joy Identification No. 4652
Welding Procedure Specification No. 102 Rev _____ Date 2/6/07

Variables	Record Actual Values Used in Qualification	Qualification Range
Process/Type [Table 4.10, Item (1)]	FCAW	
Electrode (single or multiple) [Table 4.10, Item (8)]	045 FCAW	
Current/Polarity	DC+ 250 AMPS	
Position [Table 4.10, Item (4)]	1G	1G
Weld Progression [Table 4.10, Item (6)]		
Backing (YES or NO) [Table 4.10, Item (7)]	Yes	Yes
Material/Spec.	Group 1 to Group 1	Group 1 and Group 2
Base Metal		
Thickness: (Plate)		
Groove	1"	unlimited
Fillet	N/A	F & H unlimited
Thickness: (Pipe/tube)		
Groove		
Fillet	N/A	
Diameter: (Pipe)	N/A	
Groove	N/A	OD or 24" DIA
Fillet	N/A	OD or 24" DIA
Filler Metal [Table 4.10, Item (3)]		
Spec. No.	A5.20	
Class	E71T1-1M	
F-No. [Table 4.10, Item (2)]	F6	F6
Gas/Flux Type [Table 4.10, Item (3)]	75%Argon 25%CO2	
Other	NA	

VISUAL INSPECTION (4.8.1)
Acceptable (YES) or NO _____

Guided Bend Test Results (4.30.5)

Type	Result	Type	Result

Fillet Test Results (4.30.2.3 and 4.30.4.1)
Appearance _____ Fillet Size _____
Fracture Test Root Penetration _____ Macroetch _____
(Describe the location, nature, and size of any crack or tearing of the specimen.)

Inspected by Roland McKeen Test Number NA
Organization James A. McBrady Date 2/6/07

RADIOGRAPHIC TEST RESULTS (4.30.3.1)

Film Identification Number	Results	Remarks	Film Identification Number	Results	Remarks
A-B	Acceptable				

Interpreted by David Owens Test Number DAL-07-0309
Organization DAC Date 2/14/07

We, the undersigned, certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in accordance with the requirements of section 4 of AWS D1.1, (_____) Structural Welding Code—Steel.
(year)

Manufacturer or Contractor _____ Authorized By _____
Date _____

Form E-4

WELDER, WELDING OPERATOR, OR TACK WELDER QUALIFICATION TEST RECORD

of Welder
ne Alan McPhee. Identification No. 9076
elding Procedure Specification No. _____ Rev _____ Date 2/5/07

Variables	Record Actual Values Used in Qualification	Qualification Range
Process/Type [Table 4.10, Item (1)]	FCAW	
Electrode (single or multiple) [Table 4.10, Item (8)]	0-45 E71T-1M-H8	
Current/Polarity	220 Amps DC+	
Position [Table 4.10, Item (4)]		
Weld Progression [Table 4.10, Item (6)]	3G	3G
Backing (YES or NO) [Table 4.10, Item (7)]	Yes	Yes
Material/Spec.	Group 1 to Group 1	Group 1 and Group 2
Base Metal		
Thickness: (Plate)		
Groove	1"	unlimited
Fillet	N/A	F.H.V unlimited
Thickness: (Pipe/tube)		
Groove		
Fillet	N/A	
Diameter: (Pipe)	N/A	
Groove		
Fillet	N/A	
Filler Metal [Table 4.10, Item (3)]	N/A	
Spec. No.		
Class	E71T-1M-H8	
F-No. [Table 4.10, Item (2)]		
Gas/Flux Type [Table 4.10, Item (3)]	75% Argon 25% CO2	
Other	N/A	

VISUAL INSPECTION (4.8.1)
Acceptable YES or NO ____

Guided Bend Test Results (4.30.5)

Type	Result	Type	Result

Fillet Test Results (4.30.2.3 and 4.30.4.1)
Appearance _____ Fillet Size _____
Fracture Test Root Penetration _____ Macroetch _____
(Describe the location, nature, and size of any crack or tearing of the specimen.)

Inspected by Roland McKeen Test Number N/A
Organization James A. McBrady Date 2/5/07

RADIOGRAPHIC TEST RESULTS (4.30.3.1)

Film Identification Number	Results	Remarks	Film Identification Number	Results	Remarks
0-1	NO Apparent Defects				

Interpreted by John Weese Test Number QAL-07-0255
Organization Q.A.L Date 2-7-07

We, the undersigned, certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in accordance with the requirements of section 4 of AWS D1.1, (____) Structural Welding Code—Steel.
(year)

Manufacturer or Contractor James Bradyinc Authorized By _____
Form E-4 Date 2-8-07

WELDER, WELDING OPRATOR, OR TACK WELDER QUALIFICATION TEST RECORD

Name of Welder: Alan McPhee
Name: James A McBrady Co Identification No. 9076
Welding Procedure Specification No. 102 Rev. N/A Date Jan 26, 2007

Variables	Record Actual Values Used in Qualification	Qualification Range
Process/Type [Table 4.10, Item (1)]	MCAW	
Electrode (single or multiple) [Table 4.10, Item (	1/16 E70C-6M H4	052, 1/16
Current Polarity	300 Amps DC+	
Position [Table 4.10, Item (6)]	1G	1G
Weld Progression [Table 4.10, Item (6)]		
Backing (YES or NO) [Table 4.10 Item (7)]	Yes	Yes
Material/Spec.	Group 1 to Group 1	Group 1 and Group 2
Base Metal		
Thickness: (Plate)		
Groove	1"	Unlimited
Fillet	N/A	F & H Unlimited
Thickness: (Pipe/Tube)		
Groove	N/A	Unlimited
Fillet	N/A	F & H Unlimited
Diameter :(Pipe)		
Groove	N/A	OVER 24" DIA.
Fillet	N/A	OVER 24" DIA.
Filler Metal [Table 4.10, Item (3)]		
Spec. No.	A5.20	
Class	E 70C-6M H4	
F-No. [Table 4.10, Item (2)]	F6	F6
Gas/Flux Type [Table 4.10item (3)]	75%Argon/ 25% CO2	
Other	N/A	N/A

