

03/11/07

Inspection Report of 1743 Jamesport Dr Port St. Lucie FL 33953 Prepared for Sharon Keller



The State of Florida requires the builder to build in compliance with the Florida Building Code.

Florida State Statutes 455 & 489 requires builders to build in accordance with the Florida Building Code. The building department inspectors are only trying to assist the builder in meeting the contractor's code compliance requirements and make it easier to deliver a safe, quality built home to the client. The building department accepts no liability for defects in the quality and workmanship at your house. If a problem is not visible or not viewed by the local building official it does not relieve the builder of his responsibility to correct the problem.

Note: Manufacturer's specifications can take precedence over codes. If there is a conflict over a specific requirement and a general requirement, the specific requirement shall be applicable. Where, in any specific case, different sections of the code specify different materials, methods of construction or other requirements, the most restrictive governs.

Note: Photos were taken of many of the items in the house and are to be considered as part of this report. The photos may be representative of many instances of the same problem, but not each and every problem. One photo could be representative of 1 to 10+ locations of the same problem. It is the responsibility of the builder/qualifier to construct the house in accordance with the requirements of their licenses.

Note: This is a limited visual inspection of the building at 1743 Jamesport Dr Port St. Lucie FL 33953 The inspection and report are not intended to be used as a guarantee, warranty, or insurance policy, expressed or implied, regarding the adequacy, performance or condition of any inspected structure, item, component or system. This is not a code compliance inspection. Some codes are provided for clarification. The purpose of the inspection is to observe the visible problems associated with the building at the time of the inspection.

Other Statutes may also apply:

The State of Florida Statute 95 gives consumers purchasing newer homes rights to a quality product regardless of any restrictive warranty offered by a builder. Under the Statute, the workmanship & materials may be actionable for four years after the completion of construction, and latent defects for fifteen years. You may want to have your attorney review the details of this document. The web address for the section found below is:

http://www.flsenate.gov/statutes/index.cfm?App_mode=Display_Statute&URL=Ch0095/ch0095.htm

The page contains the sections which apply to new construction contract obligations as defined in Florida State Law. (Chapter 95, Title VIII, 95.03 & 95.11 3a&c apply.)

Chapter 95, Title VIII 95.03 Contracts shortening time.--Any provision in a contract fixing the period of time within which an action arising out of the contract may be begun at a time less than that provided by the applicable statute of limitations is void.

The web address for the section found below is:

http://www.flsenate.gov/statutes/index.cfm?App_mode=Display_Statute&Search_String=&URL=Ch0095/SEC11.HTM

3) WITHIN FOUR YEARS.--

(a) An action founded on negligence. (i.e. failure to build to code or manufacturers specification)

(b) An action relating to the determination of paternity, with the time running from the date the child reaches the age of majority.

(c) An action founded on the design, planning, or construction of an improvement to real property, with the time running from the date of actual possession by the owner, the date of the issuance of a certificate of occupancy, the date of abandonment of construction if not completed, or the date of completion or termination of the contract between the professional engineer,

registered architect, or licensed contractor and his or her employer, whichever date is latest; except that, when the action involves a latent defect, the time runs from the time the defect is discovered or should have been discovered with the exercise of due diligence. In any event, the action must be commenced within 15 years after the date of actual possession by the owner, the date of the issuance of a certificate of occupancy, the date of abandonment of construction if not completed, or the date of completion or termination of the contract between the professional engineer, registered architect, or licensed contractor and his or her employer, whichever date is latest.

The Florida Statutes

Title XXXIII

REGULATION OF TRADE, COMMERCE, INVESTMENTS, AND SOLICITATIONS Chapter 558

CONSTRUCTION DEFECTS View Entire Chapter

CHAPTER 558

CONSTRUCTION DEFECTS

558.001 Legislative findings and declaration.--The Legislature finds that it is beneficial to have an alternative method to resolve construction disputes that would reduce the need for litigation as well as protect the rights of homeowners. An effective alternative dispute resolution mechanism in certain construction defect matters should involve the claimant filing a notice of claim with the contractor, subcontractor, supplier, or design professional that the claimant asserts is responsible for the defect, and should provide the contractor, subcontractor, supplier, or design professional with an opportunity to resolve the claim without resort to further legal process.

553.781 Licensee accountability.--

(1) The Legislature finds that accountability for work performed by design professionals and contractors is the key to strong and consistent compliance with the Florida Building Code and, therefore, protection of the public health, safety, and welfare. The purpose of this section is to provide such accountability.

(2)(a) Upon a determination by a local jurisdiction that a licensee, certificate holder, or registrant licensed under chapter 455, chapter 471, chapter 481, or chapter 489 has committed a material violation of the Florida Building Code and failed to correct the violation within a reasonable time, such local jurisdiction shall impose a fine of no less than \$500 and no more than \$5,000 per material violation.

(b) If the licensee, certificate holder, or registrant disputes the violation within 30 days following notification by the local jurisdiction, the fine is abated and the local jurisdiction shall report the dispute to the Department of Business and Professional Regulation or the appropriate professional licensing board for disciplinary investigation and final disposition. If an administrative complaint is filed by the department or the professional licensing board against the certificate holder or registrant, the commission may intervene in such proceeding. Any fine imposed by the department or the professional licensing board, pursuant to matters reported by the local jurisdiction to the department or the professional licensing board, shall be divided equally between the board and the local jurisdiction which reported the violation.

(3) The Department of Business and Professional Regulation, as an integral part of the automated information system provided under s. 455.2286, shall establish, and local jurisdictions and state licensing boards shall participate in, a system of reporting violations and disciplinary actions taken against all licensees, certificate holders, and registrants under this section that have been disciplined for a violation of the Florida Building Code. Such information shall be available electronically. Any fines collected by a local jurisdiction pursuant to subsection (2) shall be used initially to help set up the parts of the reporting system for which such local jurisdiction is responsible. Any remaining moneys shall be used solely for enforcing the Florida Building Code, licensing activities relating to the Florida Building Code, or education and training on the Florida Building Code.

(4) Local jurisdictions shall maintain records, readily accessible by the public, regarding material violations and shall report such violations to the Department of Business and Professional Regulation by means of the reporting system provided in s. 455.2286.

For purposes of this section, a material code violation is a violation that exists within a completed building, structure, or facility which may reasonably result, or has resulted, in physical harm to a person or significant damage to the performance of a building or its systems. Except when the fine is abated as provided in subsection (2), failure to pay the fine within 30 days shall result in a suspension of the licensee's, certificate holder's, or registrant's ability to obtain permits within this state until such time as the fine is paid. Such suspension shall be reflected on the automated information system under s. 455.2286.

553.72 Intent.--

(1) The purpose and intent of this act is to provide a mechanism for the uniform adoption, updating, amendment, interpretation, and enforcement of a single, unified state building code, to be called the Florida Building Code, which consists of a single set of documents that apply to the design, construction, erection, alteration, modification, repair, or demolition of public or private buildings, structures, or facilities in this state and to the enforcement of such requirements and which will allow effective and reasonable protection for public safety, health, and general welfare for all the people of Florida at the most reasonable cost to the consumer. The Florida Building Code shall be organized to provide consistency and simplicity of use. The Florida Building Code shall be applied, administered, and enforced uniformly and consistently from jurisdiction to jurisdiction. The Florida Building Code shall provide for flexibility to be exercised in a manner that meets minimum requirements, is affordable, does not inhibit competition, and promotes innovation and new technology. The Florida Building Code shall establish minimum standards primarily for public health and life safety, and secondarily for protection of property as appropriate.

