

# STUCCO PRO INSPECTIONS

Stucco Pro Inspections, LLC 1717 W 34th St. Ste 600 #171 Houston, TX 77018 713-903-1240 www.stuccoproinspections.com

#### **Moisture Inspection Report**



Inspected for Kenya Bosso 4241 Bettis Dr Houston, TX 77027 02/10/2021



#### 1. INTRODUCTION

**1.1 PURPOSE:** The purpose of this inspection is to help assess the condition of the stucco system by looking for visible installation flaws, inadequate water diversion, and sealant failures. In addition, we will conduct random moisture readings using electronic moisture scan devices. Please note that the provision of a scope of work for remedial repairs is not the purpose of this inspection. Further investigation may be needed to determine the extent of water damage, if any, and how best to modify your home to address any moisture problems that may be indicated by this inspection. It is suggested to thoroughly read the inspection report and understand all items mentioned throughout. If you have any questions or are unclear regarding the report findings; please feel free to call our office for consultation.

#### 1.2 SCOPE OF INSPECTION: This is a basic, stucco inspection limited to the following:

- A visual examination of the condition of the stucco, exterior sealants, flashing, windows, doors, roof-to-stucco
  transitions, parapets, gutters, deck-to-building connections, stucco terminations and any penetrations through the
  stucco.
- Conducting of *random* electronic moisture scanning of the building envelope.
- Preparing a report of our observations of potential problem areas and recording any high readings found.
- Providing detailed information on typical moisture-related problems in stucco structures to assist you in maintaining the value of your home.
- An inspection addresses only those components and conditions that are present, visible, and accessible at the time of the inspection
- **1.3 LIMITATIONS OF LIABILITY:** Because this is a limited inspection, we can make no guarantee, express or implied, that our observations and random moisture readings offer conclusive evidence that no installation or moisture problems exist, or that problems found are all inclusive. This inspection company, its employees and any divisions shall not be liable for non-visual defects, unseen defects, unspecified defects or hidden damage and conditions existing on the subject property and hereby disclaims any liability or responsibility thereof. All parties concerned agree to hold harmless and indemnify this inspection company involving any liabilities that may result.
- **1.4 FURTHER TESTING / INVESTIGATION:** Our policy is to rely on moisture meter readings as an indicator of relative moisture values between different test spots, not as an absolute value of water content in the substrate. It is difficult to determine if the structural wood of the structure has been damaged in areas of high readings without 'probing' and/or removing a core sample of the stucco to allow for visual inspection. Should we feel that further investigation is needed this will be indicated in the observations sections of the report.
- **1.5 REPAIR FOLLOW-UP AND ANNUAL INSPECTIONS:** A repair follow-up inspection should be conducted within three months after completion of the repairs to assess the effectiveness of the moisture modifications. This is extremely important. Annual inspections should also be scheduled to ensure that your stucco system remains dry. This way any sealant failures, stucco cracks, etc. can be caught and repaired promptly. Testing and maintaining the structure on a regular basis is the best way to prevent costly repairs associated with moisture damage. Also, should you decide to sell the property, annual inspections and maintenance documentation will be a valuable selling tool, providing evidence to show that your property has been inspected and maintained on a regular basis by a reputable and qualified firm.

TREC NOTICE: This report was prepared for our client named on page two of this report in accordance with the client's requirements. This report addresses the stucco cladding system only and is not intended as a substitute for a complete standard inspection of the property. Standard inspections performed by a Texas Real Estate Commission licensee and reported on Texas Real Estate Commission "TREC" promulgated report forms may contain additional information a buyer should consider in making a decision to purchase.



#### **Inspection Information**

Owner's	Information	Buyer's Information		
Owner's Name	N/A	Buyer's Name	Kenya Bosso	
Property Address	4241 Bettis Dr	Buyer's Phone	(832)758-1943	
City,State,Zip Code	Houston, TX 77027	Buyer's Email	kenyabosso@hotmail.com	
Owner's Realtor	Quynh Bui	Buyer's Realtor	Franck Agard	
Realtor's Phone	281-794-8686	Realtors Phone	281-216-4119	
Realtor's Email	Realtor's Email bui.quynh@yahoo.com Realtors Emai		franck@hirhouston.com	
Realtor's Company	n/a	Realtor's Company	HIR Houston	
Property	Information	Inspection Information		
Type of Exterior Hard Coat Stucco		Date of Inspection	02/10/2021	
Substrate (if known) Plywood		Inspector	Alden Speer	
Property Age 21-25		Present at Inspection	Buyer's realtor(s)	
Square Footage 2472		Temperature	60-70 degrees	
Stories	3	Weather Conditions	Cloudy	
Type of Windows Metal		Last Known Rainfall	<1 day	

