ATC ASSOCIATES INC.
Engineering Individual Solutions

15 E. Main Street, P.O. Box # 3
Richmond, VT 05477
802-434-2113
Fax 802-434-2160
www.atcassociates.com

November 1, 2006

FILE COPY
MAILED 11/8/06
FAXED
CC:

Mr. Merle Miller
Department of Buildings & General Services
Governor Aiken Avenue
Montpelier, VT 05602

Re: Concrete Moisture Testing
Bennington State Office Building
1 Veterans Memorial Way
Bennington, Vermont
ATC Project Number: 63.03505.0035 Task 2

Dear Merle:

The following report details the concrete moisture vapor emission rate testing performed by ATC Associates Inc. between the dates of October 13, 2006 and October 16, 2006 at the Bennington State Office building in Bennington, Vermont.

Please find enclosed our Final Report for this project. Thank you for retaining ATC for your environmental consulting needs. If you have any questions concerning this report, please feel free to contact us at (802) 434-2113.

Sincerely,

ATC ASSOCIATES INC.

Jesse Stratton
Environmental Technician

Thomas Broido
Branch Manager

S:\Projects\A-F 00000 to 24999\03505 Dept Bldgs and General Services\63.03505.0035 Benning. State Offices\Task 2- Concrete Moisture Testing\63.03505.0035 task 2 Concrete Moisture Rpt.doc

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Prepared for:

Vermont State DBGS
2 Governor Aiken Avenue
Montpelier, VT 05602

Concrete Moisture Testing
Bennington State Office Building
1 Veterans Memorial Way
Bennington, Vermont

ATC Project No. 63.03505.0035 Task 2

Prepared by:

ATC Associates Inc.
15 East Main St. PO Box 3
Richmond, Vermont 05477

November 2006

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1. BACKGROUND INFORMATION

In response to reported adverse health symptoms experienced by several employees working within various areas of the Bennington State Office Building ATC Associates conducted an Indoor Air Quality Investigation of the facility. On October 5, 2006 a report detailing the findings of that investigation was issued.

That investigation detected elevated indoor relative humidity levels within various areas of the building. As a result ATC recommended that the concrete slab of the building be evaluated to determine if water vapor infiltration through the slab is influencing indoor relative humidity in the building.

2. VISUAL OBSERVATIONS

2.1 Exterior Site Grading

On October 9, 2006 Jesse Stratton of ATC walked the exterior of the building with building representative Jamie Percy to attempt to identify site topography issues that could contribute to overall water infiltration of the building.

Areas of concern where noted for further investigation within the facility. Areas of concern and potential grading issue identified are as follows:

Area: South wall of the facility in the junction area between the single story building and three story addition. **Potential Grading Issue:** Suspected surface water drainage from the parking lot area in the general direction of the building. A drain located close to the building in this area was observed to be 90-95% full of water, potentially indicated a clogged or poorly designed drainage system. Mr. Percy indicated the area has received no precipitation in the last 7 days prior to ATC's site visit.

Area: West wall of the District Court Area in the single story section of the building. **Potential Grading Issue:** Trees located in the grassy area between the sidewalk and the building have developed significant root balls causing grading in the general direction of the building.

Area: Three Story section of the building. **Potential Grading Issue:** The interior slab in the north, east, and south portions of these sections are 18-24 inches below the exterior surface. ATC could not determine if proper vapor barriers and/or substrate drainage were present.

Area: West wall of the Economic Services/Vocational Rehabilitation areas of the single story section of the building. **Potential Grading Issue:** A section of what appeared to be the slab of the building, approximately four (4) square feet in size extends to the exterior beyond the vertical wall the building. Creating the potential for rainwater and roof runoff to drain toward the building.

3. MATERIALS AND METHODS

3.1 Limited Asbestos bulk sampling

On October 9, 2006, Jesse Stratton of ATC collected bulk samples of suspect Asbestos Containing Materials (ACM) associated with materials selected for disturbance for concrete Moisture Vapor Emission Rate (MVER) testing. Sample collection and analysis was performed in accordance with Vermont State Regulations for Asbestos Control (VRAC). All bulk samples of suspect Asbestos Containing Material were submitted for analysis by polarized light microscopy (PLM) EPA method as defined in Perkins, R.L. and B. W. Harvey, July 1993: "Method for the Determination of Asbestos in Bulk Material" 61 pp. (EPA/600/R-93/116). This analysis method meets the requirements of the USEPA and the VTDOH. It should be noted however, that PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials (e.g. floor tiles, roofing, mastics). ATC recommends that further analysis (via Transmission Electron Microscopy) be performed on the NOB materials. The laboratory results are presented in **Appendix D**.

3.2 Concrete Moisture Vapor Emission Rate Testing

Concrete Moisture Vapor Emission Rate testing was conducted in general compliance with ASTM Method F 1869-98 utilizing Vaprecision Concrete Slab Moisture Test Kits. 12 sites located on the first floor of the facility were selected for testing based on suspect external drainage issues and representative areas of the slab. Two test sites were located in the following areas: Probation and Parole, Department of Corrections, Department of Labor, District Court, Vocational Rehabilitation, and Economic Services. Testing of these locations began on October 13, 2006 and was concluded on October 16, 2006.

4. CONCRETE MVER STANDARDS

ASTM method 1869-98 was developed to quantify the moisture vapor released from concrete to determine its ability to support various floor finishes. The manufactures of the various floor finished such as, vinyl floor tile, carpet, linoleum, set acceptable ranges for proper adhesion of their products. As a result an industry standard for vapor release from the concrete surface in all situations does not exist. However, environmental professionals have found it appropriate to use a guideline of 5 pounds of vapor emitted from 1000 square feet of concrete in a 24 hour period as a reference for investigations of existing concrete slabs.

5. SAMPLING RESULTS

5.1 Limited Asbestos Sampling

None of the suspected ACM materials tested positive for the presence of asbestos. Please refer to the attached bulk sample location diagram (**Appendix A**) and listing of suspect asbestos containing materials (**Appendix B**) for details.

5.2 Concrete MVER Testing

The following **Table 1** summarizes the testing locations and the ambient air and slab parameters collected on October 13, 2006 at the beginning of the testing period.