VISUAL INSPECTION (4.8.1)
Acceptable YES or NO YES

Guided Bend Test Results (4.30.5)

Type	Result	Type	Result

Fillet Test Results (4.30.2.3 and 4.30.4.1)

Appearance	N/A	Fillet Size	N/A
Fracture Test Root Penetration	N/A	Macroetch	N/A

(Describe the location, nature, and size of any crack or tearing of the specimen.)

Inspected by Brad Wells CWI # 00050221 Test Number N/A
Organization Maine Oxy Date Aug 26, 2006

RADIOGRAPHIC TEST RESULTS (4.30.3.1)

Film Identification Number	Results	Remarks	Film Identification Number	Results	Remarks
Alan McPhee	Pass				

Interpreted by [signature] Test Number QAL-07-0192
Organization Quality Assurance Ltd Date 1/29/07

We, the undersigned, certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in accordance with the requirements of section 4 of AWS D1.1, (_____) Structural Welding Code ---- Steel.

Manufacturer or Contractor James A McBrady Inc Authorized By [signature]
Date 1/30/07

WELDER, WELDING OPERATOR, OR TACK WELDER QUALIFICATION TEST RECORD

Type of Welder _____
Name Alan McPhee Identification No. 9076
Welding Procedure Specification No. _____ Rev _____ Date 8/14/07

Variables	Record Actual Values Used in Qualification	Qualification Range
Process/Type [Table 4.10, Item (1)]	FCAW	
Electrode (single or multiple) [Table 4.10, Item (8)]	E-45 E71T-1M-H8	
Current/Polarity	220 Amps DC+	
Position [Table 4.10, Item (4)]		All
Weld Progression [Table 4.10, Item (6)]	6G	up
Backing (YES or NO) [Table 4.10, Item (7)]	yes	yes
Material/Spec.	Group 1 to Group 1	
Base Metal		
Thickness: (Plate)		
Groove		
Fillet		
Thickness: (Pipe/tube)	3/8	1/8 - 3/4
Groove		All
Fillet		
Diameter: (Pipe)	6"	
Groove	yes	
Fillet		
Filler Metal [Table 4.10, Item (3)]		
Spec. No.	A5.20	
Class	E71T-1M-H8	
F-No. [Table 4.10, Item (2)]		
Gas/Flux Type [Table 4.10, Item (3)]	75% Argon 25% CO2	
Other		

VISUAL INSPECTION (4.8.1)
Acceptable YES or NO ____

Guided Bend Test Results (4.30.5)

Type	Result	Type	Result

Fillet Test Results (4.30.2.3 and 4.30.4.1)
Appearance _____ Fillet Size _____
Fracture Test Root Penetration _____ Macroetch _____
(Describe the location, nature, and size of any crack or tearing of the specimen.)

Inspected by Roland McKeen Test Number NA
Organization James A. McBroom Date 8/14/07

RADIOGRAPHIC TEST RESULTS (4.30.3.1)

Film Identification Number	Results	Remarks	Film Identification Number	Results	Remarks
0-1	5		2-0	2,5,6	
1-2	2,5				weld passed

Interpreted by Aaron Miller Test Number _____
Organization QAL Date 8/16/07

We, the undersigned, certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in accordance with the requirements of section 4 of AWS D1.1, (____) Structural Welding Code---Steel.
(year)

Manufacturer or Contractor James A. McBroom Authorized By Roland McKeen
Date 8/14/07

Form E-4

WELDER, WELDING OPERATOR, OR TACK WELDER QUALIFICATION TEST RECORD

Type of Welder _____
Name Wayne Wilson Identification No. 3467
Welding Procedure Specification No. _____ Rev _____ Date 2/6/07

Variables	Record Actual Values Used in Qualification	Qualification Range
Process/Type [Table 4.10, Item (1)]	FCAW	
Electrode (single or multiple) [Table 4.10, Item (8)]	.045 FCAW	
Current/Polarity	DC+ 250 Amps	
Position [Table 4.10, Item (4)]	1G	1G
Weld Progression [Table 4.10, Item (6)]		
Backing (YES or NO) [Table 4.10, Item (7)]	Yes	Yes
Material/Spec.	Group 1 to Group 1	Group 1 and Group 2
Base Metal		
Thickness: (Plate)		
Groove	1"	unlimited
Fillet	N/A	FR unlimited
Thickness: (Pipe/tube)		
Groove	N/A	
Fillet	N/A	
Diameter: (Pipe)	N/A	
Groove	N/A	
Fillet	N/A	
Filler Metal [Table 4.10, Item (3)]		
Spec. No.	A5.20	
Class	E71T1-1M	
F-No. [Table 4.10, Item (2)]	F6	
Gas/Flux Type [Table 4.10, Item (3)]	75% Argon 25% CO2	
Other	NA	

VISUAL INSPECTION (4.8.1)
Acceptable (YES) or NO _____

Guided Bend Test Results (4.30.5)

Type	Result	Type	Result

Fillet Test Results (4.30.2.3 and 4.30.4.1)
Appearance _____ Fillet Size _____
Fracture Test Root Penetration _____ Macroetch _____
(Describe the location, nature, and size of any crack or tearing of the specimen.)