Inspection Test Equipment			
Inspection Equipment Test Range			
Delmhorst Moisture Meter Probe BD-2100	<14.9%	15-19.9%	>20%
Extech M055 Dual Moisture Meter	<16.9%	17-29.9%	30-99.9%

**Important Note:** The test equipment is used to help locate problem areas. It must be understood that the test equipment is not an exact science but rather good tools used as indicators of possible problems. At times, because of hidden construction within the wall cavity, the meters get false readings or no readings at all. Some meters will pick up on metals, wiring, unique wall finishes, etc. Positive readings do not always mean there is a problem, nor do negative readings necessarily mean there is not a problem. We do not use the equipment to obtain exact moisture content, but rather to obtain relative readings between suspected problem areas and non problem areas. This information is then used to help determine potential problem areas which may warrant more investigation.

## **Visual Observations**

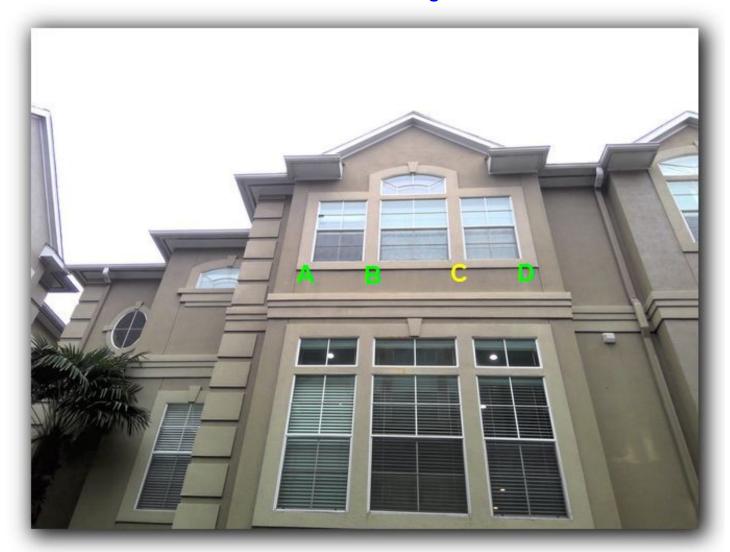
U/D = Unable to determine N/A = Not applicable	Yes	No	U/D	N/A
1. Have sealants been applied at all required locations?				
2. Are there areas of sealant in need of repair / replacement?	<b>V</b>			
3. Are sealant joints present between stucco and dissimilar materials?	Ø			
4. Are diverter flashing details installed at required locations?	Ø			
5. Are balcony flashing details properly installed?				Ø
6. Are window and door flashing details properly installed?	Ø			
7. Are all deck flashing details properly installed?				Ø
8. Are the chimney flashing details properly installed?				Ø
9. Has a chimney cricket been installed?				Ø
10. Does the system terminate at least 2 inches above flatwork?	Ø			
11. Does the system terminate at least 4 inches above grade?		$\square$		
12. Does the system terminate at least 2 inches above roofing?	Ø			
13. Are there any areas of cracking?	V			
14. Are there any areas of impact damage?		Ø		
15. Are the exterior fixtures installed properly?	Ø			
16. Are flat / horizontal surfaces present at stucco walls?		Ø		
17. Are the gutter down spouts installed properly?	V			
18. Is there clearance between the exterior wall and vegetation / foliage?				
19. Is there visible evidence of sprinkler heads spraying onto the exterior walls?		Ø		