Inspection Report of 1743 Jamesport Dr Port St. Lucie FL 33953 03.11.07



Site photo. The front of the house faces towards the southeast.



1743 Jamesport Dr Port St. Lucie FL



There were broken tiles that were incorrectly "glued" back together on the roof. The broken roof tiles should be removed & replaced, not "glued" back together.



Loose & incorrectly installed roof tiles & construction debris can become windborne projectiles during a hurricane.



All nails & debris should be removed from the roof.



All nails & construction debris should be removed from the roof.



There were tiles that were not correctly set in place on the roof.



There were broken tiles that were incorrectly "glued" back together on the roof.

Florida Building Code

§1507.4.5.2.1 Roof tile shall be in accordance with the physical test requirements as follows:

The transverse breaking strength of tiles shall be determined according to Section 5.3 of ASTM C 1167 and in accordance with Table 1507.4.5.2.1

Broken roof tiles cannot be "glued" back together

Information concerning the correct use of RT-600 roof tile adhesive from Ohio Sealants (OSI) -product manufacturer's engineering department.

Thanks for your inquiry regarding our products. **RT600 is specified for replacing an entire tile, not for gluing a broken tile back together.** Please email or call (800) 624-7767 with any questions. Sincerely, BHeineking OSI Sealants / Tech Service



Location of the previous photos over the garage.



The broken roof tiles should be removed & replaced, not "glued" back together.



There were cracked & broken tiles on the roof at multiple locations.



There were broken tiles that were incorrectly "glued" back together on the roof at multiple locations.



Location of the previous photos over the front entry way.



All construction debris should be removed from the roof.



Loose & incorrectly installed roof tiles & construction debris can become windborne projectiles during a hurricane.



There were cracked & broken tiles on the roof at multiple locations.



Location of the previous photos at the south side of the house.



The plumbing vent stack was not the correct height. The vent stack should terminate at 6 inches minimum above the roof. §P904.1

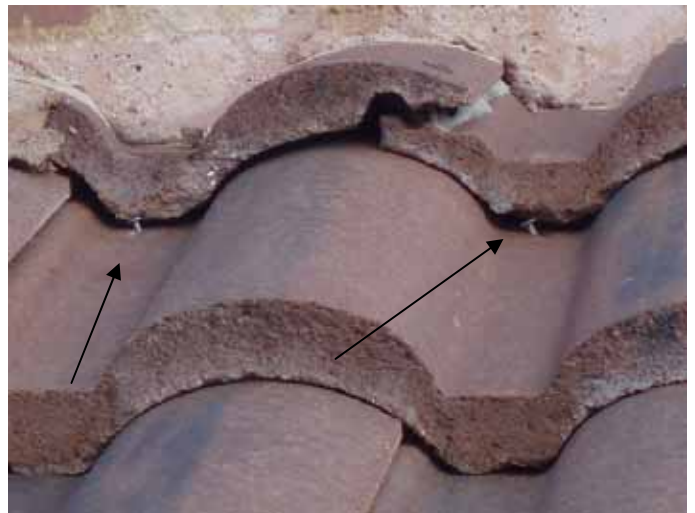
Florida Building Code

904.1 Roof extension.

All open vent pipes that extend through a roof shall be terminated at least 6 inches (152 mm) above the roof and not less than 2 inches (51 mm) above the invert of the emergency overflow, except that where a roof is to be used for any purpose other than weather protection, the vent extensions shall be run at least 7 feet (2134 mm) above the roof.



There were tiles that were not correctly set in place on the roof at multiple locations.



There were several exposed anchor nails at the roof tile over the back of the house. None of the anchor nails should be exposed.

Inspection Report of 1743 Jamesport Dr Port St. Lucie FL 33953 03.11.07



Location of the previous photos at the back of the house.



There were broken tiles that were incorrectly "glued" back together on the roof.



There were cracked & broken tiles on the roof at multiple locations.



The broken roof tiles should be removed & replaced, not "glued" back together.



Loose & incorrectly installed roof tiles & construction debris can become windborne projectiles during a hurricane.



Location of the previous photos at the north side of the house.

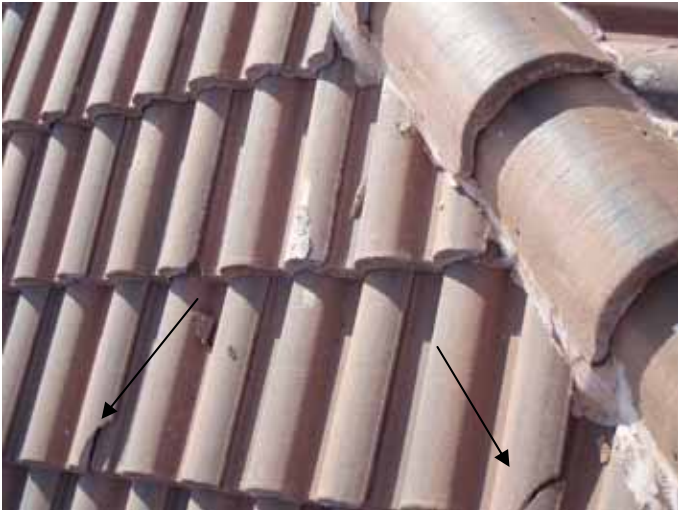
Inspection Report of 1743 Jamesport Dr Port St. Lucie FL 33953 03.11.07



There were cracked & broken tiles on the roof at multiple locations.



There were broken tiles that were incorrectly "glued" back together on the roof.



The broken roof tiles should be removed & replaced, not "glued" back together.



Location of the previous photos.



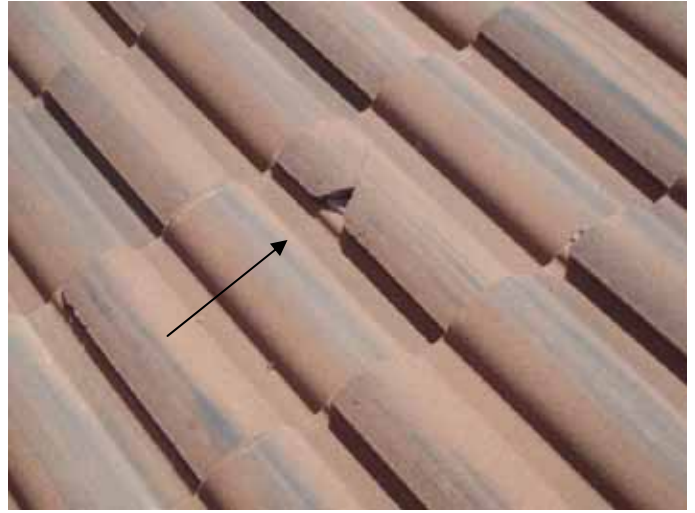
There were broken tiles that were incorrectly "glued" back together on the roof.