Inspected by Roland McKeel Test Number N/A
Organization James A. McGrady Date 2/6/07

RADIOGRAPHIC TEST RESULTS (4.30.3.1)

Film Identification Number	Results	Remarks	Film Identification Number	Results	Remarks
0-1	NO Apparent Defects				

Interpreted by John Weese Test Number QAL-07-0255
Organization QAL Date 2-6-07

We, the undersigned, certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in accordance with the requirements of section 4 of AWS D1.1, (_____) Structural Welding Code—Steel.
(year)

Manufacturer or Contractor _____ Authorized By _____
Form E-4 Date _____

WELDER, WELDING OPERATOR, OR TACK WELDER QUALIFICATION TEST RECORD

Type of Welder _____
Name Mark Yattaw Identification No. 6312
Welding Procedure Specification No. _____ Rev _____ Date _____

Variables	Record Actual Values Used in Qualification	Qualification Range
Process/Type [Table 4.10, Item (1)]	FCAW	
Electrode (single or multiple) [Table 4.10, Item (8)]	E-45E71T-1M-H8	
Current/Polarity	220 Amps DC+	
Position [Table 4.10, Item (4)]		
Weld Progression [Table 4.10, Item (6)]	3G	3G
Backing (YES or NO) [Table 4.10, Item (7)]	Yes	Yes
Material/Spec.	Group 1 to Group 1	Group 1 and Group 2
Base Metal		
Thickness: (Plate)		
Groove	1"	unlimited
Fillet	N/A	F.H.V. unlimited
Thickness: (Pipe/tube)		
Groove		
Fillet	N/A	
Diameter: (Pipe)	N/A	
Groove		
Fillet	N/A	
Filler Metal [Table 4.10, Item (3)]	N/A	
Spec. No.		
Class	E71T-1M-H8	
F-No. [Table 4.10, Item (2)]		
Gas/Flux Type [Table 4.10, Item (3)]	75% Argon 25% CO2	
Other	NA	

VISUAL INSPECTION (4.8.1)
Acceptable YES or NO ____

Guided Bend Test Results (4.30.5)

Type	Result	Type	Result

Fillet Test Results (4.30.2.3 and 4.30.4.1)
Appearance _____ Fillet Size _____
Fracture Test Root Penetration _____ Macroetch _____
(Describe the location, nature, and size of any crack or tearing of the specimen.)

Inspected by Roland McKeen Test Number N/A
Organization James A. McBrady Date 2/5/07

RADIOGRAPHIC TEST RESULTS (4.30.3.1)

Film Identification Number	Results	Remarks	Film Identification Number	Results	Remarks
O-1	NO Apparent DEFECTS				

Interpreted by John Weese Test Number QAL-07-0255
Organization QAL Date 2-7-07

We, the undersigned, certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in accordance with the requirements of section 4 of AWS D1.1, (____) Structural Welding Code—Steel.
(year)

Manufacturer or Contractor _____ Authorized By _____
Form E-4 Date _____

WELDER, WELDING OPRATOR, OR TACK WELDER QUALIFICATION TEST RECORD

Name of Welder: Mark Yaltaw
Name: James A McBrady Co — Identification No. 6312
Welding Procedure Specification No.: 102 — Rev.: N/A — Date: Jan 26, 2007

Variables	Record Actual Values Used in Qualification	Qualification Range
Process/Type [Table 4.10, Item (1)]	MCAW	
Electrode (single or multiple) [Table 4.10, Item (2	1/16 E70C-6M H4	052, 1/16
Current Polarity	300 Amps DC+	
Position [Table 4.10, Item (6)]	1G	1G
Weld Progression [Table 4.10, Item (6)]		
Backing (YES or NO) [Table 4.10 Item (7)]	Yes	Yes
Material/Spec.	Group 1 to Group 1	Group 1 and Group 2
Base Metal		
Thickness: (Plate)		
Groove	1"	Unlimited
Fillet	N/A	F & H Unlimited
Thickness: (Pipe/Tube)		
Groove	N/A	Unlimited
Fillet	N/A	F & H Unlimited
Diameter :(Pipe)		
Groove	N/A	OVER 24" DIA.
Fillet	N/A	OVER 24" DIA.
Filler Metal [Table 4.10, Item (3)]		
Spec. No.	A5.20	
Class	E 70C-6M H4	
F-No. [Table 4.10, Item (2)]	F6	F6
Gas/Flux Type [Table 4.10item (3)]	75%Argon/ 25% CO2	
Other	N/A	N/A

VISUAL INSPECTION (4.8.1)
Acceptable YES or NO: YES

Guided Bend Test Results (4.30.5)

Type	Result	Type	Result

Fillet Test Results (4.30.2.3 and 4.30.4.1)

Appearance	N/A	Fillet Size	N/A
Fracture Test Root Penetration	N/A	Macroetch	N/A

(Describe the location, nature, and size of any crack or tearing of the specimen.)

Inspected by: Brad Wells CWI # 00050221 — Test Number: N/A
Organization: Maine Oxy — Date: Aug 26, 2006

RADIOGRAPHIC TEST RESULTS (4.30.3.1)

Film Identification Number	Results	Remarks	Film Identification Number	Results	Remarks
Mark Yaltaw	Pass				

Interpreted by: [signature] — Test Number: RTL-07-[illegible]0192
Organization: Quality Assurance Labs — Date: 1/29/07

We, the undersigned, certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in accordance with the requirements of section 4 of AWS D1.1, (_____) Structural Welding Code ---- Steel.