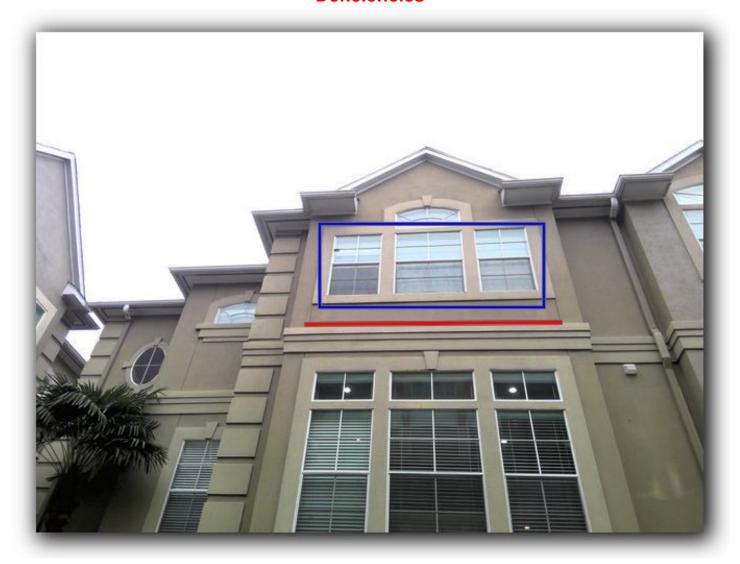
Test Location	Moisture Content	Substrate Condition	Additional comments
А	17.4%	Firm	Drainage relief not installed
В	13.4%	Firm	Drainage relief not installed
С	n/a	None present	Drainage relief not installed, No substrate/possible wood rot
D	27.4%	Soft	Drainage relief not installed, Soft substrate/possible wood rot
Е	16.7%	Semi Soft	Drainage relief not installed
F	n/a	None present	Drainage relief not installed, hairline crack present, No substrate/possible wood
			rot
G	11.7%	Firm	Damaged / aged window sealant.
Н	10.5%	Firm	Hairline crack present, Damaged / aged window sealant.
I	16.3%	Firm	Damaged / aged window sealant.
J	18.5%	Firm	Damaged / aged window sealant.
K	14.5%	Firm	Damaged / aged window sealant.
L	17.3%	Firm	Damaged / aged window sealant.



Identifier	Comments
Red line	Missing Drainage Openings: Weep screeds / drainage openings missing at the stucco walls. Drainage openings assist with allowing incidental moisture to escape. Recommend installation of drainage openings during repairs.
Red Circle	<b>Moisture Intrusion / Soft or missing substrate / Elevated Moisture :</b> Areas of elevated moisture and / or possible substrate damage was found at this location. Substrate not present / possible wood rot . See Photo Observations for further information
Blue Boxes	Damaged / Aged Sealant: Damaged sealant / caulk was found at the windowsr. Properly installed sealant provides a barrier against moisture intrusion. Recommend repairs using a quality sealant recommended by the manufacturer of your system.  Rust: Rust and separation were observed at the stucco bands
Green Dot	Trees on Wall: Trees were observed in contact or close to the exterior wall surfaces. Recommend improvements to maintain clearance between the exterior walls and trees / shrubs.
Yellow Arrow	Hairline Cracks: Hairline cracks were observed at the stucco walls. Hairline cracks (generally 1/16 of an inch) are commonly found with stucco systems. These cracks should be monitored and repaired as needed.



Test Location	Moisture Content	Substrate Condition	Additional comments
A	10.4%	Firm	Damaged / aged window sealant.
В	11.2%	Firm	Damaged / aged window sealant.
С	17.2%	Firm	Damaged / aged window sealant.
D	10.7%	Firm	Damaged / aged window sealant.



Identifier	Comments
Blue Box	Damaged / Aged Sealant: Damaged sealant / caulk was found at the windowsr. Properly installed sealant provides a barrier against moisture intrusion. Recommend repairs using a quality sealant recommended by the manufacturer of your system.  Rust: Rust and separation were observed at the stucco bands
Red Line	Rust: Rust was observed at the stucco bands

### **Left Side of Structure**



Test Location	Moisture Content	Substrate Condition	Additional comments
Α	10.3%	Firm	Hairline cracks present, Damaged / aged window sealant.
В	12.7%	Firm	Hairline cracks present, Damaged / aged window sealant.
С	10.9%	Firm	Damaged / aged window sealant.