Table 1: Locations and Ambient Air Parameters
October 13, 2006

BENNINGTON STATE OFFICE BUILDING- BENNINGTON, VERMONT

Sample Number	*Sampling Area*	*Time*	*Relative Humidity (%)*	*Temp (^0F)*	*PH (concrete)*
CMT-01	District Court - Closet at end of hall outside Courtroom B	1315	27	70.1	8
CMT-02	District Court - SE corner of room next to Judges Chambers A	1330	28.9	69.4	7
CMT-03	Vocational Rehab - NW corner of room 21	1345	24.3	69.9	7
CMT-04	Vocational Rehab - SW corner of room 15	1345	24.1	71.6	7
CMT-05	Dept. of Labor - SW corner of room 144	1400	24.7	80.6	9
CMT-06	Dept. of Labor - NW corner of 145	1400	21.9	77	10
CMT-07	Dept. of Corrections - SW corner of room 123	1415	24.8	73.7	7
CMT-08	Dept. of Corrections - SW corner of room 120	1415	23.4	71.1	7
CMT-09	Economic Services - SW corner of room 35 alcove	1415	22.7	72.1	8
CMT-10	Economic Services - center of room 54	1430	24.8	71.7	7
CMT-11	Probation and Parole - SE corner of room 98	1430	27.1	71.6	6
CMT-12	Probation and Parole - SW corner of room 90	1430	21.4	70.7	7

The following **Table 2** summarizes the testing results for the sampling period of October 13, 2006 to October 16, 2006:

Table 2: Concrete Moisture Testing Results
October 13-16, 2006

BENNINGTON STATE OFFICE BUILDING- BENNINGTON, VERMONT

Sample Number	Location	Test Period (hrs)	Test Area	Weight Change (g)	MVER (lb/1000 sq ft./24 h)	SI (ug/(sm2)
CMT-01	District Court - Closet at end of hall outside Courtroom B	69.75	0.43	0.4	0.7	38.5
CMT-02	District Court - SE corner of room next to Judges Chambers A	69.75	0.43	1.5	2.6	144.5
CMT-03	Vocational Rehab - NW corner of room 21	68.5	0.43	4.4	7.6	431.7
CMT-04	Vocational Rehab - SW corner of room 15	68.25	0.43	1.9	3.3	187.1
CMT-05	Dept. of Labor - SW corner of room 144	69	0.43	1.6	2.8	155.8
CMT-06	Dept. of Labor - NW corner of 145	69	0.43	1.2	2.1	116.9
CMT-07	Dept. of Corrections - SW corner of room 123	68.50	0.43	2.1	3.6	206.0
CMT-08	Dept. of Corrections - SW corner of room 120	68.50	0.43	1.9	3.3	186.4
CMT-09	Economic Services - SW corner of room 35 alcove	68.25	0.43	1.3	2.3	128.0
CMT-10	Economic Services - center of room 54	69.00	0.43	1.4	2.4	136.4
CMT-11	Probation and Parole - SE corner of room 98	67.75	0.43	1.7	3.0	168.6
CMT-12	Probation and Parole - SW corner of room 90	68.00	0.43	1.8	3.1	177.9

Please refer to **Appendix A** for a detailed Site Location Diagram, and **Appendix C** for Concrete MVER results and field sheets.

6. CONCLUSIONS

- Concrete MVE R for 11 of the 12 test site where generally below the 5 lbs/1000 ft^2/24hr guideline levels.
- Concrete MVER test concluded in the northwest corner of room 21 in the Vocational Rehabilitation area of the facility was found to exceeded 5 lbs/1000 ft^2/24 hr.

7. RECOMMENDATIONS

- Concrete MVER sampling results should be reviewed by a structural engineer in order to help determine the effectiveness of the buildings external surface water drainage systems.
- All future renovations regarding floor coverings should be evaluated for compatibility with MVER sampling results.
- Although MVER testing in the west end of the District Court and South side of the Department of Labor areas of the building did not reveal elevated moister emission rates, it is recommended that the exterior drainage in the entrance area between these two areas be further investigated, as well as other areas previously described in section 2.1.

LIMITATIONS

This report has been prepared to assist the Department of Buildings and General Services in evaluating the indoor air quality of the State Office Building located at 1 Veterans Memorial Way in Bennington, Vermont. ATC provided these services consistent with the level and skill ordinarily exercised by members of the profession currently practicing under similar conditions. This statement is in lieu of other statements either expressed or implied. This report is intended for the sole use of the Department of Building Services. The intent of the report is to aid the building owner in locating potential IAQ impacts. This report is not intended to serve as a bidding document nor as a project specification document and actual site conditions and quantities should be field-verified.

Additionally, the passage of time may result in a change in the environmental characteristics at this site. This report does not warrant against future operations or conditions that could affect the recommendations made. The results, findings, conclusions, and recommendations expressed in this report are based only on conditions that were observed during ATC's inspection of the site.

APPENDIX A

DIAGRAMS

APPENDIX B

ASBESTOS BULK SAMPLING RESULTS

ASSOCIATES INC.

ENVIRONMENTAL, GEOTECHNICAL AND MATERIALS PROFESSIONALS

BATCH NO.

BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM

PROJECT INFORMATION

1. Client	2. Project Name:	3. Project #:	4. Project Manager:
Dept. of Building's General Services	Bennington State Office Building	03.03505.0035 Tk 2	Tom Broido
	2a. Project Address: Bennington, VT		4a. Investigator: Jesse Stratton

5. Date:	6. Building Name:	8. Turnaround Time	9. Comments (Field)
10/10/06	Benn. State Office Building	☐ STAT ☒ 24 HRS ☐ 72 HRS ☐ OTHER ☐ 6 HRS ☐ 48 HRS ☐ NORMAL	Stop @ 1st (+) in each H-group - Fax results to 802-434-2160
	7. Sampling Areas:		

BULK SAMPLE LOCATION

10. Homogenous Area No.	11. Bulk Sample ID No.	12. Material	13. Thermal System	14. Sample Location: Floor	14. Sample Location: Sample Coordinates	15. Material Total Qty. (LF, SF, PCS)	16. Asbestos Content (Type & %)
01	01-A	Mastic w/blue w/			ES RM35-SE Corner of house		
	01-B	multicolored Carpet			ES-RM54-N wall center of room		
02	02-A	Mastic w/brown w/			P&P-RM90-E wall Center of Rm		
	02-B	white stripes			P&P-RM98-W wall South Corner		
03	03-A	Mastic w/red w/			DoC-RM120-W wall Center of room		
	03-B	grey Carpet			DoC-RM123-SW corner		
04	04-A	Mastic w/red w/			DoL-RM143-SW corner of Cubicle		
	04 B	grey Mastic			DoL-RM144-SE corner by walkway		
05	05-A	Carpet Mastic blue Carpet			DC-Closet @ end of hall by Courtroom B		
06	06-A	Gray Floor leveler			DC-closet @ end of hall by Courtroom B		
07	07-A	Mastic w/brown w/ white flecks			DC-SE corner of RM next to judge chambers		A
08	08-A	Mastic w/blue w/			Voc Rehab-RM21-NE corner		
	08-B	multi color flecks			Voc Rehab-RM15 SS corner		