Manufacturer or Contractor _____ Authorized By _____
Date _____

WELDER, WELDING OPERATOR, OR TACK WELDER QUALIFICATION TEST RECORD

Type of Welder
Name MARK YATTAW Identification No. 6312
Welding Procedure Specification No. ____ Rev ____ Date 8/8/07

Variables	Record Actual Values Used in Qualification	Qualification Range
Process/Type [Table 4.10, Item (1)]	FCAW	
Electrode (single or multiple) [Table 4.10, Item (8)]	E71T-1M-H8	
Current/Polarity		
Position [Table 4.10, Item (4)]		All
Weld Progression [Table 4.10, Item (6)]	6G	UP
Backing (YES or NO) [Table 4.10, Item (7)]	Yes	Yes
Material/Spec.	Group I to Group I	
Base Metal		
Thickness: (Plate)		
Groove		
Fillet		
Thickness: (Pipe/tube)	3/8	1/8" – 3/4"
Groove		ALL
Fillet		
Diameter: (Pipe)	6Ø	
Groove	Yes	
Fillet		
Filler Metal [Table 4.10, Item (3)]		
Spec. No.	A5.20	
Class	E71T-1M-H8	
F-No. [Table 4.10, Item (2)]		
Gas/Flux Type [Table 4.10, Item (3)]	75% Argon 25% Co2	
Other		

VISUAL INSPECTION (4.8.1)
Acceptable YES or NO ____

Guided Bend Test Results (4.30.5)

Type	Result	Type	Result

Fillet Test Results (4.30.2.3 and 4.30.4.1)
Appearance ____ Fillet Size ____
Fracture Test Root Penetration ____ Macroetch ____
(Describe the location, nature, and size of any crack or tearing of the specimen.)

Inspected by Roland McKeen Test Number NA
Organization James A. McBrady Date 8/8/07

RADIOGRAPHIC TEST RESULTS (4.30.3.1)

Film Identification Number	Results	Remarks	Film Identification Number	Results	Remarks
MARK YATTAW	PASS				

Interpreted by Don Quattrini Test Number QAL-07-1473
Organization Quality Assurance Labs, Inc. Date 8/9/2007

We, the undersigned, certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in accordance with the requirements of section 4 of AWS D1.1, (____) Structural Welding Code—Steel.
(year)

Manufacturer or Contractor James A. McBrady Authorized By Roland McKeen
Date 8/8/07

Form E-4

WELDER, WELDING OPRATOR, OR TACK WELDER QUALIFICATION TEST RECORD

Name of Welder: Ezra Young
Name: James A McBrady Co Identification No. 4337
Welding Procedure Specification No. 102 Rev. N/A Date Jan 26, 2007

Variables	Record Actual Values Used in Qualification	Qualification Range
Process/Type [Table 4.10, Item (1)]	MCAW	
Electrode (single or multiple) [Table 4.10, Item ((	1/16 E70C-6M H4	052, 1/16
Current Polarity	300 Amps DC+	
Position [Table 4.10, Item (6)]	1G	1G
Weld Progression [Table 4.10, Item (6)]		
Backing (YES or NO) [Table 4.10 Item (7)]	Yes	Yes
Material/Spec.	Group 1 to Group 1	Group 1 and Group 2
Base Metal		
Thickness: (Plate)		
Groove	1"	Unlimited
Fillet	N/A	F & H Unlimited
Thickness: (Pipe/Tube)		
Groove	N/A	Unlimited
Fillet	N/A	F & H Unlimited
Diameter :(Pipe)		
Groove	N/A	OVER 24" DIA.
Fillet	N/A	OVER 24" DIA.
Filler Metal [Table 4.10, Item (3)]		
Spec. No.	A5.20	
Class	E 70C-6M H4	
F-No. [Table 4.10, Item (2)]	F6	F6
Gas/Flux Type [Table 4.10Item (3)]	75%Argon/ 25% CO2	
Other	N/A	N/A

VISUAL INSPECTION (4.8.1)
Acceptable YES or NO: YES

Guided Bend Test Results (4.30.5)

Type	Result	Type	Result

Fillet Test Results (4.30.2.3 and 4.30.4.1)

Appearance	N/A	Fillet Size	N/A
Fracture Test Root Penetration	N/A	Macroetch	N/A

(Describe the location, nature, and size of any crack or tearing of the specimen.)

Inspected by Brad Wells CWI # 00050221 Test Number N/A
Organization Maine Oxy Date Aug 25, 2006

RADIOGRAPHIC TEST RESULTS (4.30.3.1)

Film Identification Number	Results	Remarks	Film Identification Number	Results	Remarks
Ezra Young	Pass				

Interpreted by [signature] Test Number QM-07-0192
Organization Quality Assurance Lab Date 1/29/07

We, the undersigned, certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in accordance with the requirements of section 4 of AWS D1.1, (_____) Structural Welding Code ---- Steel

Manufacturer or Contractor _____ Authorized By _____
Date _____

...OPERATOR, OR TACK WELDER QUALIFICATION TEST RECORD

Name of Welder: Gary Young
Name: James A McBrady Co Identification No. 3014
Welding Procedure Specification No. 102 Rev. N/A Date Jan 26, 2007