The broken roof tiles should be removed & replaced, not "glued" back together. All construction debris should be removed from the roof.



There were broken & incorrectly repaired tiles on the roof at multiple locations.



Loose & incorrectly installed roof tiles & construction debris can become windborne projectiles during a hurricane.



Location of the previous photos.



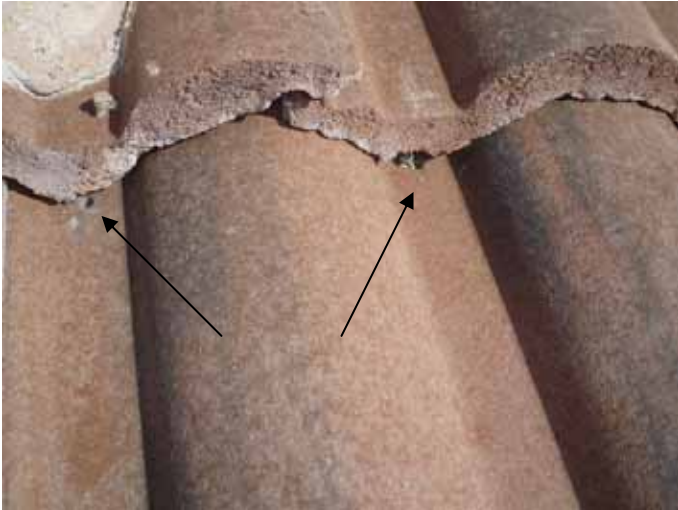
There were cracked & broken tiles on the roof at multiple locations.



Loose & incorrectly installed roof tiles & construction debris can become windborne projectiles during a hurricane.



The broken roof tiles should be removed & replaced, not "glued" back together.



There were several exposed anchor nails at the roof tile over the back of the house. None of the anchor nails should be exposed.



Location of the previous photos.



There were broken tiles that were incorrectly "glued" back together on the roof. The broken roof tiles should be removed & replaced, not "glued" back together.



Location of the previous photos.



Some of the stucco work appears to be uneven & not the proper depth. ASTM C 926, §2504.2 §1403.1.3



There were exposed areas with missing stucco at the window trim. These locations should be correctly sealed to prevent water & pest intrusion.



Location of the previous photos at the front entry way.



The stucco at some at the walls was concave or curved in & does not appear to be the correct thickness. §2509.1.1, ASTM C 926



Location of the previous photos at the south side of the house.



Some of the stucco work appears to be uneven & not the proper depth. ASTM C 926, §2504.2 §1403.1.3



We recommend core sampling at these locations to verify the thickness of the exterior stucco & compliance with ASTM C 926.

Florida Building Code (FBC)

§1403.1.3 Veneered walls shall provide weather protection for the building at the walls.

§2504.2 Exterior lathing and plastering

§2504.2.1 Exterior use of portland cement plaster shall comply with the application requirements of ASTM C 926.



A screen should be installed to help prevent pest intrusion at the kitchen exhaust hood like the other houses in the development.



Location of the previous photo.



Some of the stucco work appears to be uneven & not the proper depth. ASTM C 926, §2504.2 §1403.1.3

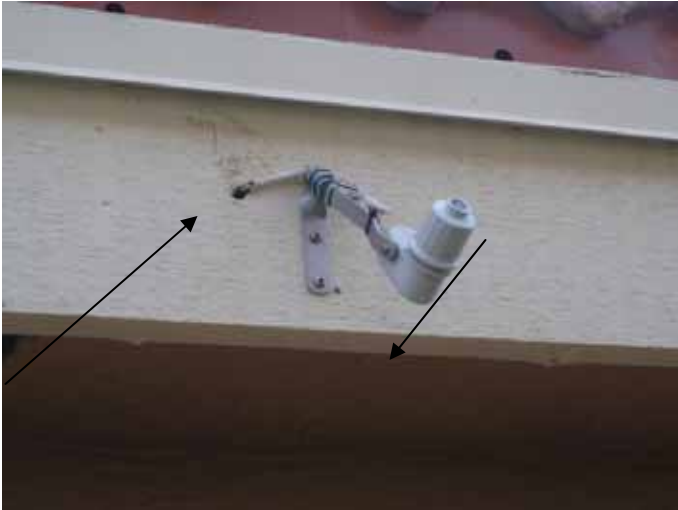


We recommend core sampling at these locations to verify the thickness of the exterior stucco & compliance with ASTM C 926.



The stucco at some at the walls was concave or curved in & does not appear to be the correct thickness. §2509.1.1, ASTM C 926

Inspection Report of 1743 Jamesport Dr Port St. Lucie FL 33953 03.11.07



The fascia was not correctly sealed around the wiring to the rain sensor.



Location of the previous photo. The rain sensor was loose &/or not correctly installed to operate properly. The rain sensor should be parallel to the ground.



We recommend core sampling to verify the thickness of the exterior stucco & compliance with ASTM C 926 at the locations identified.



Some of the stucco work appears to be uneven & not the proper depth. ASTM C 926, §2504.2 §1403.1.3



Location of the previous photo. We recommend core sampling to verify the thickness of the exterior stucco & compliance with ASTM C 926.



There were unsealed cracks & openings in some of the exterior stucco walls.



Location of the previous photo. All cracks & openings in the exterior should be sealed to prevent water & pest intrusion.

2002 National Electric Code (NEC)

410.4 Luminaires (Fixtures) in Specific Locations.

(A) Wet and Damp Locations. Luminaires (fixtures) installed in wet or damp locations shall be installed so that water cannot enter or accumulate in wiring compartments, lampholders, or other electrical parts. All luminaires (fixtures) installed in wet locations shall be marked, "Suitable for Wet Locations." All luminaires (fixtures) installed in damp locations shall be marked, "Suitable for Wet Locations" or "Suitable for Damp Locations."



The doorbell cover was not correctly sealed as required. 2002 NEC 410.4, §13-606.1.ABC.1.2

Florida Building Code

§13-606.1.ABC.1.2 Exterior Joints or Openings in the Envelope.

Exterior joints, cracks, or openings in the building envelope that are sources of air leakage shall be caulked, gasketed, weatherstripped or otherwise sealed in accordance with the criteria in

§13-606.1.ABC.1.2.1 through §13-606.1.ABC.1.2.5.

§13-606.1.ABC.1.2.1 Exterior and Adjacent Walls.

Exterior and adjacent walls shall be sealed at the following locations:

1. Between windows and doors and their frames;
2. Between windows and door frames and the surrounding wall;
4. Joints between exterior wall panels at changes in plane, such as with exterior sheathing at corners and changes in orientation;
5. Openings and cracks around all penetrations through the wall envelope such as utility services and plumbing;



There were unsealed openings in the foam at the bottom of the AC refrigerant line cover. The expandable foam is not designed to be exposed to U.V. Sunlight.



Location of the previous photo.

Inspection Report of 1743 Jamesport Dr Port St. Lucie FL 33953 03.11.07

Cement, mortar or non-corrodible metal should be used to close the opening around the refrigerant line piping. §1205.1.2.2

Florida Building Code

§1205.1.2.2 Foundation and exterior wall openings (except those used for doors and screened windows), such as those openings around pipes, electric cables and conduits, and openings resulting from deteriorated walls, broken masonry or concrete, shall be protected against the passage of rodents by closing such openings with cement mortar, concrete masonry or non-corrodible metal.