CHAIN OF CUSTODY

17. Relinquished By	18. Date	19. Time	20. Received By:	21. Date	22. Time
I	10/10/06	11:45			
II					
III					

23. Method of Submitta
- FIELD
- WALK IN
- US MAIL
- FED-X
- OTHER

LAB INFORMATION

24. Name and Signature	25. Date	26. Time
24a. Analyzed By:		
24b. Analyzed By:		
24c. QC By:		

27. Comments (Lab)

ATC Associates Inc

104 East 25 Street, New York, NY 10010

Phone: (212) 353-8280 Fax: (212) 353-8306

Client: ATC ASSOCIATES INC. - VERMONT
15 E.MAIN STREET
RICHMOND , VT 05477
Fax: (802) 434-2160 **Phone:** (802) 434-2113

Project: DEPARTMENT OF BUILDINGS & GENERAL SERVICES

Location: BENNINGTON STATE OFFICE BLDG / BENNINGTON, VT

Project # 63-03505-0035/T2

Sampling Date : 10/10/06

Date Received : 10/11/06 10:30:00 AM

Date Analyzed : 10/11/06

ATC Batch # 11542

Methods: EPA 600/M4-82-020
EPA 600/R-93/116
ELAP 198.1, 198.6 and 198.4

Bulk Asbestos Analysis Results

Sample #	Location	Type of Material	Method	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	NOB % Type	Asbestos % Type
01-A	ES ROOM 35, SE CORNER	MASTIC W/ BLUE W/ MULTICOLORED CARPET	PLM		10% Mineral Filler 90% Organic Binders		
11542-1		Color: BROWN		Comments: NOB RECOMMENDED			NONE DETECTED
Analyzed By: Elena Cuarteros							
01-B	ES ROOM 54, N WALL CENTER OF ROOM	MASTIC W/ BLUE W/ MULTICOLORED CARPET	PLM		13% Mineral Filler 87% Organic Binders		
11542-2		Color: TAN		Comments: NOB RECOMMENDED			NONE DETECTED
Analyzed By: Elena Cuarteros							
02-A	P & P, ROOM 90, E WALL CENTER OF ROOM	MASTIC W/ BROWN W/ WHITE STRIPES	PLM		10% Mineral Filler 90% Organic Binders		
11542-3		Color: TAN		Comments: NOB RECOMMENDED			NONE DETECTED
Analyzed By: Elena Cuarteros							
02-B	P & P, ROOM 98, W WALL S CORNER	MASTIC W/ BROWN W/ WHITE STRIPES	PLM		12% Mineral Filler 88% Organic Binders		
11542-4		Color: TAN		Comments: NOB RECOMMENDED			NONE DETECTED
Analyzed By: Elena Cuarteros							

Legend : TRACE = LESS THAN LIMIT OF QUANTITATION (<0.25%)
Note 1: For point counts the limit of quantitation of 0.25% is based on one asbestos point counter over 400 non-empty points.
Note 2: > 1% asbestos by weight is considered an ACM (Asbestos Containing Material).
Note 3: The condition of all samples was acceptable upon receipt.

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Liability Notice:
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The laboratory certifies that the test results meet all requirements of NELAC.

Report Prepared By: Olga Ostrovskaya

Client: ATC ASSOCIATES INC. - VERMONT
15 E.MAIN STREET
RICHMOND , VT 05477
Fax: (802) 434-2160 **Phone:** (802) 434-2113

Sampling Date : 10/10/06
Date Received : 10/11/06 10:30:00 AM
Date Analyzed : 10/11/06
ATC Batch # 11542
Methods: EPA 600/M4-82-020
EPA 600/R-93/116
ELAP 198.1, 198.6 and 198.4

Project: DEPARTMENT OF BUILDINGS & GENERAL SERVICES

Location: BENNINGTON STATE OFFICE BLDG / BENNINGTON, VT

Project # 63-03505-0035/T2

Bulk Asbestos Analysis Results

				Non-Asbestos		NOB	Asbestos
Sample #	*Location*	*Type of Material*	*Method*	*% Fibrous*	*% Non-Fibrous*	*% Type*	*% Type*
03-A	DOL, ROOM 120, W WALL CENTER OF ROOM	MASTIC W/ RED W/ GREY CARPET	PLM		12% Mineral Filler 88% Organic Binders		NONE DETECTED
11542-5		Color: YELLOW		Comments: NOB RECOMMENDED			
Analyzed By: Elena Cuarteros							
03-B	DOL, ROOM 123, SW CORNER	MASTIC W/ RED W/ GREY CARPET	PLM	3% Cellulose	10% Mineral Filler 87% Organic Binders		NONE DETECTED
11542-6		Color: YELLOW		Comments: NOB RECOMMENDED			
Analyzed By: Elena Cuarteros							
04-A	DOL, ROOM 143, SW CORNER OF CUBICLE	MASTIC W/ RED W/ GREY MASTIC	PLM	Trace% Cellulose	10% Mineral Filler 90% Organic Binders		NONE DETECTED
11542-7		Color: TAN		Comments: NOB RECOMMENDED			
Analyzed By: Elena Cuarteros							
04-B	DOL, ROOM 144, SE CORNER BY WALKWAY	MASTIC W/ RED W/ GREY MASTIC	PLM	Trace% Cellulose	12% Mineral Filler 88% Organic Binders		NONE DETECTED
11542-8		Color: TAN		Comments: NOB RECOMMENDED			
Analyzed By: Elena Cuarteros							
05-A	DC, CLOSET AT END OF HALL, BY COURTROOM B	CARPET MASTIC BLUE CARPET	PLM	Trace% Cellulose	12% Mineral Filler 88% Organic Binders		NONE DETECTED
11542-9		Color: YELLOW		Comments: NOB RECOMMENDED			
Analyzed By: Elena Cuarteros							

Legend : TRACE = LESS THAN LIMIT OF QUANTITATION (<0.25%)
Note 1: For point counts the limit of quantitation of 0.25% is based on one asbestos point counter over 400 non-empty points.
Note 2: > 1% asbestos by weight is considered an ACM (Asbestos Containing Material).
Note 3: The condition of all samples was acceptable upon receipt.

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15 E.MAIN STREET
RICHMOND , VT 05477
Fax: (802) 434-2160 **Phone:** (802) 434-2113

Project: DEPARTMENT OF BUILDINGS & GENERAL SERVICES

Location: BENNINGTON STATE OFFICE BLDG / BENNINGTON, VT

Project # 63-03505-0035/T2

Sampling Date : 10/10/06

Date Received : 10/11/06 10:30:00 AM

Date Analyzed : 10/11/06

ATC Batch # 11542

Methods: EPA 600/M4-82-020
EPA 600/R-93/116
ELAP 198.1, 198.6 and 198.4

Bulk Asbestos Analysis Results

				Non-Asbestos		NOB	Asbestos
Sample #	*Location*	*Type of Material*	*Method*	*% Fibrous*	*% Non-Fibrous*	*% Type*	*% Type*
06-A	DC, CLOSET AT END OF HALL, BY COURTROOM B	GREY FLOOR LEVELER	PLM		12% Mineral Filler 88% Organic Binders		NONE DETECTED
11542-10		Color: GREY		Comments: NOB RECOMMENDED			
Analyzed By: Elena Cuarteros							
07-A	DC, SE CORNER OF ROOM, NEXT TO JUDGE CHAMBER A	MASTIC W/ BROWN W/ WHITE STREAKS	PLM	1% Cellulose	12% Mineral Filler 87% Organic Binders		NONE DETECTED
11542-11		Color: BROWN		Comments: NOB RECOMMENDED			
Analyzed By: Elena Cuarteros							
08-A	VOC REHAB, ROOM 21, NE CORNER	MASTIC W/ BLUE W/ MULTI COLOR	PLM		10% Mineral Filler 90% Organic Binders		NONE DETECTED
11542-12		Color: BROWN/GREEN		Comments: NOB RECOMMENDED			
Analyzed By: Elena Cuarteros							
08-B	VOC REHAB, ROOM 15, SS CORNER	MASTIC W/ BLUE W/ MULTI COLOR	PLM		10% Mineral Filler 90% Organic Binders		NONE DETECTED
11542-13		Color: BLACK/GREEN		Comments: NOB RECOMMENDED			
Analyzed By: Elena Cuarteros							

Legend : TRACE = LESS THAN LIMIT OF QUANTITATION (<0.25%)
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The laboratory certifies that the test results meet all requirements of NELAC.