Variables	Record Actual Values Used in Qualification	Qualification Range
Process/Type [Table 4.10, Item (1)]	MCAW	
Electrode (single or multiple) [Table 4.10, Item (2)]	1/16 E70C-6M H4	052, 1/16
Current Polarity	300 Amps DC+	
Position [Table 4.10, Item (6)]	1G	1G
Weld Progression [Table 4.10, Item (6)]		
Backing (YES or NO) [Table 4.10 Item (7)]	Yes	Yes
Material/Spec.	Group 1 to Group 1	Group 1 and Group 2
Base Metal		
Thickness: (Plate)		
Groove	1"	Unlimited
Fillet	N/A	F & H Unlimited
Thickness: (Pipe/Tube)		
Groove	N/A	Unlimited
Fillet	N/A	F & H Unlimited
Diameter :(Pipe)		
Groove	N/A	OVER 24" DIA
Fillet	N/A	OVER 24" DIA.
Filler Metal [Table 4.10, Item (3)]		
Spec. No.	A5.20	
Class	E 70C-6M H4	
F-No. [Table 4.10, Item (2)]	F6	F6
Gas/Flux Type [Table 4.10Item (3)]	75%Argon/ 25% CO2	
Other	N/A	N/A

VISUAL INSPECTION (4.8.1)
Acceptable YES or NO: YES

Guided Bend Test Results (4.30.5)

Type	Result	Type	Result

Fillet Test Results (4.30.2.3 and 4.30.4.1)

Appearance	N/A	Fillet Size	N/A
Fracture Test Root Penetration	N/A	Macroetch	N/A

(Describe the location, nature, and size of any crack or tearing of the specimen.)

Inspected by Brad Wells CWI # 00050221 Test Number N/A
Organization Maine Oxy Date Aug 25, 2006

RADIOGRAPHIC TEST RESULTS (4.30.3.1)

Film Identification Number	Results	Remarks	Film Identification Number	Results	Remarks
Gary Young	Pass				

Interpreted by [signature] Test Number QA-07-0192
Organization Quality Assurance Labs Date 1/29/07

We, the undersigned, certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in accordance with the requirements of section 4 of AWS D1.1, (_____) Structural Welding Code — Steel.

Manufacturer or Contractor _____ Authorized By _____
Date _____

American Institute of Steel Construction

is proud to recognize

James A. McBrady, Inc.

Scarborough, ME

for successfully meeting the quality certification requirements for

Standard for Steel Building Structures

Roger E. Ferch

Certification valid through September 2010

Quality Assurance Labs Inc.
NON-DESTRUCTIVE TESTING AND INSPECTION SERVICES
80 PLEASANT AVENUE • SOUTH PORTLAND, MAINE 04106 • TEL: (207) 799-8911 • FAX: (207) 799-7251

INSPECTION REPORT

CUSTOMER: S. W. COLE ENG.			PAGE 1 OF 1
ADDRESS: GRAY , ME.			
ATTENTION: ROGER DOMINGO			
COPIES:			
PROJECT: POWERPAY OFFICE FIT-UP , PORTLAND , ME.			
OWNER:			
CONTRACTOR: WRIGHT / RYAN CONSTRUCTION			
JOB No.: 09-0318	REPORT No.: QAL-09-1326	P. O. NUMBER:	DATES INSPECTED: 07 - 29 - 09

REMARKS

>>>>>> SITE VISIT TO PERFORM VISUAL INSPECTION OF STRUCTURAL STEEL CONNECTIONS FOR AREA MEZZANINE GRID LOCATIONS P1 - P3 , PA - PK .

> COLUMN TO BEAM AND BEAM TO BEAM HIGH STRENGTH A325 BOLTED CONNECTIONS COMPLETE .

> PERIMETER BENT PLATE WELDING APPROX. 80% + COMPLETED .

> PERIMETER DECKING PUDDLE WELDS FOR 36/4 PATTERN APPROX. 60% COMPLETE . DECKING LAP WELDS AS REQUIRED FOR 36" SPACING SHOWS VARIOUS LOCATIONS WITH INADEQUATE WELD PENETRATION INTO THE BOTTOM DECK . RE-VISIT THESE LOCATIONS AND ENSURE 36" SPACING MEETS THE DRAWING REQUIREMENTS . STANDARD PUDDLE WELDS TO BEAM SUPPORTS 95% + COMPLETE .

> PERIMETER ANGLE BRACE KICKERS 90%+ COMPLETED .

> INSTALATION OF HAND RAILS IN-PROGRESS APPROX. 70 % COMPLETE .

COMPLETED ITEMS COMPLY WITH SITE DOCUMENTS AND AWS D1.1 , D1.3 REQUIREMENTS FOR VISUAL ACCEPTANCE .

END ITEMS ////

MICHAEL W. DREW
CWI 99050211
QC1 EXP. 04/01/11

FAA REPAIR STATION NUMBER RX5R187N
METHOD(S),PROCESS(ES),PROCEDURE(S) MERCURY FREE

ADDITIONAL INFORMATION - SEE ATTACHED: ☐ SKETCH(ES) ☐ SUPPLEMENTARY SHEET(S) ☐ NDT REPORTS ☐ VIDEO

SIGNATURES	CERTIFICATION	LEVEL	DATE M	D	Y
INSPECTOR M. Drew CWI # 99050211	ASNT	II	07	29	09
SUPERVISOR					

(FORM Q703 REV 0)

Quality Assurance Labs Inc.
NON-DESTRUCTIVE TESTING AND INSPECTION SERVICES
80 PLEASANT AVENUE • SOUTH PORTLAND, MAINE 04106 • TEL: (207) 799-8911 • FAX: (207) 799-7251

INSPECTION REPORT

CUSTOMER: S. W. COLE ENG.			PAGE 1 OF 1
ADDRESS: GRAY , ME.			
ATTENTION: ROGER DOMINGO			
COPIES:			
PROJECT: POWERPAY OFFICE FIT UP - PORTLAND , ME.			
OWNER:			
CONTRACTOR: WRIGHT / RYAN			
JOB No.: 09-0318	REPORT No.: QAL-09-1523	P. O. NUMBER:	DATES INSPECTED: 08 - 26 - 09