### **Left Side of Structure**



Identifier	Comments
Red Line	<b>Trees or Shrubs on Wall:</b> Trees / shrubs were observed in contact or close to the exterior wall surfaces. Recommend improvements to maintain clearance between the exterior walls and trees / shrubs.
Yellow Arrow	Surface Damage: Surface damage was observed on the left wall.
Blue Arrows	<b>Damaged / Aged Sealant:</b> Damaged sealant / caulk was found at the windows. Properly installed sealant provides a barrier against moisture intrusion. Recommend repairs using a quality sealant recommended by the manufacturer of your system.



Test Location	Moisture Content	Substrate Condition	Additional comments
Α	13.1%	Firm	Damaged / aged window sealant.
В	10.3%	Firm	Damaged / aged window sealant.
С	17.5%	Firm	Damaged / aged window sealant.
D	11.7%	Firm	Damaged / aged window sealant.
Е	10.9%	Firm	
F	11.4%	Firm	
G	16.8%	Firm	
Н	11.2%	Firm	Damaged / aged window sealant.
I	10.6%	Firm	Damaged / aged window sealant.
Red Line	n/a	Soft / Damaged	Soft / damaged substrate was observed at the bottom of the wall.



Identifier	Comments
Blue Arrows	Damaged / Aged Sealant: Damaged sealant / caulk was found at the windows. Properly installed sealant provides a barrier against moisture intrusion. Recommend repairs using a quality sealant recommended by the manufacturer of your system.  Rust: Rust and separation were observed at the stucco bands
Yellow Line	Rust: Rust and separation were observed at the qouins and stucco bands
Red Line	Soft or damaged substrate - Damaged substrate was observed at the bottom of the wall by physically touching the wood. The wood crumbled when touched. Recommend repairs Improper Clearance at grade / hard surface: Improper clearance was observed at the stucco wall termination and grade / hard surface. Stucco industry details require a minimum ground clearance of 4" above grade and 2" above hard surfaces. During rainfall, these areas may be susceptible to water wicking into the substrate. Improvements at these locations are recommended.



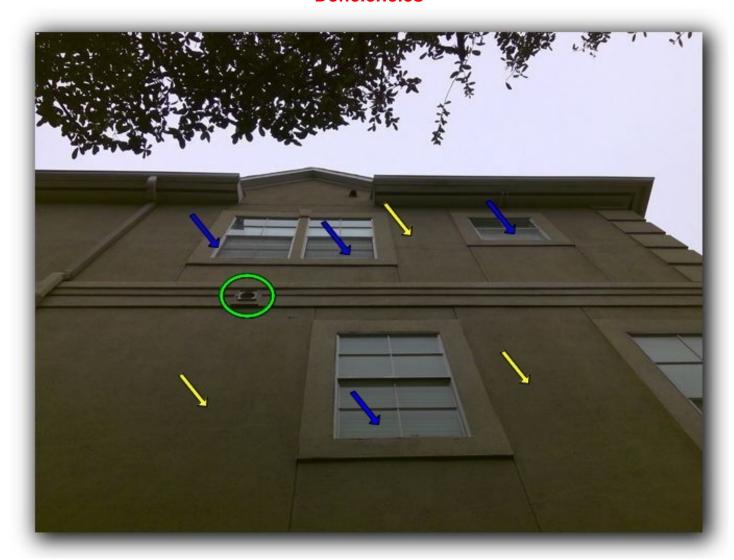
Test Location	Moisture Content	Substrate Condition	Additional comments
А	14.4%	Firm	Moisture reading taken above damaged area. Substrate was firm with no elevated moisture
В	12.6%	Firm	
С	10.7%	Firm	Hairline crack present, drainage relief not installed
D	N/A	None present	Substrate not present / possible wood rot, drainage relief not installed
Е	17.9%	Firm	Damaged / aged window sealant.
F	13.1%	Firm	Damaged / aged window sealant.
G	10.6%	Firm	Damaged / aged window sealant.



Identifier	Comments
Red lines	Moisture Intrusion / Soft or missing substrate: Areas of substrate damage was found at these locations. Substrate not present / possible wood rot . See Photo Observations for further information
Yellow Line	Missing Drainage Openings: Drainage openings missing at the stucco walls. Drainage openings assist with allowing incidental moisture to escape. Recommend installation of drainage openings during repairs.
Green Line	Hairline Cracks: Hairline cracks were observed at the stucco walls. Hairline cracks (generally 1/16 of an inch) are commonly found with stucco systems. These cracks should be monitored and repaired as needed.
Blue arrow	Damaged / Aged Sealant: Damaged sealant / caulk was found at the windows. Properly installed sealant provides a barrier against moisture intrusion. Recommend repairs using a quality sealant recommended by the manufacturer of your system.  Rust: Rust and separation were observed at the stucco bands
Blue Line	Rust: Rust and separation were observed at the stucco bands
Green Dot	Surface Damage / Hole: Surface damage and a hole was observed above the rear garage door.



