

# **Moisture Inspection Report**

### For the Property Located At:

12345 Main Street Richmond, Virginia 23112

### **Report Prepared For:**

John & Jane Doe



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## **Project Information**

OWNER	INFORMATION	BUYER INFORMATION				
Owners		Buyers	John & Jane Doe			
Property Address	12345 Main Street	Buyers Address				
City, State, ZIP	Richmond, VA 12345	City, State, ZIP				
Phone		Phone				
Email		Email				
Owners Realtor		Buyers Realtor				
Realty Company		Realty Company				
Phone		Phone				
Email		Email				
PROPERT	Y INFORMATION	INSPECTION	INFORMATION			
Type of Exterior Cladding	EIFS	Date of Inspection				
System Manufacturer		Inspector	Stanley Yeskolski			
Mesh Color		Present at Inspection	Tricia Kelly			
Underlying Substrate	Wood & Gypsum Sheathing	Temperature / Humidity	65 - 44%			
Age of Property	1990	Weather	Sunny			
Square Footage	4500 - 6000	Last Rain	Within past few days			

Window Data								
Type of Windows	Quantity	Comments						
Double or single hung, wood window								
Total Number of Window Units								

## **Summary Checklist**

Caulking	Good	Not Adequate	N/A	Comments
<b>Caulking Around Window Frame</b>		X		Existing caulk appears to be the improper type and not adequately tooled. Caulking has been painted and we could not determine the degree of failure if there was more than what was found.
Caulking At Window Construction Joints		X		Not adequately sealed
<b>Caulking Around Door Frame</b>		X		
Caulking At Door Joints		X		Need to seal the threshold and jams
Caulking Around Other Breaches		X		Some of the utility breaches lack sealant and need to be caulked as noted in the report.
Flat Accents Caulked or Angled			X	
Soffit, Frieze & Fascia Boards Caulked		X		Exposed gaps where EIFS meets another material need to be caulked.
Flashings / Diverters	Good	Not Adequate	N/A	Comments
Kickout Flashings / Roof / Wall		X		Kickout flashing needs to be installed at the location(s) noted in this report.
Deck Flashings				Not visible
Porches / Stoop Flashing				Not visible
Chimney Cap				Chimney is masonry
Window Head Flashing				None
Door Head Flashing				None
Column Flashing			X	
Terminations	Yes	No	N/A	Comments
EIFS Is Terminated Above Grade	Χ	X		
EIFS Is Sealed At Bottom				Could not view
EIFS Is Terminated At Porches				Runs behind

## Summary Checklist Continued ....

Miscellaneous	Yes	No	N/A	Comments
Evidence Of Sprinkler Overspray		X		
Gutters Clean & Functioning				No obstructions noted, but keep gutters clear of leaves and debris.
Down Spout Fasteners Sealed		X		
Cracks Or Impact Damage	X			Exposed cracks or impact damage need to be sealed or repaired.
Delaminating At Foam / Substrate	X			Delamination is occuring at an area or areas as noted in the report.
Exterior Evidence Of Pest Infestation	X			Evidence of pest infestation noted at location(s) shown in report. Ants
Adequate Slope Of Grade Away	X			
Crawlspace Inspection Made		X		
Property Located Near Body of Water If Yes, Describe		X		

### **Moisture Inspection Summary**

#### Grounds and drainage

The drainage is near level at the house but there was no standing water at or near the house at the time of inspection.

#### System

From my observations at the time of the inspection, the system appears to be a class PB barrier EIFS system. A barrier EIFS system is not designed to have water entering behind the system because by design water is intended to stop at the face of the EIFS wall. There is no secondary drainage plane as in a brick or vinyl home to manage water that enters the wall. It is important on these systems to install and maintain any sealants (caulking) in good condition at joints.

The industry recommends a minimum of <sup>1</sup>/<sub>2</sub>-inch expansion joint between dissimilar materials and EIFS on residential buildings. The joints allow the different building components to move independently so as not to damage the EIFS cladding. Expansion joints were not installed; filet joints were used instead of expansion joints. This is an acceptable alternative to installing expansion joints at this time. Any filet joints must be properly installed and use approve EIFS sealants.