Florida Building Code (FBC)

ACCESS AND SERVICE SPACE

§M306.1 Clearances for maintenance and replacement. Clearances around appliances to elements of permanent construction, including other installed equipment and appliances, shall be sufficient to allow inspection, service, repair or replacement without removing such elements of permanent construction or disabling the function of a required fire-resistance-rated assembly.



36 inch working space clearance is required at the electrical component access panels. Per 2002 NEC & the manufacturer.

2002 NEC

110.26 Spaces About Electrical Equipment. Sufficient access and working space shall be provided and maintained about all electric equipment to permit ready and safe operation and maintenance of such equipment.

Table 110.26(A)(1) Working Spaces
Nominal Voltage to Ground Minimum Clear Distance

	Condition 1	Condition 2	Condition 3
0-150	900 mm (3 ft)	900 mm (3 ft)	900 mm (3 ft)

Condition 2 — Exposed live parts on one side and grounded parts on the other side. Concrete, brick, or tile walls shall be considered as grounded.

Condition 2 — Exposed live parts on one side and grounded parts on the other side. Concrete, brick, or tile walls shall be considered as grounded.



The AC condensing unit was turned the wrong way. 36 inch working space clearance is required at the electrical component access panel.



Location of the previous photos.

Inspection Report of 1743 Jamesport Dr Port St. Lucie FL 33953 03.11.07

Thank you for contacting Carrier.

Following are general clearances requirements for the outdoor section of split system air conditioners and heat pumps.

Allow 30 inches clearance to the service side of the unit, 48 inches above the unit, 6 inches on one side, and 12 inches on the remaining sides. Allow 24 inches between units.

Regards,

Danielle
Customer Relations

Any national or local code supercedes our recommendations.

Regards,

Joanne Hertel
Customer Relations

We ask that you REPLY to this email if you have additional questions.

We value your comments. If you would like to take a few moments to complete a survey, just go to <http://www.surveymonkey.com/s.asp?u=81982611093>

Florida Building Code

M301.13.1 Ground-mounted units. Ground-mounted units for R3 residential applications may be anchored with #14 screws with gasketed washers according to the following.

1. For units with sides less than 12 inches, one screw shall be used at each side of the unit.
2. For units between 12 and 24 inches, two screws shall be used per side.
3. For units between 24 and 36 inches, three screws shall be used per side.
4. For units greater than 36 inches or 5 tons, anchorage shall be designed in accordance with M301.13.



3 fasteners are required per side or as prescribed by the design professional or by the specifications in FBC M301.13.1



3 fasteners are required per side or as prescribed by the design professional or by the specifications in FBC M301.13.1



The white insulated wiring needs to be permanently marked or color coded to indicate it is being used as an ungrounded or "hot" conductor at the 240 volt circuitry.

Inspection Report of 1743 Jamesport Dr Port St. Lucie FL 33953 03.11.07

2002 NEC

200.7 Use of Insulation of a White or Gray Color or with Three Continuous White Stripes.

(A) General. The following shall be used only for the grounded circuit conductor, unless otherwise permitted in 200.7(B) and (C):

- (1) A conductor with continuous white or gray covering
 - (2) A conductor with three continuous white stripes on other than green insulation
 - (3) A marking of white or gray color at the termination
- © Circuits of 50 Volts or More. The use of insulation that is white or gray or that has three continuous white stripes for other than a grounded conductor for circuits of 50 volts or more shall be permitted only as in (1) through (3).

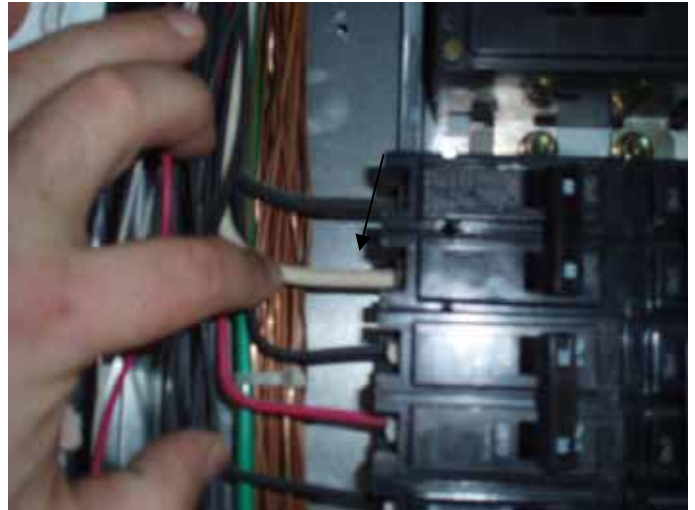
(1) If part of a cable assembly and where the insulation is permanently re-identified to indicate its use as an ungrounded conductor, by painting or other effective means at its termination, (continued on top of next box).

And at each location where the conductor is visible and accessible. 2) Where a cable assembly contains an insulated conductor for single-pole, 3-way or 4-way switch loops and the conductor with white or gray insulation or a marking of three continuous white stripes is used for the supply to the switch but not as a return conductor from the switch to the switched outlet. In these applications, the conductor with white or gray insulation or with three continuous white stripes shall be permanently re-identified to indicate its use by painting or other effective means at its terminations and at each location where the conductor is visible and accessible.

(3) Where a flexible cord, having one conductor identified by a white or gray outer finish or three continuous white stripes or by any other means permitted by 400.22, is used for connecting an appliance or equipment permitted by 400.7. This shall apply to flexible cords connected to outlets whether or not the outlet is supplied by a circuit that has a grounded conductor.



Location of the previous photo.



The white insulated wiring needs to be permanently marked or color coded to indicate it is being used as an ungrounded or "hot" conductor at the 240 volt circuitry.



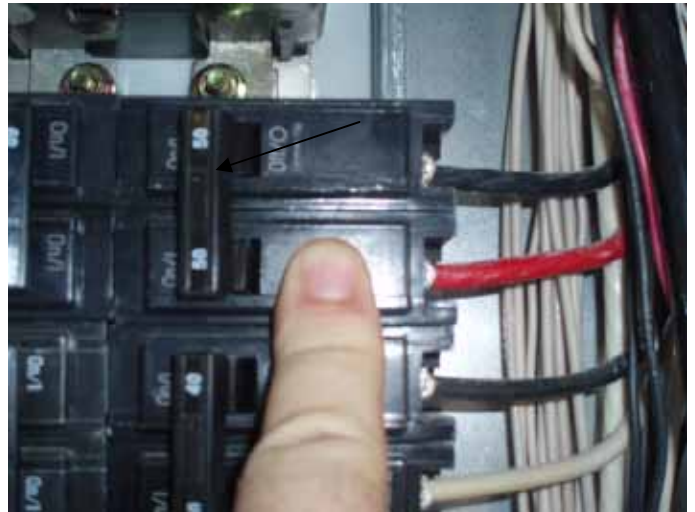
The white insulated wiring needs to be permanently marked or color coded to indicate it is being used as an ungrounded or "hot" conductor at the 240 volt circuitry.