Test Location	Moisture Content	Substrate Condition	Additional comments
Α	12.5%	Firm	Damaged / aged window sealant.
В	10.6%	Firm	Damaged / aged window sealant.



Identifier	Comments
Blue Arrows	Damaged / Aged Sealant: Damaged sealant / caulk was found at the windows. Properly installed sealant provides a barrier against moisture intrusion. Recommend repairs using a quality sealant recommended by the manufacturer of your system.  Rust: Rust and separation were observed at the stucco bands
Yellow Arrows	Hairline Cracks: Hairline cracks were observed at the stucco walls. Hairline cracks (generally 1/16 of an inch) are commonly found with stucco systems. These cracks should be monitored and repaired as needed.
Green Circle	Vent Damper Missing: Vent damper is missing. Recommend replacement

#### **Inaccessible Areas**

The inspector will make every effort to test all potentially vulnerable locations by use of a 2-story ladder or exterior openings. Some areas of the structure were inaccessible for invasive moisture testing. This could be due to safety concerns, height, windows do not open, windows blocked by furniture, the type of roof covering, roof pitch, neighboring house / fencing / outdoor furniture restricting safe ladder use, or other reasons limiting access. These areas were visually inspected during the inspection. If you have any questions regarding whether moisture testing was performed on a certain location, please contact us. Examples of these locations are provided below:









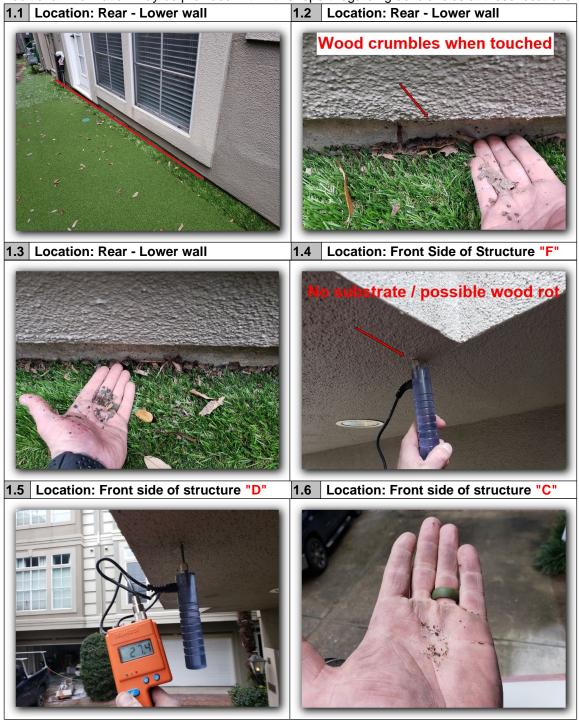
#### **Photo Observations**

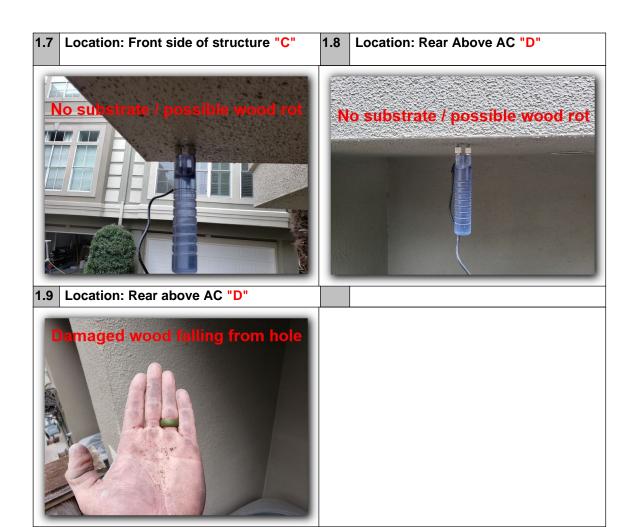
- **1.Moisture Intrusion:** Areas of elevated moisture and / or possible substrate damage was found at the following locations:
- 1. Front Side of Structure Garage overhang
- 2. Rear Lower wall
- 3. Rear Above AC Units

**Soft or missing substrate** - If the substrate is not firm when inserting the moisture meter probes, this can indicate possible wood rot / damage due to previous or active water penetrations in the area near the probed location.