#### **Substrate Identity Notes:**

The house has gypsum sheathing as a substrate under the EIFS system. Gypsum does not have the same moisture saturation point as wood and it does not hold moisture for as long as wood does. Gypsum will still get water damaged if water enters the EIFS system for a long enough time; however, it may only stay wet for a week after water enters the wall. Gypsum materials have their own moisture scale but rather than create confusion by using the gypsum scale, the moisture readings were taken in the wood framing or paper and the wood scale is used in the report for consistency. Gypsum substrate is softer than wood in general, so an area of soft substrate in gypsum indicates that it is relatively soft compared to the rest of the substrate.

#### **Inspection Notes**

It is important to note that probe holes were sealed at the time of inspection.

#### High moisture and soft areas

The moisture readings when possible were taken in the wood framing or sheathing because the house has gypsum. Areas with soft substrate and/or high probe moisture readings (over 20%) were found around kickout locations, windows and at doors. These locations should be evaluated and repaired by a qualified licensed contractor. See grid photographs for details.

### **Moisture Inspection Summary**

Substrate is what is behind the EIFS system. Sometimes the sheathing has sustained water damage to the degree that has disintegrated and it cannot be felt, this is referred to as "no substrate or no substrate felt" in the report.

Due to the age of the home, it is important to be aware that some areas noted as soft may not indicate current or ongoing water damage but past damage that had the source of moisture repaired and the damage was unknown or a decision was made not to repair the site due to the small size of the affected area.

#### Wood rot

Any wood rot on the windows, doors, and trim must be repaired and all perimeter and construction joints must be sealed.

#### Windows

Windows typically may allow water to enter the wall assembly in several locations: at the perimeter of the window where it meets the wall, the joint in the window itself where the jamb meets the sill and the joint where windows are grouped or ganged together. We have included detail pictures illustrating these areas. At the time of this inspection, some of the windows inspected had high readings and soft substrate under them (see data grid sheets). Many of the windows had rotted wood or open construction joints windows, based on the conditions and readings the likely source of the moisture is these issues. The contractor should verify this when performing the repairs.

If caulking is going to be used as the only means of preventing moisture infiltration then all the potential entry points of moisture must be sealed. The windows perimeter sealant must have the sealants repaired or installed if missing. All the window joints and mullions need to have a bead of sealant applied to them to seal possible sources of moisture intrusion. For single or double hung windows, seal all vertical joints from the head of the window to the sill, prime the bare unfinished wood on the jamb behind the sash track at least 8" up from the sill and caulk the joint between the jamb and the sill. Then seal (caulk) at least 6" up the vertical joints behind the track. The use of sealants does require recurring maintenance and the caulking will only last as long as the paint does and the wood remains sound.

If the windows cannot be sealed or are found to be allowing water to enter the wall through the construction joints, installing permanent flashings under them may be the best and only option.

#### **Door thresholds**

High moisture readings and soft substrate were noted below a door. Any cracks or separations in joints at doorjambs and thresholds or where the EIFS meets the thresholds should be sealed. These gaps could allow moisture to enter the structure.

### **Moisture Inspection Summary**

#### **Kickout flashings**

No kickout flashings were installed at the roof wall intersections according to general industry guidelines. This may allow any rainwater flowing down the roof to enter behind the EIFS system, defeating the concept of a barrier system. The inspection noted evidence of water intrusion and soft substrate under the roof rakes. In addition, the current configuration of the counter flashing installed on the EIFS surface relies heavily on improper sealant with an improper joint. This method of flashing is common for masonry construction, but is not an approved design detail for EIFS. In my opinion, it would be appropriate to upgrade the kickout flashings when the other repairs are done. The kickout flashings should be installed to current manufacturer's or EIMA specifications including the required expansion joints and approved sealant.

#### Sealants

Sealants (specialized EIFS approved caulking) were not consistently installed at dissimilar materials, some sealants were the improper type, and EIFS and sealants were failing at some joints between dissimilar materials (see grids for locations). Sealants should be installed where failing or improper and at all dissimilar materials that are in contact with the EIFS system, the frieze and fascia boards, the doors, ends of the deck, etc., and all small penetrations where needed and as noted in the report.

All penetrations such as electrical boxes, lights, doorbells, flagpoles, etc. should be attached according to EIFS manufacturer's specifications to avoid moisture intrusion. All caulking on penetrations should be updated if needed.

If sealants are applied as a part of the repairs, the applicator or repair professional is responsible for providing that the sealants are approved and specified for the particular EIFS system installed on the building.