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Project: DEPARTMENT OF BUILDINGS & GENERAL SERVICES

Location: BENNINGTON STATE OFFICE BLDG / BENNINGTON, VT

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Date Analyzed : 10/11/06

ATC Batch # 11542

Methods: EPA 600/M4-82-020
EPA 600/R-93/116
ELAP 198.1, 198.6 and 198.4

Bulk Asbestos Analysis Results

				Non-Asbestos		NOB	Asbestos
Sample #	*Location*	*Type of Material*	*Method*	*% Fibrous*	*% Non-Fibrous*	*% Type*	*% Type*

Elena Cuarteros
Analyzed by:

Milena Bonezzi
Approved by:

Legend : TRACE = LESS THAN LIMIT OF QUANTITATION (<0.25%)
Note 1: For point counts the limit of quantitation of 0.25% is based on one asbestos point counter over 400 non-empty points.
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The laboratory certifies that the test results meet all requirements of NELAC.

Report Prepared By: Olga Ostrovskaya

APPENDIX C

CONCRETE MOISTER VAPOR EMISSION RATE TESTING RESULTS

				13-Oct			
Sample Number	Location	Time	RH	Temp	PH	Test Area square inches	Start Weight
CMT-01	District Court - Closet at end of hall outside Courtroom B	1315	27	70.1	8	0.43	32
CMT-02	District Court - SE corner of rm next to Judges Chambers A	1330	28.9	69.4	7	0.43	30.5
CMT-03	Vocational Rehab - NW corner of Rm 21	1345	24.3	69.9	7	0.43	30.3
CMT-04	Vocational Rehab - SW corner of Rm 15	1345	24.1	71.6	7	0.43	30.4
CMT-05	Dept. of Labor - SW corner of Rm 144	1400	24.7	80.6	9	0.43	30.2
CMT-06	Dept. of Labor - NW corner of 145	1400	21.9	77	10	0.43	30.3
CMT-07	Dept. of Corrections - SW corner of Rm 123	1415	24.8	73.7	7	0.43	30.3
CMT-08	Dept. of Corrections - SW corner of Rm 120	1415	23.4	71.1	7	0.43	30.1
CMT-09	Economic Services - SW corner of Rm 35 alcove	1415	22.7	72.1	8	0.43	30.2
CMT-10	Economic Services - center of rm 54	1430	24.8	71.7	7	0.43	30.2
CMT-11	Probation and Prole - SE corner of rm 98	1430	27.1	71.6	6	0.43	30.3
CMT-12	Probation and Prole - SW corner of rm 90	1430	21.4	70.7	7	0.43	30.1

			16-Oct
Sample Number	Location	Time	End Weight
CMT-01	District Court - Closet at end of hall outside Courtroom B	1100	32.4
CMT-02	District Court - SE corner of rm next to Judges Chambers A	1115	32
CMT-03	Vocational Rehab - NW corner of Rm 21	1015	34.7
CMT-04	Vocational Rehab - SW corner of Rm 15	1000	32.3
CMT-05	Dept. of Labor - SW corner of Rm 144	1100	31.8
CMT-06	Dept. of Labor - NW corner of 145	1100	31.5
CMT-07	Dept. of Corrections - SW corner of Rm 123	1045	32.4
CMT-08	Dept. of Corrections - SW corner of Rm 120	1045	32
CMT-09	Economic Services - SW corner of Rm 35 alcove	1030	31.5
CMT-10	Economic Services - center of rm 54	1030	31.6
CMT-11	Probation and Prole - SE corner of rm 98	1015	32
CMT-12	Probation and Prole - SW corner of rm 90	1030	31.9

Sample Number	Location	Test Period (hrs)	Test Area	Weight Change (g)	MVER (lb/1000 sq ft./24 h)	SI (ug/(sm2)
CMT-01	District Court - Closet at end of hall outside Courtroom B	69.75	0.43	0.4	0.7	38.5
CMT-02	District Court - SE corner of rm next to Judges Chambers A	69.75	0.43	1.5	2.6	144.5
CMT-03	Vocational Rehab - NW corner of Rm 21	68.5	0.43	4.4	7.6	431.7
CMT-04	Vocational Rehab - SW corner of Rm 15	68.25	0.43	1.9	3.3	187.1
CMT-05	Dept. of Labor - SW corner of Rm 144	69	0.43	1.6	2.8	155.8
CMT-06	Dept. of Labor - NW corner of rm 145	69	0.43	1.2	2.1	116.9
CMT-07	Dept. of Corrections - SW corner of Rm 123	68.50	0.43	2.1	3.6	206.0
CMT-08	Dept. of Corrections - SW corner of Rm 120	68.50	0.43	1.9	3.3	186.4
CMT-09	Economic Services - SW corner of Rm 35 alcove	68.25	0.43	1.3	2.3	128.0
CMT-10	Economic Services - center of rm 54	69.00	0.43	1.4	2.4	136.4
CMT-11	Probation and Prole - SE corner of rm 98	67.75	0.43	1.7	3.0	168.6
CMT-12	Probation and Prole - SW corner of rm 90	68.00	0.43	1.8	3.1	177.9

CMT-01

Calculating Results

Use this worksheet to calculate the test results.

STEP 1

Record dates and times this test was conducted.

Start Time	Stop Time	Total Hours
13:15 Minutes, AM (PM)	1000 Minutes, (AM) PM	69.75
10/13/06 Start Date	10/16/06 Stop Date	Minimum 60 Hours Maximum 72 Hours

STEP 2

Record the start and stop weight to 1/10th of a gram.
Subtract the start weight from the stop weight to determine gain.

32.4 Grams	STOP	Weight
Subtract 32 Grams	START	Weight
0.4 Grams		**Weight Gain**

STEP 3

Use the following equation to determine the vapor emission volume in Pounds per 1,000 square feet in 24 hours.

Equation to determine vapor emission in pounds.

$$\frac{\text{Weight Gain} \times 118.932}{\text{Total Hours}} = \text{Pounds}$$

Numeric example with a 4.5 gain in 64.5 hours. Always round to the nearest tenth.

$$\frac{4.5 \times 118.932}{64.5} = 8.3$$

$$\frac{\text{Weight Gain} \times 118.932}{\text{Total Hours}} = 0.7 \text{ Pounds}$$

per 1,000 square feet in 24 hours

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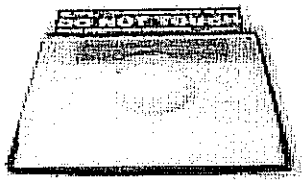
Remember to collect Temp = 70.1
Relative Humidity = 27.0
PH = 8

Anhydrous Calcium Chloride Concrete Moisture Vapor Emission Test Kit



For determining the moisture acceptability of floor coverings & coatings on concrete slab surfaces.