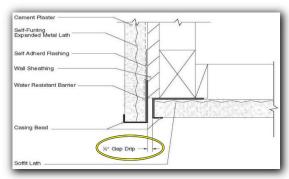
**Elevated Moisture** - If elevated moisture readings are found during the inspection, this can indicate that active water penetrations exist near the area. Water intrusion can occur from voids at penetrations, cracks, improper installation, improper clearance, missing flashing details, and any other items that may be listed on this report.

It is recommended that these areas be repaired by a qualified stucco contractor. Typical repairs to remedy soft or missing substrate include doing a partial tear-off of the stucco around the location until clean dry substrate is found. Additional information may be provided within this report regarding deficiencies at these locations.





**2. Missing Drainage Openings:** Drainage openings missing at the stucco walls. Drainage openings assist with allowing incidental moisture to escape. When moisture becomes trapped, the wood can hold the moisture commonly referred to as a "stucco bucket". Recommend installation of drainage openings during repairs.





**3. Rust:** Rust and separation were observed at most of the stucco bands and the left side qouins. Some areas appear to have been previously patched with sealant. Recommend repairs by a qualified stucco contractor.





**4. Damaged / Aged Sealant:** Damaged sealant / caulk was found at various wall penetrations, joints, transitions, and / or other voids on the exterior. Properly installed sealant provides a barrier against moisture intrusion. Recommend repairs / replacement of all sealant locations using a quality sealant recommended by the manufacturer of your system.

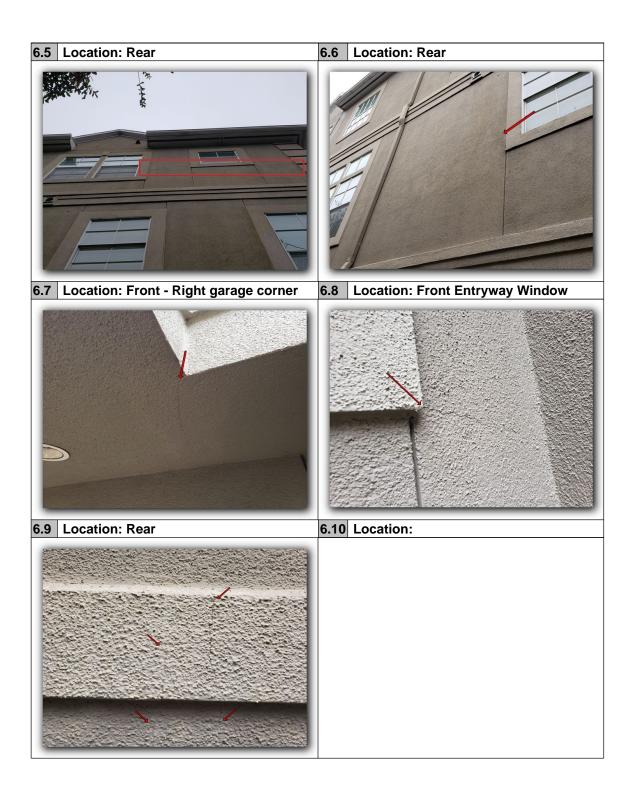


**5. Trees or Shrubs on Wall:** Trees / shrubs were observed in contact or close to the exterior wall surfaces. Recommend improvements to maintain clearance between the exterior walls and trees / shrubs.



**6. Hairline Cracks:** Hairline cracks were observed at the stucco walls. Hairline cracks (generally 1/16 of an inch) are commonly found with stucco systems. These cracks should be monitored and repaired as needed. The pictures below do not represent **all** hairline cracks as cracks were found throughout the stucco walls.