#### Deck

The EIFS system is installed around the deck. No high moisture readings or soft areas were noted below the deck. End dam flashings and sealants are not installed at the deck terminations; however, because there were no high moisture readings, I suggest sealing the ends of the deck at the EIFS and not installing end dam flashings. If the deck attachment is found to be allowing water to enter the wall, installing permanent deck flashings may be the best and only option.

#### **Surface defects**

All areas with cracks, exposed mesh, holes, and impact damage should be sealed or repaired. Water intrusion is likely to occur in these areas.

### **Moisture Inspection Summary**

The EIFS was in contact with the shingles and did not appear to be not back wrapped properly. The industry recommends a 2-inch gap between the EIFS and shingles to keep water from getting behind the EIFS. This minimum space keeps debris from being lodged between the EIFS and roofing material by allowing rain to flush the space clear. This space is a positive design feature to minimize water entering the EIFS system at the roofline. In addition, there might be a problem when re-roofing becomes necessary because the EIFS may be damaged when the shingles are removed. Because no moisture damage was noted on the EIFS above the roof no modifications are suggested at this time. These sites should continue to be monitored for moisture entrapment.

#### Shrubs and trees

The shrubs and a tree are over grown and contact the exterior walls; this impedes access around house for inspection, contribute to moisture problems, and can damage the finish of EIFS system. Ideally, shrubs need to be cut back 2 feet from the house.

#### Terminations

EIFS is in contact with the ground and termites or insects may enter the building through mud tubes in the insulation board portion of the EIFS. These mud tubes will not be visible if the EIFS runs to or below soil level. Remove the mulch and soil away from the EIFS bottom termination. Check with a pest control company to verify their recommendations for this geographic area.

#### **Repair notes**

Any items found by the repair contractor, which are not cited in this report, should be repaired as well.

If EIFS is removed from any area with a high moisture content, the area should be checked with a moisture meter periodically. The industry recommends that the internal moisture content of the wood should be below 19% before applying the EIFS.

Any areas in which a high moisture reading was detected and repairs have been made should be reinspected after four months to see if moisture readings have decreased.

### **Moisture Inspection Summary**

#### Conclusion

Please note that the moisture readings included in this report are the raw data recorded by the Delmhorst probe meter. Moisture levels are affected by the ambient weather conditions and other factors; this can result in variations between the readings taken on one day and readings taken in the same area on another day. The readings provided in this report are accurate indicators of the presence of retained moisture at the surface of the substrate or framing wood in the area tested at that given moment in time. These readings are not represented to be the absolute moisture content of the full thickness of the substrate or framing wood.

This report only represents the condition of the structure at the specific locations indicated. Locations were determined by the inspector according to probable areas of possible moisture intrusion and in accordance with accepted industry standards. No judgment is intended or given for any areas not found in this report. As a final note if additional information is provided or work is necessary in this matter, I reserve the right to amend any conclusions and opinions expressed in the report.

Respectfully submitted,

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Stanley Yeskolski

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Grid Location	Item Description	Moisture Readings	Substrate Condition	Observations
5G, 6C-D, 6D	Damage			Exposed mesh needs to be sealed.
6D & F	Windows			External wood rot needs to be repaired.
6C	Probe	30	Firm	
6D	Probe	25	Firm	
7F	Probe	15	Firm	
7G	Probe	10	Firm	
6F & H	Windows			Sealant fallure





Damage

Grid Location	Item Description	Moisture Readings	Substrate Condition	Observations
5E	Calibration	10	Firm	
5C				Impact damage
6-7C	Probe	24	Firm	
6D	Probe	20	Firm	
6F-G	Probe	10	Firm	
6G	Probe	12	Firm	
6D & G	Cracks			Exposed cracks need to be caulked.
6G				Exposed mesh needs to be sealed.
61	Probe	14	Firm	Probed under hose bib
61	Probe	10	Firm	Probed under vent
7B-J				Foam board runs to grade but over masonry in this area. This typical throughout

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Damage ants



Counter flashing is installed instead of kickout flashing



Grid Location	Item Description	Moisture Readings	Substrate Condition	Observations
3C	Kickout			Counter flashing installed instead of kickout flashing. The counter flashing is sealed at the roof and wall
4C	Probe	17	Soft	Delamination noted in this area
5C	Probe	17	Firm	
7C	Probe	10	Firm	
7C-D	Damage			Damaged eifs needs to be repaired or sealed. Ants coming in and out
7D	Probe	10	Soft	No substrate felt. Exposed mesh and sealant failure
7E	Probe	10	Soft	No substrate felt
7F	Probe	15	Firm	
7G	Probe	10	Soft	No substrate felt
71	Probe	22	Firm	
7I-J	Probe	15	Firm	
51	Probe	10	Firm	
4G				Hole needs to be sealed