This test design conforms to the American Society for Testing & Materials (ASTM) E-1907-04 & F-1869-04.

The calcium chloride moisture vapor emission test was developed in the 1950's to quantify the volume of water vapor emitting from a 1,000 square foot area of concrete slab surface over 24 hours. This test is directly specified by the vast majority of the Floor Covering Industry as the primary measure of moisture acceptability for floor covering / coating installation.

Use this test to model the volume of moisture that emits from 1,000 square feet of slab surface in 24 hours. The result is expressed as "pounds" which is the equivalent weight of water, emitted as vapor, over 1,000 square feet in 24 hours. Use this result to compare to Manufacturer's specifications for floor covering or coating tolerances. Always reference a copy of the Manufacturer's specifications when reporting results using this test.

This test requires the use of a gram-weight scale with a gradation of 1/10th (0.1) gram. The calcium chloride container is weighed before and after exposure to the concrete slab. It is highly recommended that the test be weighed prior to, and directly after exposure on the same scale. This is a very sensitive and highly accurate test when conducted properly. Differences between two scales and extended time between weighing can offset the test result.

DO NOT conduct this test unless the building environment is representative of the actual working climate. While the test can measure moisture in a wide range of building climates, the results are only meaningful when conducted in a similar building environment as the finished floor system. Obtaining meaningful results is only possible when tests are conducted in a representative interior climate. See ASTM documents for details.

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CM1-02

Calculating Results

Use this worksheet to calculate the test results.

STEP 1

Record dates and times this test was conducted.

Start Time	Stop Time	Total Hours
1330 Minutes (AM / PM)	1115 Minutes (AM / PM)	69.75
10/13/06 Start Date	10/16/06 Stop Date	Minimum 60 Hours Maximum 72 Hours

STEP 2

Record the start and stop weight to 1/10th of a gram.
Subtract the start weight from the stop weight to determine gain.

	32.0 Grams	STOP Weight
Subtract	30.5 Grams	START Weight
	1.5 Grams	Weight Gain

STEP 3

Use the following equation to determine the vapor emission volume in Pounds per 1,000 square feet in 24 hours.

Equation to determine vapor emission in pounds.

$$\frac{\text{Weight Gain} \times 118.932}{\text{Total Hours}} = \text{Pounds}$$

Numeric example with a 4.5 gain in 64.5 hours. Always round to the nearest tenth.

$$\frac{4.5 \times 118.932}{64.5} = 8.3$$

$$\frac{\text{Weight Gain} \times 118.932}{\text{Total Hours}} = 2.6 \text{ Pounds}$$

per 1,000 square feet in 24 hours

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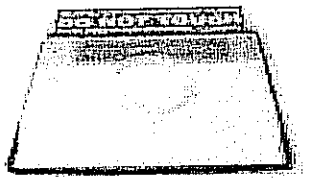
Remember to collect Temp = 69.4
Relative Humidity = 28.9
DH = 7

Anhydrous Calcium Chloride Concrete Moisture Vapor Emission Test Kit



For determining the moisture acceptability of floor coverings & coatings on concrete slab surfaces.

This test design conforms to the American Society for Testing & Materials (ASTM) E-1907-04 & F-1869-04.

The calcium chloride moisture vapor emission test was developed in the 1950's to quantify the volume of water vapor emitting from a 1,000 square foot area of concrete slab surface over 24 hours. This test is directly specified by the vast majority of the Floor Covering Industry as the primary measure of moisture acceptability for floor covering / coating installation.

Use this test to model the volume of moisture that emits from 1,000 square feet of slab surface in 24 hours. The result is expressed as "pounds" which is the equivalent weight of water, emitted as vapor, over 1,000 square feet in 24 hours. Use this result to compare to Manufacturer's specifications for floor covering or coating tolerances. Always reference a copy of the Manufacturer's specifications when reporting results using this test.

This test requires the use of a gram-weight scale with a gradation of 1/10th (0.1) gram. The calcium chloride container is weighed before and after exposure to the concrete slab. It is highly recommended that the test be weighed prior to, and directly after exposure on the same scale. This is a very sensitive and highly accurate test when conducted properly. Differences between two scales and extended time between weighing can offset the test result.

DO NOT conduct this test unless the building environment is representative of the actual working climate. While the test can measure moisture in a wide range of building climates, the results are only meaningful when conducted in a similar building environment as the finished floor system. Obtaining meaningful results is only possible when tests are conducted in a representative interior climate. See ASTM documents for details.

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CMT-03

Calculating Results

Use this worksheet to calculate the test results.

STEP 1

Record dates and times this test was conducted.

Start Time	Stop Time	Total Hours
1345 Minutes (AM / PM)	1015 Minutes (AM / PM)	68.5
10/13/06 Start Date	10/16/06 Stop Date	Minimum 60 Hours Maximum 72 Hours

STEP 2

Record the start and stop weight to 1/10th of a gram.
Subtract the start weight from the stop weight to determine gain.

	34.7 Grams	STOP Weight
Subtract	30.3 Grams	START Weight
	4.4 Grams	Weight Gain

STEP 3

Use the following equation to determine the vapor emission volume in Pounds per 1,000 square feet in 24 hours.

Equation to determine vapor emission in pounds.

$$\frac{\text{Weight Gain} \times 118.932}{\text{Total Hours}} = \text{Pounds}$$

Numeric example with a 4.5 gain in 64.5 hours. Always round to the nearest tenth.

$$\frac{4.5 \times 118.932}{64.5} = 8.3$$

$$\frac{\text{Weight Gain} \times 118.932}{\text{Total Hours}} = \boxed{7.6}$$

Pounds per 1,000 square feet in 24 hours

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Remember to collect

Temp = 69.9
Relative Humidity = 24.3
PH = 7

JTS 10/13/06

Anhydrous Calcium Chloride Concrete Moisture Vapor Emission Test Kit

For determining the moisture acceptability of floor coverings & coatings on concrete slab surfaces.

This test design conforms to the American Society for Testing & Materials (ASTM) E-1907-04 & F-1869-04.

The calcium chloride moisture vapor emission test was developed in the 1950's to quantify the volume of water vapor emitting from a 1,000 square foot area of concrete slab surface over 24 hours. This test is directly specified by the vast majority of the Floor Covering Industry as the primary measure of moisture acceptability for floor covering / coating installation.

Use this test to model the volume of moisture that emits from 1,000 square feet of slab surface in 24 hours. The result is expressed as "pounds" which is the equivalent weight of water, emitted as vapor, over 1,000 square feet in 24 hours. Use this result to compare to Manufacturer's specifications for floor covering or coating tolerances. Always reference a copy of the Manufacturer's specifications when reporting results using this test.

This test requires the use of a gram-weight scale with a gradation of 1/10th (0.1) gram. The calcium chloride container is weighed before and after exposure to the concrete slab. It is highly recommended that the test be weighed prior to, and directly after exposure on the same scale. This is a very sensitive and highly accurate test when conducted properly. Differences between two scales and extended time between weighing can offset the test result.