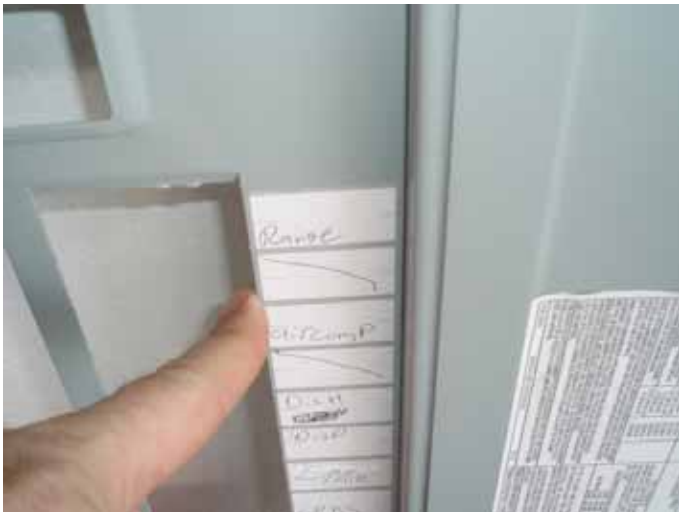
The junction box for the range receptacle outlet was not fully covered.



A 40 amp rated cord is used at the range & recommended by the manufacturer.



The range is installed with an electrical cord rated at 40 amps. The 50 amp overcurrent protection breaker in the main distribution panel is too big.
2002 NEC



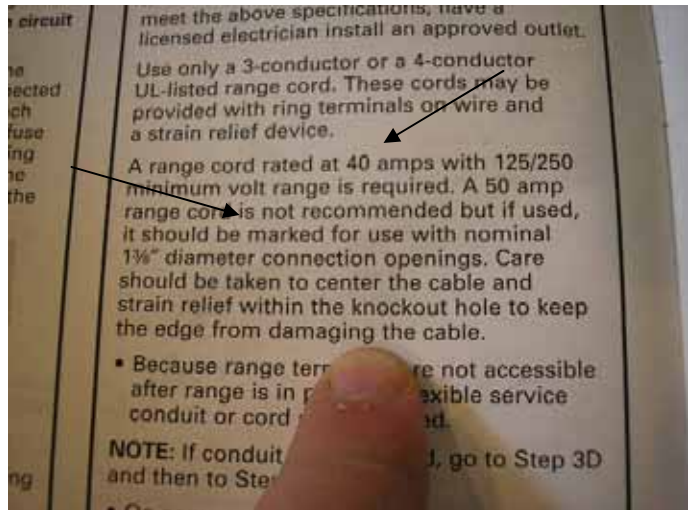
422.31 Disconnection of Permanently Connected Appliances.

(B) Appliances Rated Over 300 Volt-Amperes or Horsepower. For permanently connected appliances rated over 300 volt-amperes or hp, the branch-circuit switch or circuit breaker shall be permitted to serve as the disconnecting means where the switch or circuit breaker is within sight from the appliance or is capable of being locked in the open position.

A locking device should be installed at the electrical disconnect/breaker for the range at the distribution panel in the garage. **2002 NEC 422.31(B)**



A 40 amp rated cord is used at the range & recommended by the manufacturer.



The range is installed with an electrical cord rated at 40 amps. The 50 amp overcurrent protection breaker in the main distribution panel is too big. §M304.1

Inspection Report of 1743 Jamesport Dr Port St. Lucie FL 33953 03.11.07

Florida Building Code

§M304.1 General. Equipment and appliances shall be installed as required by the terms of their approval. Equipment and appliances shall be installed in accordance with the conditions of listing and the manufacturer's installation instructions and this code. Manufacturer's installation instructions shall be available on the job site at the time of inspection.



Location of the previous photo/s at the range in the kitchen.



The white insulated wiring needs to be permanently marked or color coded to indicate it is being used as an ungrounded or "hot" conductor at the 240 volt circuitry.



There were 2 separate heat settings on the thermostats. The HEAT setting is for the heat pump mode & the EMHT setting is for electric heat.



The HEAT setting is for the heat pump mode & the EMHT setting is for electric heat. The heat did not go on when the EMHT mode was selected.



There were no electric heat strips in the unit.



There were no electric heat strips located inside the furnace. The approved plans for this house should be reviewed & electric heat strips installed if required.



The AC make-up air (from the exterior) should be filtered.



Note: the AC filters were installed backwards. There was rust &/or corrosion on the wire mesh on the filters.



The terminal lug was loose & not correctly secured at the (HOT) ungrounded entrance conductor at the right side of the main distribution panel.



Some of the electrical circuits were not identified. All of the circuits in the main distribution panel should be correctly identified in the panel directory.

Inspection Report of 1743 Jamesport Dr Port St. Lucie FL 33953 03.11.07



There were several receptacle outlets that tested loose or open ground in the master bedroom.



Two separate testing devices were used to evaluate the receptacle outlet.



Location of the previous photo.



There were several receptacle outlets that tested loose or open ground in the master bedroom.



Location of the previous photos.

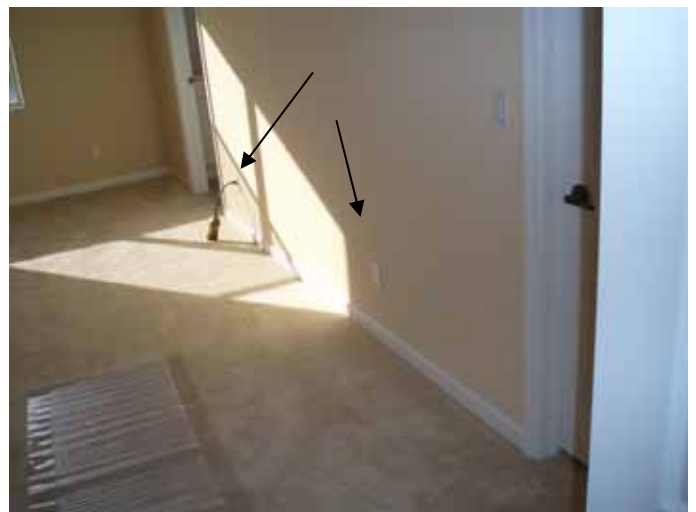
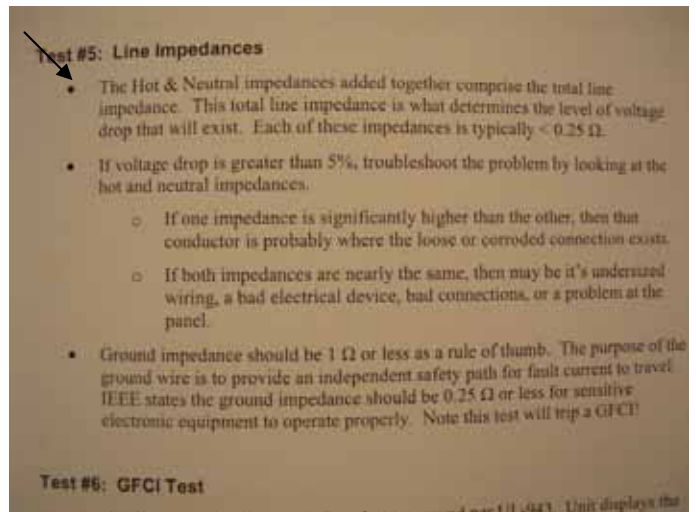
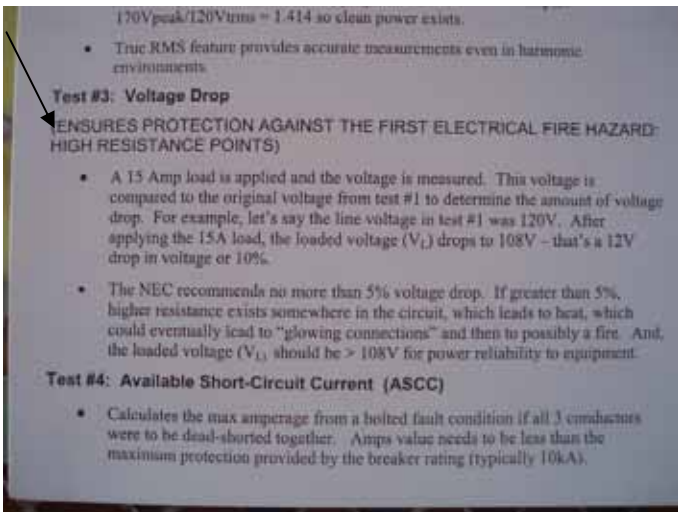