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Grid Location	Item Description	Moisture Readings	Substrate Condition	Observations
5C & E	Windows			External wood rot needs to be repaired.
6C	Probe	10	Soft	
6D	Probe	14	Firm	
6G	Probe	10	Firm	
6H	Probe	10	Firm	
61				Nail in siding
7C	Wood rot			Minor wood rot





Compression crack



Wood rot

Grid Location	Item Description	Moisture Readings	Substrate Condition	Observations
4H	Kickout			Counter flashing installed instead of kickout flashing. The counter flashing is sealed at the roof and wall
4H	Compression			Compression wrinkle(s) noted. This is typically a cosmetic issue unless it breaches the system.
4-5H	Probe	14	Firm	
6H	Probe	14	Firm	
8H	Probe	15	Soft	No substrate felt
5F	Probe	10	Firm	
5H	Probe	22	Firm	
8F	Probe	40	Soft	No substrate felt
8H	Probe	17	Soft	
81	Probe	16	Firm	Joint sealant failure
4H & I	Wood rot			External wood rot needs to be repaired.





Door threshold not sealed

Grid Location	Item Description	Moisture Readings	Substrate Condition	Observations
3-4B, 7F	Windows			Sealant failure
6-7B & D	Doors			Sealant failiure
7B	Doors			External wood rot needs to be repaired.
7B-C	Doors			Exposed mesh and door not sealed
6F	Damage			Exposed mesh needs to be sealed.
7F & I	Windows			External wood rot needs to be repaired.
7E-F	Probe	13	Soft	No substrate felt
7F-G	Probe	10	Firm	
7H	Probe	15	Firm	
71	Probe	15	Firm	



Grid Location	Item Description	Moisture Readings	Substrate Condition	Observations
5E	Probe	10	Firm	
5F	Probe	10	Firm	
5H	Probe	10	Firm	
51	Probe	10	Firm	
3-5H-I	Windows			Not sealed
51	Windows			External wood rot needs to be repaired.
51	Compression			Compression wrinkle(s) noted. This is typically a cosmetic issue unless it breaches the system.
6-8G-J	Shrubbery			All shrubbery and vegetation should be pruned back 18-24 inches from the house as it retains moisture in the immediate area and inhibits its evaporation.
2G				Susprct of wood rot





Wood substrate below grade

Grid Location	Item Description	Moisture Readings	Substrate Condition	Observations
2-4A-D	Windows			Not sealed
4A	Probe	12	Firm	
4B-C	Probe	10	Firm	
4C	Probe	11	Firm	
4D	Probe	10	Firm	
5H	Probe	10	Firm	
5I-J	Probe	12	Firm	
41	Windows			External wood rot needs to be repaired.
7G	Windows			Window not probed it is in masonry
8A-G				This area goes below grade and had a wood substate

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Holes from gutter downspout



Holes need to be sealed

Grid Location	Item Description	Moisture Readings	Substrate Condition	Observations
4C	Probe	10	Firm	
4D	Probe	10	Firm	
4G-H	Probe	11	Firm	
4H	Probe	15	Firm	
41	deck			Not sealed
6H & 7H-I				All holes need to be sealed
6G-H	Probe	10	Firm	
7C				Downspout is loose and hole needs to be sealed. The nail fastener did not penetrate the masonry





Not sealed below deck



Deck is attached to the house

Grid Location	Item Description	Moisture Readings	Substrate Condition	Observations
2A	Probe	10	Firm	
5A	Probe	10	Firm	
7A	Probe	10	Firm	
3C	Probe	10	Firm	
3B	Probe	10	Firm	
5B	Probe	10	Firm	
7B	Probe	13	Firm	
3E	Probe	18	Firm	
4E	Probe	12	Firm	
2-3H	Probe	10	Firm	
7F-G	Probe	14	Firm	
7H	Probe	16	Firm	
71	Probe	14	Firm	
6G & I	Windows			External wood rot needs to be repaired.
2A-J	Deck			Deck is attached to the house, not flashed and is not sealed