DO NOT conduct this test unless the building environment is representative of the actual working climate. While the test can measure moisture in a wide range of building climates, the results are only meaningful when conducted in a similar building environment as the finished floor system. Obtaining meaningful results is only possible when tests are conducted in a representative interior climate. See ASTM documents for details.

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CMT-04

Calculating Results

Use this worksheet to calculate the test results.

STEP 1

Record dates and times this test was conducted.

Start Time	Stop Time	Total Hours
1345 Minutes	1600 Minutes	68.25
10/13/06 Start Date	10/16/06 Stop Date	Minimum 60 Hours Maximum 72 Hours

STEP 2

Record the start and stop weight to 1/10th of a gram.
Subtract the start weight from the stop weight to determine gain.

32.3 Grams	STOP	Weight
Subtract 30.4 Grams	START	Weight
1.9 Grams		Weight Gain

STEP 3

Use the following equation to determine the vapor emission volume in Pounds per 1,000 square feet in 24 hours.

Equation to determine vapor emission in pounds.

$$\frac{\text{Weight Gain} \times 118.932}{\text{Total Hours}} = \text{Pounds}$$

Numeric example with a 4.5 gain in 64.5 hours. Always round to the nearest tenth.

$$\frac{4.5 \times 118.932}{64.5} = 8.3$$

$$\frac{\text{Weight Gain} \times 118.932}{\text{Total Hours}} = \boxed{3.3}$$

Pounds
per 1,000 square feet in 24 hours

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Remember to collect Temp = 71.6
Relative Humidity = 24.1
pH = 7

Anhydrous Calcium Chloride Concrete Moisture Vapor Emission Test Kit

For determining the moisture acceptability of floor coverings & coatings on concrete slab surfaces.

This test design conforms to the American Society for Testing & Materials (ASTM) E-1907-04 & F-1869-04.

The calcium chloride moisture vapor emission test was developed in the 1950's to quantify the volume of water vapor emitting from a 1,000 square foot area of concrete slab surface over 24 hours. This test is directly specified by the vast majority of the Floor Covering Industry as the primary measure of moisture acceptability for floor covering / coating installation.

Use this test to model the volume of moisture that emits from 1,000 square feet of slab surface in 24 hours. The result is expressed as "pounds" which is the equivalent weight of water, emitted as vapor, over 1,000 square feet in 24 hours. Use this result to compare to Manufacturer's specifications for floor covering or coating tolerances. Always reference a copy of the Manufacturer's specifications when reporting results using this test.

This test requires the use of a gram-weight scale with a gradation of 1/10th (0.1) gram. The calcium chloride container is weighed before and after exposure to the concrete slab. It is highly recommended that the test be weighed prior to, and directly after exposure on the same scale. This is a very sensitive and highly accurate test when conducted properly. Differences between two scales and extended time between weighing can offset the test result.

DO NOT conduct this test unless the building environment is representative of the actual working climate. While the test can measure moisture in a wide range of building climates, the results are only meaningful when conducted in a similar building environment as the finished floor system. Obtaining meaningful results is only possible when tests are conducted in a representative interior climate. See ASTM documents for details.

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CM7-05

Calculating Results

Use this worksheet to calculate the test results.

STEP 1

Record dates and times this test was conducted.

Start Time	Stop Time	Total Hours
1400 Minutes (PM)	1100 Minutes (AM)	69.0
10/13/06 Start Date	10/14/06 Stop Date	Minimum 60 Hours Maximum 72 Hours

STEP 2

Record the start and stop weight to 1/10th of a gram.
Subtract the start weight from the stop weight to determine gain.

31.8 Grams	STOP	Weight
Subtract 30.2 Grams	START	Weight
1.6 Grams		Weight Gain

STEP 3

Use the following equation to determine the vapor emission volume in Pounds per 1,000 square feet in 24 hours.

Equation to determine vapor emission in pounds.

$$\frac{\text{Weight Gain} \times 118.932}{\text{Total Hours}} = \text{Pounds}$$

Numeric example with a 4.5 gain in 64.5 hours. Always round to the nearest tenth.

$$\frac{4.5 \times 118.932}{64.5} = 8.3$$

$$\frac{\text{Weight Gain} \times 118.932}{\text{Total Hours}} = 2.8 \text{ Pounds}$$

per 1,000 square feet in 24 hours

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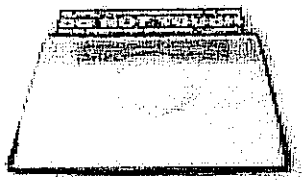
Remember to collect Temp 80.6
Relative Humidity 24.7
pH 9
data the day collected. Jrs 10/13/06

Anhydrous Calcium Chloride Concrete Moisture Vapor Emission Test Kit



For determining the moisture acceptability of floor coverings & coatings on concrete slab surfaces.

This test design conforms to the American Society for Testing & Materials (ASTM) E-1907-04 & F-1869-04.

The calcium chloride moisture vapor emission test was developed in the 1950's to quantify the volume of water vapor emitting from a 1,000 square foot area of concrete slab surface over 24 hours. This test is directly specified by the vast majority of the Floor Covering Industry as the primary measure of moisture acceptability for floor covering / coating installation.

Use this test to model the volume of moisture that emits from 1,000 square feet of slab surface in 24 hours. The result is expressed as "pounds" which is the equivalent weight of water, emitted as vapor, over 1,000 square feet in 24 hours. Use this result to compare to Manufacturer's specifications for floor covering or coating tolerances. Always reference a copy of the Manufacturer's specifications when reporting results using this test.

This test requires the use of a gram-weight scale with a gradation of 1/10th (0.1) gram. The calcium chloride container is weighed before and after exposure to the concrete slab. It is highly recommended that the test be weighed prior to, and directly after exposure on the same scale. This is a very sensitive and highly accurate test when conducted properly. Differences between two scales and extended time between weighing can offset the test result.

DO NOT conduct this test unless the building environment is representative of the actual working climate. While the test can measure moisture in a wide range of building climates, the results are only meaningful when conducted in a similar building environment as the finished floor system. Obtaining meaningful results is only possible when tests are conducted in a representative interior climate. See ASTM documents for details.

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CMT-06

Calculating Results

Use this worksheet to calculate the test results.

STEP 1

Record dates and times this test was conducted.

Start Time	Stop Time	Total Hours
1400 Minutes (AM PM)	1100 Minutes (AM PM)	69
10/13/06 Start Date	10/16/06 Stop Date	Minimum 60 Hours Maximum 72 Hours

STEP 2

Record the start and stop weight to 1/10th of a gram.
Subtract the start weight from the stop weight to determine gain.

31.5 Grams	STOP	Weight
Subtract 30.3 Grams	START	Weight
1.2 Grams		Weight Gain

STEP 3

Use the following equation to determine the vapor emission volume in Pounds per 1,000 square feet in 24 hours.