REMARKS

>>>>>>> SITE VISIT TO PERFORM VISUAL INSPECTION OF STRUCTURAL STEEL CONNECTIONS :

> AREAS OF MEZZANINE LEVEL FRAMING PLAN : E1 - E3 , S7 - S11 , A1 - A5 , N1 - N3 , C1 - C6.
A) COLUMN ANCHOR BOLTED CONNECTIONS COMPLETE .
B) COLUMN TO BEAM AND BEAM TO BEAM HIGH STRENGTH A325 BOLTED CONNECTIONS COMPLETE .
C) BEAM TO BEAM WELDED CLIP CONNECTIONS COMPLETE .
D) ANGLE BRACE PERIMETER KICKERS APPROX. 50% COMPLETE AT LINE S - 11 .
E) DECKING ATTACHMENTS FOR PUDDLE WELDS COMPLETE .
F) RAILING ATTACHMENTS TO BENT PLATE IN-PROGRESS.

COMPLETED ITEMS COMPLY WITH SITE DOCUMENTS AND AWS D1.1 , D1.3 REQUIREMENTS FOR VISUAL ACCEPTANCE.

END ITEMS /////

MICHAEL W. DREW
CWI 99050211
QC1 EXP. 04/01/11

FAA REPAIR STATION NUMBER RX5R187N
METHOD(S),PROCESS(ES),PROCEDURE(S) MERCURY FREE

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SIGNATURES	CERTIFICATION	LEVEL	DATE M D Y
INSPECTOR M. Drew CWI # 99050211	ASNT	II	08 | 26 | 09
SUPERVISOR			

(FORM Q703 REV 0)

BECKER
structural engineers, inc.

MILL CERTIFICATIONS

PROJECT **POWERPAY OFFICE FIT-UP**

STRUCTURAL STEEL	☒RECEIVED	DATE: 3-30-10	☐NOT RECEIVED
BOLTS	☒RECEIVED	DATE: 3-30-10	☐NOT RECEIVED
WELD FILLER	☒RECEIVED	DATE: 3-30-10	☐NOT RECEIVED

ITEMS ABOVE MARKED "RECEIVED" HAVE NOT BEEN INCLUDED IN THIS REPORT DUE TO THE LARGE VOLUME. HARD COPIES ARE AVAILABLE UPON REQUEST.

SPECIAL INSPECTOR: NRM DATE: 3-30-10

75 York Street, Portland, ME 04101-4701 ▪ Tel 207-879-1838 ▪ Fax 207-879-1822

Special Inspections – Exhibit C

Quality Assurance for Seismic Resistance Seismic Checklist
Quality Assurance for Seismic Resistance Wind Checklist
Schedule of Inspections

Quality Assurance Plan – Exhibit C

QUALITY ASSURANCE FOR WIND REQUIREMENTS CHECK LIST [IBC 1706]

Project: PowerPay Office Fit-up, Portland, ME
Date Prepared: 03/31/2009

SEISMIC DESIGN CATEGORY:

QUALITY ASSURANCE PLAN REQUIREMENTS

(A Quality Assurance Plan, enacted through the Special Inspections requirements for this project, are in place for the following systems)

☒ **FOR SEISMIC DESIGN CATEGORY C OR HIGHER:**

Structural: ☒ The seismic-force-resisting systems ☐ Steel Braced Frames and associated connections/anchorage ☒ Steel Moment Frames and associated connections ☐ Shear walls: ☐ CMU ☐ Wood ☐ Concrete ☐ Diaphragms: ☒ Floor ☐ Roof ☐ Other:	SER
Mechanical/Piping: ☐ Heating, ventilating and air-conditioning (HVAC) ductwork containing hazardous materials and anchorage of such ductwork ☐ Hazardous Material: ☐ Hazardous Material: ☐ Piping systems and mechanical units containing flammable, combustible or highly toxic materials ☐ Material: ☐ Material:	MER
Electrical: ☐ Anchorage of electrical equipment used for emergency or standby power systems ☐ Equipment: ☐ Equipment: ☐ Equipment:	EER

☐ **ADDITIONAL SYSTEMS FOR SEISMIC DESIGN CATEGORY D OR HIGHER:**

Architectural: ☐ Exterior wall panels and their anchorage ☐ Precast Concrete ☐ Brick ☐ Stone: ☐ Other: ☐ Suspended ceiling systems and their anchorage ☐ Access floors and their anchorage ☐ Steel storage racks and their anchorage ☐ Retail Storage Racks ☐ High Density Files ☐ Other: ☐ Life-safety component required to function after an earthquake: ☐ Engineered Egress Stairs ☐ Fire Protection Sprinkler System ☐ Other: ☐ Other: ☐ Other:	RAR

☐ **ADDITIONAL SYSTEMS FOR SEISMIC DESIGN CATEGORY D OR HIGHER:**

Electrical: ☐ Electrical equipment	EER

Structural Engineer of Record (SER): 6.4.09

Signature Date

Registered Architect of Record (RAR):

Signature Date

Mechanical Engineer of Record (MER):

Signature Date

Electrical Engineer of Record (EER):

Signature Date

Building Code Official's Acceptance:

Signature Date

Quality Assurance Plan – Exhibit C

QUALITY ASSURANCE FOR WIND REQUIREMENTS CHECK LIST [IBC 1706]

Project: PowerPay Office Fit-up, Portland, ME
Date Prepared: 03/31/2009

Wind Exposure: B

REQUIRED	NOT REQUIRED	NOT APPLICABLE	QUALITY ASSURANCE PLAN REQUIREMENTS (A Quality Assurance Plan is required where indicated below)
☐	☒	☐	In wind exposure Categories A and B, where the 3-second-gust basic wind speed is 120 miles per hour (mph) (52.8 *m/sec)* or greater.
☐	☐	☒	In wind exposure Categories C and D, where the 3-second-gust basic wind speed is 110 mph (49 *m/sec)* or greater.