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Grid Location	Item Description	Moisture Readings	Substrate Condition	Observations
2F	Probe	15	Firm	
6A	Probe	13	Firm	Hose bib
1A-J	Deck			Deck is attached to the house, not flashed and is not sealed
3-6J				There is no wxpansion joint at the transition but appears to be no issues
5F	Probe	16	Firm	
5H	Windows			External wood rot needs to be repaired.
5G-H	Probe	18	Firm	
5H	Probe	17	Firm	
51	Probe	13	Firm	

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Grid Location	Item Description	Moisture Readings	Substrate Condition	Observations
6D & E 7G	Windows			External wood rot needs to be repaired.
6D-E	Doors			Door threshold not sealed
6D	Probe	15	Firm	
6E	Probe	13	Firm	
6E	Probe	14	Firm	
7F	Probe	10	Soft	
7G	Probe	10	Soft	
81	Probe	10	Firm	
6E& F	Windows			Sealant failure





Exposed mesh

Grid Location	Item Description	Moisture Readings	Substrate Condition	Observations
7C	Probe	12	Soft	
7E	Probe	10	Firm	Exposed mesh needs to be sealed
7E-F	Cracks			Exposed cracks need to be caulked.
6G	Probe	10	Firm	Hose bib has sealant failure
6G-H	Probe	10	Firm	
6-7H	Probe	10	Firm	
6J	Probe	10	Firm	
6H-I	Doors			Door threshold is not sealed



Grid Location	Item Description	Moisture Readings	Substrate Condition	Observations
8C	Probe	12	Firm	
7E	Probe	10	Firm	
7F	Probe	12	Soft	
7G	Probe	40	Soft	
6-7H	Probe	10	Firm	
61	Probe	10	Firm	
6-7G-H	Cracks			Exposed cracks need to be caulked.
7F-6G-6H	Windows			External wood rot needs to be repaired.
7G				Window repair - brick mold was used instead of sill nosing

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Grid Location	Item Description	Moisture Readings	Substrate Condition	Observations
6H	Windows			External wood rot needs to be repaired.
6G	Probe	11	Firm	
6H-I	Probe	15	Firm	
6G-H	Doors			Door threshold needs to be sealed

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Holes need to be sealed on chimney





Holes need to be sealed

Grid Location	Item Description	Moisture Readings	Substrate Condition	Observations
2D & F	Kickout			There are no kickouts installed. Per industry guidelines kickout are recommended even on masonry.
3-4D				Hole needs to be sealed
6G	Probe	10	Firm	
				There are holes on both sides of the chimney near the top that need to be sealed see caption photos







Wood rot

Grid Location	Item Description	Moisture Readings	Substrate Condition	Observations
1F				This window was not probed due to flashing
7B-C-D-F-G- H-I	Windows			External wood rot needs to be repaired.
7C	Windows			Wood rot on window sash
7E	Windows			Sealant faiure
7B	Probe	14	Firm	
7C	Probe	11	Firm	
7C-D	Probe	15	Firm	
7D-E	Probe	10	Soft	
7E	Probe	15	Med soft	
7-8F left	Probe	10	Soft	No substrate felt
7-8F right	Probe	10	Soft	No substrate felt
8G	Probe	10	Soft	No substrate felt
8G-H	Probe	10	Soft	
81	Probe	21	Firm	



Grid Location	Item Description	Moisture Readings	Substrate Condition	Observations
7C-D-E-F	Windows			External wood rot needs to be repaired.
7C	Probe	10	Firm	
7D	Probe	20	Firm	
7F	Probe	17	Med soft	





Holes need to be sealed



Gap under flashing & gutter

Grid Location	Item Description	Moisture Readings	Substrate Condition	Observations
2C	Kickout			Counter flashing installed instead of kickout flashing. The counter flashing is sealed at the roof and wall
2C	Kickout			There is a gap under the flashing above the gutter
3D	Probe	13	Firm	
5D	Probe	10	Firm	
7D	Probe	13	Med soft	
5 & 7C				Holes from old downspout need to be sealed

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Not sealed

Grid Location	Item Description	Moisture	Substrate	Observations
	<b>F</b>	Readings	Condition	
41	Gutters			Downspout loose and pulling out and not sealed



Wood rot at windows



Keep shrubbery cut back off house 18 to 24 inches.



Kickouts are not installed



The EIFS runs to the shingles in some areas



Wood rot



Sealant failure



Sealant has been painted

Photo26.4



Damage typical where noted in the report



Counter flashing is installed instead of a kickout flashing



Lights Are sealed



Outlets are sealed

12345 MAIN STREET RICHMOND, VIRGINIA 12345