Equation to determine vapor emission in pounds.

$$\frac{\text{Weight Gain} \times 118.932}{\text{Total Hours}} = \text{Pounds}$$

Numeric example with a 4.5 gain in 64.5 hours. Always round to the nearest tenth.

$$\frac{4.5 \times 118.932}{64.5} = 8.3$$

$$\frac{\text{Weight Gain} \times 118.932}{\text{Total Hours}} = \boxed{2.1}$$

Pounds
per 1,000 square feet in 24 hours

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Remember to collect Temp = 77.0
Relative Humidity = 21.9
pH = 10
[illegible] collected 175 10/13/06

Anhydrous Calcium Chloride Concrete Moisture Vapor Emission Test Kit

For determining the moisture acceptability of floor coverings & coatings on concrete slab surfaces.

This test design conforms to the American Society for Testing & Materials (ASTM) E-1907-04 & F-1869-04.

The calcium chloride moisture vapor emission test was developed in the 1950's to quantify the volume of water vapor emitting from a 1,000 square foot area of concrete slab surface over 24 hours. This test is directly specified by the vast majority of the Floor Covering Industry as the primary measure of moisture acceptability for floor covering / coating installation.

Use this test to model the volume of moisture that emits from 1,000 square feet of slab surface in 24 hours. The result is expressed as "pounds" which is the equivalent weight of water, emitted as vapor, over 1,000 square feet in 24 hours. Use this result to compare to Manufacturer's specifications for floor covering or coating tolerances. Always reference a copy of the Manufacturer's specifications when reporting results using this test.

This test requires the use of a gram-weight scale with a gradation of 1/10th (0.1) gram. The calcium chloride container is weighed before and after exposure to the concrete slab. It is highly recommended that the test be weighed prior to, and directly after exposure on the same scale. This is a very sensitive and highly accurate test when conducted properly. Differences between two scales and extended time between weighing can offset the test result.

DO NOT conduct this test unless the building environment is representative of the actual working climate. While the test can measure moisture in a wide range of building climates, the results are only meaningful when conducted in a similar building environment as the finished floor system. Obtaining meaningful results is only possible when tests are conducted in a representative interior climate. See ASTM documents for details.

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CMT-07

Calculating Results

Use this worksheet to calculate the test results.

STEP 1

Record dates and times this test was conducted.

Start Time	Stop Time	Total Hours
1415 Minutes, AM (PM)	1045 Minutes, (AM) PM	68.5
10/13/04 Start Date	10/16/04 Stop Date	Minimum 60 Hours Maximum 72 Hours

STEP 2

Record the start and stop weight to 1/10th of a gram.
Subtract the start weight from the stop weight to determine gain.

32.4 Grams	STOP	Weight
Subtract 30.3 Grams	START	Weight
2.1 Grams		Weight Gain

STEP 3

Use the following equation to determine the vapor emission volume in Pounds per 1,000 square feet in 24 hours.

Equation to determine vapor emission in pounds.

$$\frac{\text{Weight Gain} \times 118.932}{\text{Total Hours}} = \text{Pounds}$$

Numeric example with a 4.5 gain in 64.5 hours. Always round to the nearest tenth.

$$\frac{4.5 \times 118.932}{64.5} = 8.3$$

$$\frac{\text{Weight Gain} \times 118.932}{\text{Total Hours}} = 3.6 \text{ Pounds}$$

per 1,000 square feet in 24 hours

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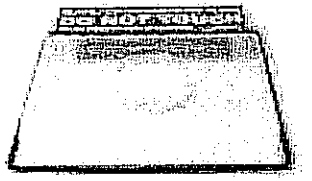
remember to collect

Temp = 73.7
Relative Humidity = 24.8
PH = 7

[illegible] collected [illegible] 10/13/04

Anhydrous Calcium Chloride Concrete Moisture Vapor Emission Test Kit



For determining the moisture acceptability of floor coverings & coatings on concrete slab surfaces.

This test design conforms to the American Society for Testing & Materials (ASTM) E-1907-04 & F-1869-04.

The calcium chloride moisture vapor emission test was developed in the 1950's to quantify the volume of water vapor emitting from a 1,000 square foot area of concrete slab surface over 24 hours. This test is directly specified by the vast majority of the Floor Covering Industry as the primary measure of moisture acceptability for floor covering / coating installation.

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This test requires the use of a gram-weight scale with a gradation of 1/10th (0.1) gram. The calcium chloride container is weighed before and after exposure to the concrete slab. It is highly recommended that the test be weighed prior to, and directly after exposure on the same scale. This is a very sensitive and highly accurate test when conducted properly. Differences between two scales and extended time between weighing can offset the test result.

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CM7-08

Calculating Results

Use this worksheet to calculate the test results.

STEP 1

Record dates and times this test was conducted.

Start Time	Stop Time	Total Hours
1415 Minutes, AM (PM)	1045 Minutes, AM (PM)	68.5
10/13/06 Start Date	10/16/06 Stop Date	Minimum 60 Hours, Maximum 72 Hours

STEP 2

Record the start and stop weight to 1/10th of a gram.
Subtract the start weight from the stop weight to determine gain.

	32 Grams	STOP Weight
Subtract	30.1 Grams	START Weight
	1.9 Grams	Weight Gain

STEP 3

Use the following equation to determine the vapor emission volume in Pounds per 1,000 square feet in 24 hours.

Equation to determine vapor emission in pounds.

$$\frac{\text{Weight Gain} \times 118.932}{\text{Total Hours}} = \text{Pounds}$$

Numeric example with a 4.5 gain in 64.5 hours. Always round to the nearest tenth.

$$\frac{4.5 \times 118.932}{64.5} = 8.3$$

$$\frac{\text{Weight Gain} \times 118.932}{\text{Total Hours}} = \boxed{3.3}$$

Pounds
per 1,000 square feet in 24 hours

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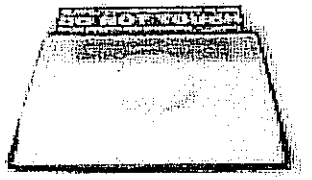
remember to collect

Temp = 71.1
Relative Humidity = 23.4
PH = 7

[illegible] collected 1 TS 10/13/06

Anhydrous Calcium Chloride Concrete Moisture Vapor Emission Test Kit



For determining the moisture acceptability of floor coverings & coatings on concrete slab surfaces.

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Use this test to model the volume of moisture that emits from 1,000 square feet of slab surface in 24 hours. The result is expressed as "pounds" which is the equivalent weight of water, emitted as vapor, over 1,000 square feet in 24 hours. Use this result to compare to Manufacturer's specifications for floor covering or coating tolerances. Always reference a copy of the Manufacturer's specifications when reporting results using this test.

This test requires the use of a gram-weight scale with a gradation of 1/10th (0.1) gram. The calcium chloride container is weighed before and after exposure to the concrete slab. It is highly recommended that the test be weighed prior to, and directly after exposure on the same scale. This is a very sensitive and highly accurate test when conducted properly. Differences between two scales and extended time between weighing can offset the test result.

DO NOT conduct this test unless the building environment is representative of the actual working climate. While the test can measure moisture in a wide range of building climates, the results are only meaningful when conducted in a similar building environment as the finished floor system. Obtaining meaningful results is only possible when tests are conducted in a representative interior climate. See ASTM documents for details.