The voltage drop at some of the outlets exceeds 10%. 2002(NEC) 210.19 Conductors. We believe that any voltage drops over 10% require further investigation.

Inspection Report of 1743 Jamesport Dr Port St. Lucie FL 33953 03.11.07

The receptacle outlets were evaluated with two "SureTest" 61-165 testing devices manufactured by Ideal. The device simulates a 15 or 20 amp load on the circuit & measures the voltage drop under the applicable load.

The NEC 210.19 Conductors - FPN No. 4 suggests that voltage drops should not exceed 5% to provide reasonable efficiency of operation. The voltage drops noted in the report are referenced as a guideline & informational only. They are not considered a violation of the code & this condition is not enforceable. However, we believe that any voltage drops over 10% can indicate an electrical problem & require further investigation & correction where necessary. See below & also see the articles provided towards the end of the report.



The voltage drop at some of the outlets exceeds 10%. 2002(NEC) 210.19 Conductors. We believe that any voltage drops over 10% require further investigation.

Location of the previous photos.

Inspection Report of 1743 Jamesport Dr Port St. Lucie FL 33953 03.11.07



The voltage drop at some of the outlets exceeds 10%. 2002(NEC) 210.19 Conductors. Location at the back patio.



The voltage drop at some of the outlets exceeds 10%. 2002(NEC) 210.19 Conductors. We believe that any voltage drops over 10% require further investigation.



Location of the previous photo.



We were unable to view the area behind the refrigerator because it was wedged in & stuck between the trimmed opening.



A thin foil vent duct was installed behind the dryer.



The manufacturer states the use of this duct can be a fire hazard. We recommend replacing the duct with a semi-rigid duct as per the CSPC article below.

Inspection Report of 1743 Jamesport Dr Port St. Lucie FL 33953 03.11.07

- **Replace plastic or foil, accordion-type ducting material with rigid or corrugated semi-rigid metal duct.** Most manufacturers specify the use of a rigid or corrugated semi-rigid metal duct, which provides maximum airflow. The flexible plastic or foil type duct can more easily trap lint and is more susceptible to kinks or crushing, which can greatly reduce the airflow.



Water leaked from the sink basin to the cabinet below in the kitchen.



The sink was not correctly sealed at the counter top.



Most of the water was leaking from the right side of the kitchen sink.



The manufacturer typically requires teflon tape to be installed on the threaded section of the waste line air admittance valve (Sure-Vent).



Location of the previous photos.



There was no magnetic latch at the medicine cabinet in the master bathroom.



Location of the previous photo in the master bathroom.



There were cracks & unsealed openings in the tile grout in the master bathroom.



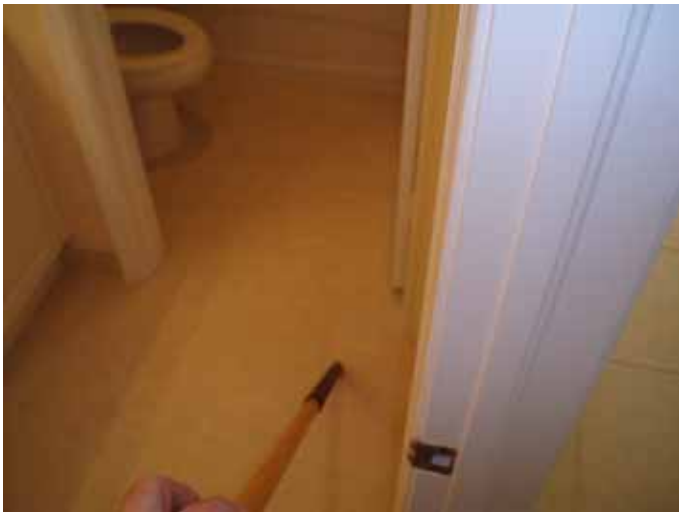
Location of the previous photo.



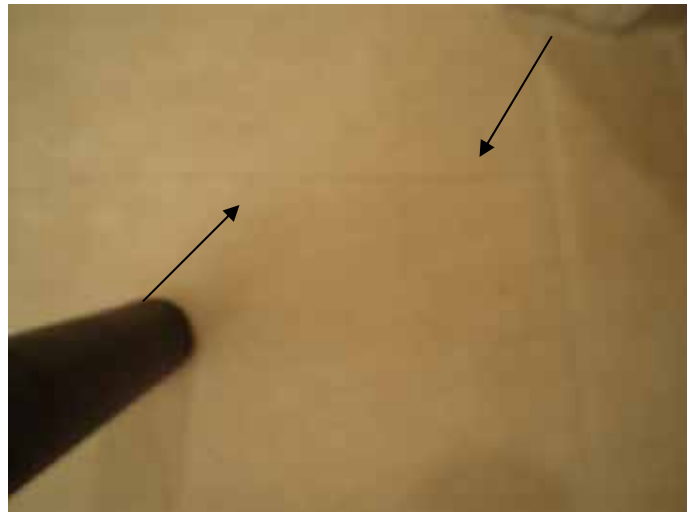
There were cracks & unsealed openings in the caulk around the tub in the master bathroom.



Location of the previous photo.



There were cracks in several of the floor tiles at the bedroom hallway & guest bathroom.



There were cracks in several of the floor tiles at the bedroom hallway & guest bathroom.



Location of the previous photos.



There was no gasket installed to prevent pest intrusion at the right side sliding screen door at the back patio.



There was no gasket or seal installed to prevent pest intrusion at the right side sliding screen door at the back patio.



Location of the previous photos.

Florida Building Code

§13-606.1.ABC.1.2 Exterior Joints or Openings in the Envelope.

Exterior joints, cracks, or openings in the building envelope that are sources of air leakage shall be caulked gasketed, weatherstripped or otherwise sealed in accordance with the criteria in

§13-606.1.ABC.1.2.1 through §13-606.1.ABC.1.2.5.