Prepared by:

6.4.09

Signature Date

Building Code Official's Acceptance:

Signature Date

Schedule of Special Inspections – Exhibit C

SEISMIC RESISTANCE - STRUCTURAL

Project: PowerPay Office Fit-up, Portland, ME
Date Prepared: 03/27/2009

VERIFICATION AND INSPECTION IBC Section 1707	Y/N	EXTENT: CONTINUOUS, PERIODIC, SUBMITTAL, OR NONE	COMMENTS	AGENT	AGENT QUALIFICATION	DATE	INITIAL
1. Special inspections for seismic resistance. Special inspection as specified in this section is required for the following:			Seismic Design Category: D				
a. The seismic-force-resisting systems in structures assigned to Seismic Design Category C, D, E or F	Y	P	IBC 1707.1	SI1	PE/SE or EIT	7/09-2/10	NRM
2. Structural steel: Continuous special inspection for structural welding in accordance with AISC 341.	Y	P	IBC 1707.2	TA1	AWS-CWI	7/09-8/09	NRM
3. Structural wood:							
a. Continuous special inspection during field gluing operations of elements of the seismic-force-resisting system.	N	C	IBC 1707.3	SI1	PE/SE or EIT		
b. Periodic special inspections for nailing, bolting, anchoring and other fastening of components within the seismic-force-resisting system, including drag struts, braces and hold-downs	N	P	IBC 1707.3	SI1	PE/SE or EIT		
4. Cold-formed steel framing: Periodic special inspections during welding operations of elements of the seismic-force-resisting system. Periodic special inspections for screw attachment, bolting, anchoring and other fastening of components within the seismic-force-resisting system, including struts, braces, and hold-downs	N	N	CFSF for this project not part of the primary seismic-force resisting system				
4. Seismic isolation system. Provide periodic special inspection during the fabrication and installation of isolator units and energy dissipation devices if used as part of the seismic isolation system	N	N	IBC 1707.8 Seismic isolators not used				

Structural Seismic Resistance has been reviewed in accordance with section 1707of the IBC Code

Special Inspector NRM Date 2/11/10

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NON-DESTRUCTIVE TESTING AND INSPECTION SERVICES
80 PLEASANT AVENUE • SOUTH PORTLAND, MAINE 04106 • TEL: (207) 799-8911 • FAX: (207) 799-7251

ULTRASONIC INSPECTION REPORT

CUSTOMER: S.W. Cole

ATTENTION: Roger Domingo

PROJECT: Power Pay @ Portland public market.

COMPONENT INSPECTED: Moment Connection

AREA OF INTEREST: Weld

COMPONENT LOCATION: Portland, ME

CUSTOMER WORK ORDER No: N/A | PART No.: N/A

MATERIAL: CARBON STEEL | HEAT No.: N/A

COMPONENT SURFACE CONDITION: AS WELDED

EXAMINATION DATA

Project Code/Spec: AWS D1.1

U.T. Procedure No.: N/A | U.T. Technique No.: N/A

RESULTS: AS NOTED | INDICATIONS: AS NOTED

REMARKS:

Inspection of moments at Portland public market.

Locations along P3 line at PB, PC, PD and PE. Each location contains 2 complete moments for 4 total welds.

All Moments accepted. No rejectable indications found.

///Last Item///

FAA REPAIR STATION NUMBER RX5R187N
METHOD(S),PROCESS(ES),PROCEDURE(S) MERCURY FREE

ADDITIONAL INFORMATION - SEE ATTACHED: ☐ SKETCH(ES) ☐ SUPPLEMENTARY SHEET(S) ☐ VIDEO

SIGNATURES	CERTIFICATION	LEVEL	DATE M D Y
INSPECTOR E. Lesinak	ASNT	II	07 09 09
SUPERVISOR			
AUTHORIZED INSPECTOR			
CUSTOMER REPRESENTATIVE			

DATE OF INSPECTION: M 07 D 09 Y 09

REPORT No.: QAL-09-1185

PAGE 1 OF 1

JOB No.: 09-0318

P.O. No.: 09-0318

INSTRUMENT

MAKE: PANAMETRICS

MODEL: Epoch LTC

EQUIPMENT NO.: 35403

MATERIAL THICKNESS: 6.35 mm (0.250 in.)

SCREEN RANGE: 10"

COUPLANT: Sono Clear

TRANSDUCERS

MAKE: PANAMETRICS

FREQ.: 2.25 MHz | ANGLE: 0°

SIZE: 25.4 mm (1.000 in.)

STYLE: SINGLE | SHAPE: ROUND

EQUIPMENT No.:

MAKE: PANAMETRICS

FREQ.: 2.25 MHz | ANGLE: 70°

SIZE: 12.7 mm (0.500 in.)

STYLE: SINGLE | SHAPE: SQUARE

EQUIPMENT No.:

MAKE:

FREQ.: | ANGLE:

SIZE:

STYLE: | SHAPE:

EQUIPMENT No.:

REFERENCE BLOCKS

MAKE: PANAMETRICS

TYPE: IIW Block

MATERIAL: CARBON STEEL

EQUIPMENT No.: 088

SENSITIVITY:

TRANSFER VALUE:

(FORM Q500 REV 2)

Quality Assurance Labs Inc.