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CMT-09

Calculating Results

Use this worksheet to calculate the test results.

STEP 1

Record dates and times this test was conducted.

Start Time	Stop Time	Total Hours
1415 Minutes, AM (PM)	1030 Minutes, (AM) PM	68.25
10/13/06 Start Date	10/16/06 Stop Date	Minimum 60 Hours Maximum 72 Hours

STEP 2

Record the start and stop weight to 1/10th of a gram.
Subtract the start weight from the stop weight to determine gain.

	31.5 Grams	STOP Weight
Subtract	30.2 Grams	START Weight
	1.3 Grams	Weight Gain

STEP 3

Use the following equation to determine the vapor emission volume in Pounds per 1,000 square feet in 24 hours.

Equation to determine vapor emission in pounds.

$$\frac{\text{Weight Gain} \times 118.932}{\text{Total Hours}} = \text{Pounds}$$

Numeric example with a 4.5 gain in 64.5 hours. Always round to the nearest tenth.

$$\frac{4.5 \times 118.932}{64.5} = 8.3$$

$$\frac{\text{Weight Gain} \times 118.932}{\text{Total Hours}} = 7.3$$

Pounds
per 1,000 square feet in 24 hours

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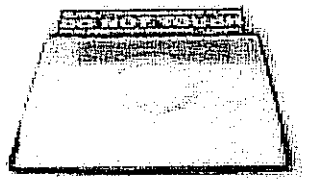
remember to collect Temp = 72.1
Relative Humidity = 22.7
PH = 8
[illegible] collected 1/5 10/13/06

Anhydrous Calcium Chloride Concrete Moisture Vapor Emission Test Kit



For determining the moisture acceptability of floor coverings & coatings on concrete slab surfaces.

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CMT-10

Calculating Results

Use this worksheet to calculate the test results.

STEP 1

Record dates and times this test was conducted.

Start Time	Stop Time	Total Hours
1430 Minutes (AM PM)	1030 Minutes (AM PM)	69.0
10/13/06 Start Date	10/16/06 Stop Date	Minimum 60 Hours Maximum 72 Hours

STEP 2

Record the start and stop weight to 1/10th of a gram.
Subtract the start weight from the stop weight to determine gain.

	31.6 Grams	STOP Weight
Subtract	30.2 Grams	START Weight
	1.4 Grams	Weight Gain

STEP 3

Use the following equation to determine the vapor emission volume in Pounds per 1,000 square feet in 24 hours.

Equation to determine vapor emission in pounds.

$$\frac{\text{Weight Gain} \times 118.932}{\text{Total Hours}} = \text{Pounds}$$

Numeric example with a 4.5 gain in 64.5 hours. Always round to the nearest tenth.

$$\frac{4.5 \times 118.932}{64.5} = 8.3$$

$$\frac{\text{Weight Gain} \times 118.932}{\text{Total Hours}} = \boxed{2.4}$$

Pounds
per 1,000 square feet in 24 hours

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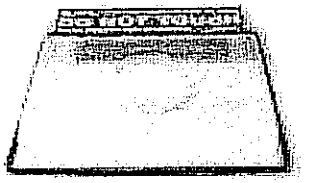
remember to collect

Temp = 71.7
Relative Humidity = 24.8
PH = 7

10/13/06

Anhydrous Calcium Chloride Concrete Moisture Vapor Emission Test Kit



For determining the moisture acceptability of floor coverings & coatings on concrete slab surfaces.

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This test requires the use of a gram-weight scale with a gradation of 1/10th (0.1) gram. The calcium chloride container is weighed before and after exposure to the concrete slab. It is highly recommended that the test be weighed prior to, and directly after exposure on the same scale. This is a very sensitive and highly accurate test when conducted properly. Differences between two scales and extended time between weighing can offset the test result.

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Calculating Results

CMT-11

Use this worksheet to calculate the test results.

STEP 1

Record dates and times this test was conducted.

Start Time	Stop Time	Total Hours
1430 Minutes (AM PM)	1015 Minutes (AM PM)	67.75
10/13/06 Start Date	10/16/06 Stop Date	Minimum 60 Hours Maximum 72 Hours

STEP 2

Record the start and stop weight to 1/10th of a gram.
Subtract the start weight from the stop weight to determine gain.

32 Grams	STOP	Weight
Subtract 30.3 Grams	START	Weight
1.7 Grams		**Weight Gain**

STEP 3

Use the following equation to determine the vapor emission volume in Pounds per 1,000 square feet in 24 hours.

Equation to determine vapor emission in pounds.

$$\frac{\text{Weight Gain X 118.932}}{\text{Total Hours}} = \text{Pounds}$$

Numeric example with a 4.5 gain in 64.5 hours. Always round to the nearest tenth.

$$\frac{4.5 \text{ X } 118.932}{64.5} = 8.3$$

$$\frac{\text{Weight Gain X 118.932}}{\text{Total Hours}} = 3.0 \text{ Pounds}$$

per 1,000 square feet in 24 hours

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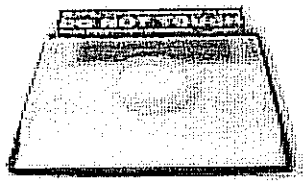
Temp: 71.6°F
Relative Humidity: 27.1
pH: 6

17. 10/13/06 Jean Smith

Anhydrous Calcium Chloride Concrete Moisture Vapor Emission Test Kit



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CMT-12

Calculating Results

Use this worksheet to calculate the test results.

STEP 1

Record dates and times this test was conducted.

Start Time	Stop Time	Total Hours
1430 Minutes AM (PM)	1030 Minutes (AM) PM	68.0
10/13/06 Start Date	10/16/06 Stop Date	Minimum 60 Hours Maximum 72 Hours

STEP 2

Record the start and stop weight to 1/10th of a gram.
Subtract the start weight from the stop weight to determine gain.

	31.9 Grams	STOP Weight
Subtract	30.1 Grams	START Weight
	1.8 Grams	Weight Gain

STEP 3

Use the following equation to determine the vapor emission volume in Pounds per 1,000 square feet in 24 hours.

Equation to determine vapor emission in pounds.

$$\frac{\text{Weight Gain} \times 118.932}{\text{Total Hours}} = \text{Pounds}$$

Numeric example with a 4.5 gain in 64.5 hours. Always round to the nearest tenth.

$$\frac{4.5 \times 118.932}{64.5} = 8.3$$

$$\frac{\text{Weight Gain} \times 118.932}{\text{Total Hours}} = 3.1 \text{ Pounds}$$

per 1,000 square feet in 24 hours

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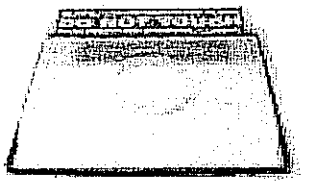
Remember to collect Temp = 70.7
Relative Humidity = 21.4
pH = 7
data do when collected. JRS 10/13/06

Anhydrous Calcium Chloride Concrete Moisture Vapor Emission Test Kit



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