§13-606.1.ABC.1.2.1 Exterior and Adjacent Walls.

Exterior and adjacent walls shall be sealed at the following locations:

1. Between windows and doors and their frames;
2. Between windows and door frames and the surrounding wall;
4. Joints between exterior wall panels at changes in plane, such as with exterior sheathing at corners and changes in orientation;
5. Openings and cracks around all penetrations through the wall envelope such as utility services and plumbing;



The top of the garage/laundry access door frame was not correctly sealed as required. §13-606.1.ABC.1.2.1



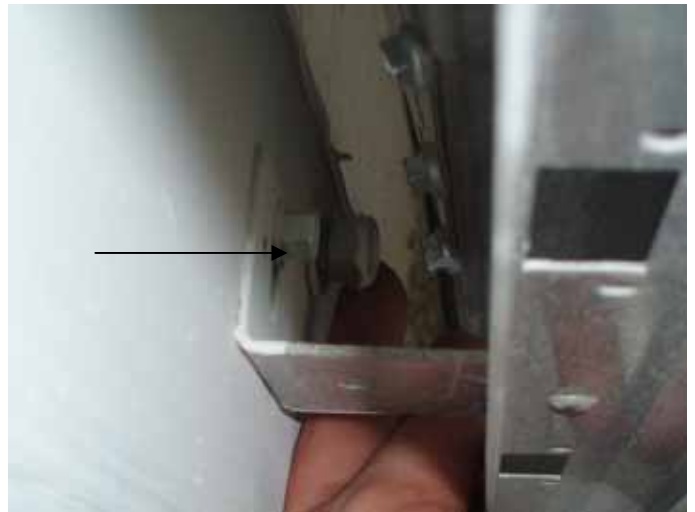
Location of the previous photo.



The top of the front door frame was not correctly sealed. §13-606.1.ABC.1.2.1



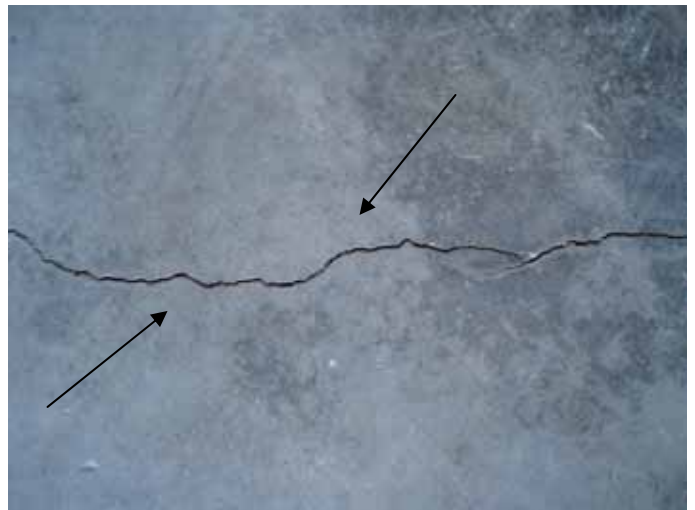
Some of the anchor nuts were loose at the garage door wood bucks.



There should not be any loose anchor nuts at the garage door bucks.



Location of the previous photos. All of the nuts & bolts for the 2"x6" garage door bucks should be correctly secured in place.



There were open cracks in the concrete in the garage floor.

Inspection Report of 1743 Jamesport Dr Port St. Lucie FL 33953 03.11.07



The cracks should be sealed & monitored for further shrinkage &/or settlement.



The storm shutter panels were not correctly secured in place. – Potential Hazard.



The red emergency release cord & handle were not set high enough above the garage floor. The handle should be set at 5 ft above the floor.



Location of the previous photo. See the manufacturer's installation instructions.



A warning label like this one needs to go on the wall by the auto door opener switches §M304.1



A warning label needs to go on the wall by the auto door opener switch §M304.1



Attic inspection begins.



Some of the truss anchor straps are not correctly embedded in the concrete. They are offset too far from trusses over the garage. §2306.2, §1606.1.3

Florida Building Code

§1606.1.3 Anchorage against overturning, uplift and sliding. Structural members and systems, and components and cladding in a building or structure shall be anchored to resist wind-induced overturning, uplift and sliding and to provide continuous load paths for these forces to the foundation. Where a portion of the resistance to these forces is provided by dead load, the minimum dead load likely to be in place during a design wind event shall be used.



The truss anchor straps should be set into the concrete up to the embedment line placed on the strap by the manufacturer. FBC §2306.2, §1606.1.3

Florida Building Code

§2306.2 Other fastenings. Where framing anchors, clips, staples, glues or other methods of fastening are used, they shall be labeled, listed and installed in accordance with their listing.

Florida Building Code

§2319.3 Bearing.

§2319.3.1 Joists and rafters shall have not less than three inches of bearing, on wood, metal, grout filled masonry or concrete except as provided in §2319.3.2, §2319.3.3 and §2319.3.4.



Location of the previous photos over the garage.



There should not be any slack in the truss anchor straps.



The truss anchor straps should be set into the concrete up to the embedment line placed on the strap by the manufacturer. FBC §2306.2, §1606.1.3



Location of the previous photos over the front of the garage.



All construction debris should be removed from the attic.



We recommend supporting the ductwork up off the attic insulation to help prevent problems associated with condensation.



Many of the truss anchor straps were not correctly installed. The straps were offset 2" or more from the trusses.



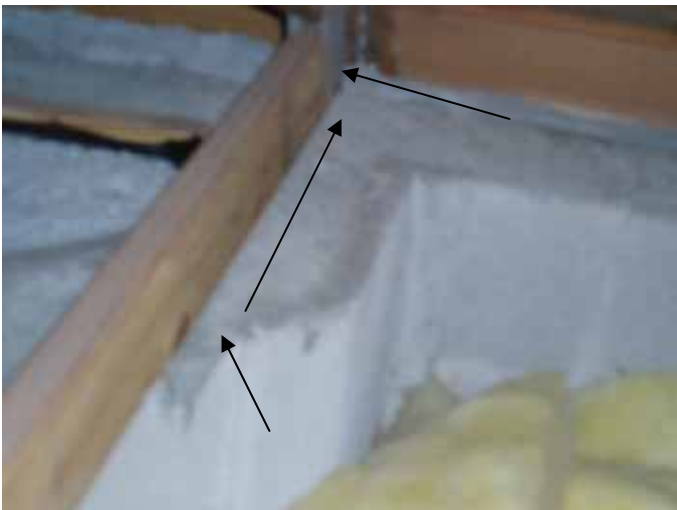
There should not be any slack in the truss anchor straps.



Location of the previous photos over the living room area.



Some of the straps were not anchored to the trusses. There were trusses bearing on the concrete beams with no protection between the truss & concrete.



There were trusses that were not secured by anchor straps at multiple locations. There were trusses bearing on the concrete beams with no protection between the truss & concrete.



There were trusses bearing on the concrete beams with no protection between the truss & concrete.



There were trusses that do not have 3 " bearing on a grout filled masonry cell or concrete at multiple locations. \$2319.3



Many of the truss anchor straps were not correctly installed. The straps were offset 2" or more from the trusses.