NON-DESTRUCTIVE TESTING AND INSPECTION SERVICES

80 PLEASANT AVENUE • SOUTH PORTLAND, MAINE 04106 • TEL: (207) 799-8911 • FAX: (207) 799-7251

ULTRASONIC INSPECTION REPORT

CUSTOMER: S.W. Cole

ATTENTION: Roger Domingo

PROJECT: Power Pay @ Portland public market.

COMPONENT INSPECTED: Moment Connection

AREA OF INTEREST: Weld

COMPONENT LOCATION: Portland, ME

CUSTOMER WORK ORDER No: N/A

PART No.: N/A

MATERIAL: CARBON STEEL

HEAT No.: N/A

COMPONENT SURFACE CONDITION: AS WELDED

DATE OF INSPECTION: M 07 | D 29 | Y 09

REPORT No. QAL-09-1334

PAGE 1 OF 1

JOB No. 09-0318

P.O. No. 09-0318

EXAMINATION DATA

Project Code Spec: AWS D1.1

U.T. Procedure No.: N/A

U.T. Technique No.: N/A

RESULTS: AS NOTED

INDICATIONS: AS NOTED

REMARKS:

Inspection of moments at Portland public market.

Complete moments contain 2 total welds.

Locations tested:
CA line from C1 to C6
CB line from C1 to C6
CC line from C2 to C6
C1 line between CA & CB
2 moments nearest intersection of P2 and W10.3

23 total moments tested.

All Moments accepted. No rejectable indications found.

///Last Item///

FAA REPAIR STATION NUMBER RX5R187N

METHOD(S),PROCESS(ES),PROCEDURE(S) MERCURY FREE

ADDITIONAL INFORMATION - SEE ATTACHED: ☐ SKETCH(ES) ☐ SUPPLEMENTARY SHEET(S) ☐ VIDEO

SIGNATURES	CERTIFICATION	LEVEL	DATE M D Y
INSPECTOR E. Lusmak	ASNT	II	07 | 29 | 09
SUPERVISOR			
AUTHORIZED INSPECTOR			
CUSTOMER REPRESENTATIVE			

INSTRUMENT

MAKE: PANAMETRICS

MODEL: Epoch LTC

EQUIPMENT NO.: 35403

MATERIAL THICKNESS: 6.35 mm (0.250 in.)

SCREEN RANGE: 10"

COUPLANT: Sono Clear

TRANSDUCERS

MAKE: PANAMETRICS

FREQ.: 2.25 MHz | ANGLE: 0°

SIZE: 25.4 mm (1.000 in.)

STYLE: SINGLE | SHAPE: ROUND

EQUIPMENT No.:

MAKE: PANAMETRICS

FREQ.: 2.25 MHz | ANGLE: 70°

SIZE: 12.7 mm (0.500 in.)

STYLE: SINGLE | SHAPE: SQUARE

EQUIPMENT No.:

MAKE:

FREQ.: | ANGLE:

SIZE:

STYLE: | SHAPE:

EQUIPMENT No.:

REFERENCE BLOCKS

MAKE: PANAMETRICS

TYPE: IIW Block

MATERIAL: CARBON STEEL

EQUIPMENT No.: 088

SENSITIVITY:

TRANSFER VALUE:

(FORM Q500 REV 2)

Special Inspections – Exhibit D

Contractor's Statement of Responsibility
Fabricator's Statement of Compliance

Contractor's Statement of Responsibility –Exhibit D

Each contractor responsible for the construction or fabrication of a system or component designated in the Quality Assurance Plan must submit a Statement of Responsibility. Make additional copies of this form as required.

Project: POWERPAY OFFICE PROJECT

Contractor's Name: WRIGHT - RYAN CONSTRUCTION, INC.

Address: 10 DANFORTH ST. PORTLAND, ME 04101

License No.: N/A

Description of designated building systems and components included in the Statement of Responsibility:

- STRUCTURAL STEEL MOMENT FRAMES & ASSOCIATED CONNECTIONS
- FLOOR DIAPHRAGM

Contractor's Acknowledgment of Special Requirements

I hereby acknowledge that I have received, read, and understand the Quality Assurance Plan and Special Inspection program.

I hereby acknowledge that control will be exercised to obtain conformance with the construction documents approved by the Building Official.

Signature

3 | 2 | 10
Date

Contractor's Provisions for Quality Control

Procedures for exercising control within the contractor's organization, the method and frequency of reporting and the distribution of reports is attached to this Statement.

Identification and qualifications of the person(s) exercising such control and their position(s) in the organization are attached to this Statement.

Fabricator's Certificate of Compliance – Exhibit D

Each approved fabricator that is exempt from Special Inspection of shop fabrication and implementation procedures per section 1704.2 of the International Building Code must submit a *Fabricator's Certificate of Compliance* at the completion of fabrication.

Project: POWERPAY OFFICE PROJECT

Fabricator's Name: JAMES A. McBRADY, INC.

Address: 29 PARKWAY DRIVE, SCARBOROUGH, ME 04074

Certification or Approval Agency: American Institute of Steel Construction

Certification Number: 988570

Date of Last Audit or Approval: September 2009

Description of structural members and assemblies that have been fabricated:

STRUCTURAL STEEL WIDE FLANGE BEAMS, COLUMNS & ASSOCIATED CONNECTIONS

I hereby certify that items described above were fabricated in strict accordance with the approved construction documents.

James A. McBrady — 3/4/10

Signature — James McBrady — Date

General Manager

Title

Attach copies of fabricator's certification or building code evaluation service report and fabricator's quality control manual

End of Special Inspections Report