7. Surface Damage: Surface damage was observed above the rear garage door and on the left wall.

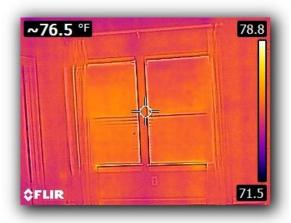


8. Vent Damper Missing: Vent damper is missing. Recommend replacement



#### **Infrared Photos**

During the inspection, an infrared (thermal) camera was used to help identify areas of possible moisture penetrations. The camera was used from within the home, on the exterior walls with stucco cladding only. No abnormalities were discovered with the infrared camera at the time of the inspection. Photos from the inspection are provided below:













#### **Additional Information**

The home appears to have been treated for termites as evident by drill holes at the garage corner. Termite treatments can be due to previous infestation or only as a preventative to prevent termites. Termites can cause damage in areas typically not tested during an invasive stucco inspection. I recommend contacting the current homeowner to determine if a treatment was done, the extent of any damage that may have occurred, and if any warranties exist. Per the buyer's agent, a termite inspection was recently performed and no active termites were discovered.





Previous patching was observed at various locations on the rear of the structure. These areas were patched with sealant. The repairs have failed and it is recommended proper repairs are made.











#### **Maintenance**

Maintenance is a necessary part of all systems that are part of a house. Below are some key maintenance items for your exterior cladding system:

- **Sealants** All windows, doors, transitions, and penetrations through the exterior cladding should be sealed using the system's manufacturer recommended sealant by a professional familiar with this system. If the windows have alarm sensors installed in the window sill, these should also be sealed. Properly maintained sealant areas will help protect against moisture intrusion. Sealants are suggested to be replaced every 2-3 years.
- **Flashing details** Flashing details should be maintained in good condition. Damaged or rusted flashing details should be evaluated by a professional and replaced as needed.
- Exterior coatings / paint The manufacturer of this system will have recommendations on the type of exterior coatings that should be applied. Coatings should be elastromeric and high quality, as these coatings will help with waterproofing and hairline cracks. Painting is suggested every 5-10 years to alleviate staining, cracking, and assist with waterproofing the exterior.
- Irrigation Systems Sprinkler heads should always be directed away from the exterior cladding. Water from irrigation systems spraying directly onto the exterior cladding may cause staining and wood damage due to water wicking into the substrate near the bottom of the wall. The direction of sprinkler heads should be checked often as some sprinkler heads can be easily twisted when coming in contact with traffic such as walking, mowing, landscaping, etc.
- Maintaining clearance Current stucco installation standards require a minimum clearance of 4" above grade / soil, 2" above hard surfaces (concrete, pavers, etc.), and 2" above the roof covering. Trees, shrubs, and other vegetation should be trimmed to prevent contact with the stucco.
- Repairs All repairs should be performed by qualified contractors with expertise in stucco. Repairs should conform to current accepted industry standards.
- Cleaning Periodic cleaning may be necessary to maintain the appearance and to prevent permanent staining. It is suggested to use professional cleaning services familiar with this type of exterior cladding system. Professional cleaning services' equipment should be capable of using low pressure settings. Cleaning detergents and pressure settings should be in accordance with the manufacturer's recommendations.



This inspection was performed as a visual & invasive testing inspection of areas accessible from a 2-story ladder or by using the exterior openings from within the home to gain access to the exterior, i.e. windows, balconies, etc.. The inspector can not move the home owner's furnishings to gain access to exterior openings. Possible areas of high moisture penetration will be detected and tested during this inspection process.

This document only reports on the condition of the structure at the specific locations indicated. Locations were determined by the inspector according to probable areas of possible moisture intrusion, accessibility, and in accordance with accepted industry standards. No judgment is intended or given for any areas not reported on or not accessible. The inspection is limited to the accessible areas. Please know that this system is composed of many details, which can not be exposed without the removal of portions of the system. This inspection and report are not a warranty or guaranty, of any kind whatsoever, that all work and materials on this property are in complete conformity and compliance with installation specifications or that such installation and material will necessarily perform as intended. It is suggested that a follow-up inspection be completed in 12 - 24 months after all repairs are completed to ensure that the moisture levels remain within an acceptable level and proper corrections have been made to prevent moisture intrusion and wood rot.

Thank you for giving us the opportunity to perform this inspection. We appreciate your business and the confidence you have placed in us. If you have any questions, please feel free to contact us at 713-903-1240 or email us at office@stuccoproinspect.com.

With appreciation,

Alden Speer

Professional Inspector #22344

EDI #TX-171

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