Location of the previous photos over the front entryway. There were trusses bearing on the concrete beams with no protection between the truss & concrete.



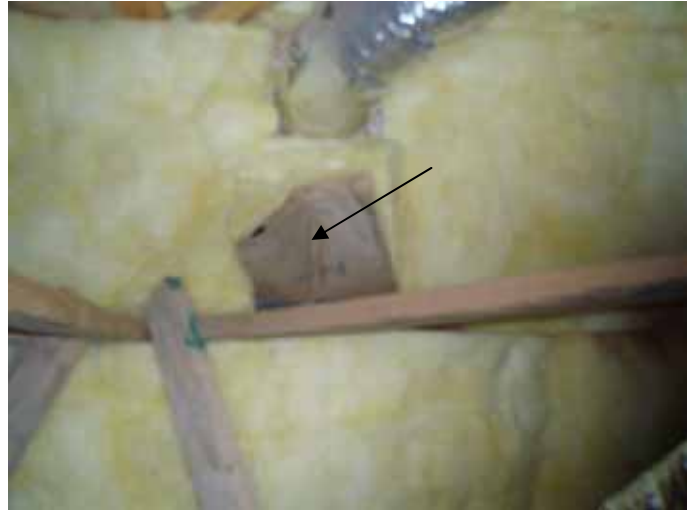
Some of the ducts were not correctly supported. Some of the support straps were twisted. We recommend the ducts be supported off other ducts & insulation.



There were areas of the attic with displaced or missing insulation.



There were areas of the attic with displaced or missing insulation. All attic areas over conditioned space are required to be insulated.



There was exposed kraft paper insulation backing in the attic. The manufacturer states the facing will burn & should not be exposed. §708.2

Florida Building Code

§708.2 Concealed installation

§708.2.1 Insulating materials, when concealed as installed, in buildings of any type construction, shall have a flame spread rating of not more than 75 and a smoke developed rating of not more than 450.

§708.2.2 When such materials are installed in concealed spaces in buildings of Type III, Type V or Type VI construction, the flame spread and smoke developed limitations do not apply to facings, coverings and layers of reflective foil insulation that are installed behind and in substantial contact with the unexposed surface of the ceiling, wall or floor finish.

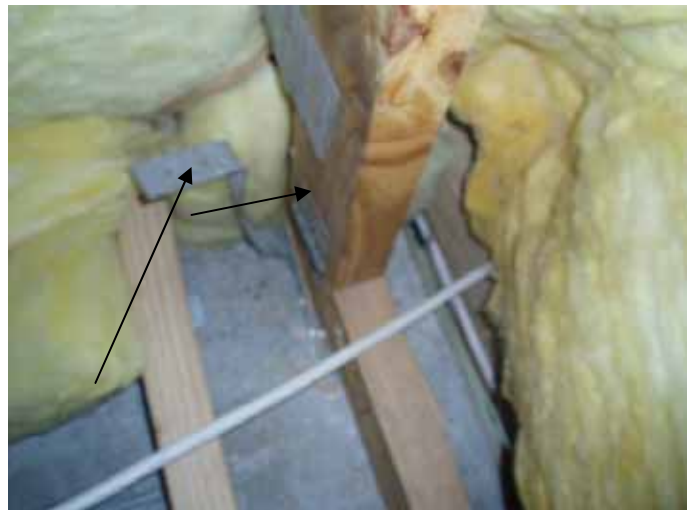


There were areas of the attic with displaced or missing insulation. All attic areas over conditioned space are required to be insulated. §13-604.1.A.1

Florida Building Code

§13-604.1.A Prescriptive Requirements Specific to Method A.

§13-604.1.A.1 Walls Considered Ceiling Area. Wall areas that separate conditioned living space from unconditioned attic space (such as attic knee walls, walls on cathedral ceilings, skylight chimney shafts, gambrel roofs, etc.) shall be considered ceiling area. Such areas shall be included in calculations of ceiling area and shall have a minimum insulation value of R-19.



Many of the truss anchor straps were not correctly installed.



The straps were not attached or nailed to the trusses at multiple locations.



Many of the truss anchor straps were not correctly installed.



Many of the truss anchor straps were not correctly installed. The straps were not attached or nailed to the trusses.



Many of the truss anchor straps were not correctly installed. The straps were offset too far from the trusses.



Many of the truss anchor straps were not correctly installed. The straps were offset too far from the trusses.



There should not be any slack in the truss anchor straps. Some of the straps were embedded 4" or more from the trusses.



There were trusses bearing on the concrete beams with no protection between the truss & concrete.



There were trusses that do not have 3 " bearing on a grout filled masonry cell or concrete at multiple locations. §2319.3



There were trusses that do not have 3 " bearing on a grout filled masonry cell or concrete at multiple locations. §2319.3



Location of the previous photos over the rear patio.



The back of the master attic access hatch cover was not insulated.



Technical Articles SureTest®
Frequently Asked Questions - Voltage Drop

By Harold P. Kopp

What is voltage drop? A voltage drop in an electrical circuit normally occurs when current is passed through the wire. The greater the resistance of the circuit, the higher the voltage drop.

How much voltage drop is acceptable? A footnote (NEC 210-19 FPN No. 4) in the National Electrical Code states that a voltage drop of 5% at the furthest receptacle in a branch wiring circuit is acceptable for normal efficiency. In a 120 volt 15 ampere circuit, this means that there should be no more than a 6 volt drop (114 volts) at the furthest outlet when the circuit is fully loaded. It also means that the circuit has a resistance that does not exceed 0.4 ohms.

What causes “excess voltage drop” in a branch circuit? The cause is usually:

1. High resistance connections at wiring junctions or outlet terminals, usually caused by:
 - poor splices anywhere in the circuit
 - loose or intermittent connections anywhere in the circuit
 - corroded connections anywhere in the circuit
 - inadequate seating of wire in the slot connection on backwired “push-in type” receptacles and switches.
2. The wire does not meet code standards (not heavy enough gauge for the length of the run).

What are the consequences of “excess” voltage drop in a circuit? Excess voltage drop can cause the following conditions:

1. Low voltage to the equipment being powered, causing improper, erratic, or no operation - and damage to the equipment.
2. Poor efficiency and wasted energy.
3. Heating at a high resistance connection/splice may result in a fire at high ampere loads.

At what % voltage drop does a circuit become hazardous? It is difficult to say at what point excess voltage drop will cause a fire, because it depends on how much current is flowing through the high resistance connection, what is the resistance of that connection and because many factors must be considered regarding at what point ignition will occur, e.g.:

1. Is the high resistance connection in contact with a combustible material?
2. Is there air flow to dissipate the heat?
3. Is the area around the connection insulated, so that heat cannot escape.

The NFPA reports [1] that from 1988-1992, there was an average annual total of 446,300 fires in homes, resulting in 3,860 Deaths and \$4.4 Billion property damage. 42,300 (9%) of these fires were caused each year by **Electrical Distribution Systems**. The largest portion of fires caused by electrical distribution systems (48%) were caused by **faulty fixed wiring, receptacles and switches**.

Electrical Distribution Equipment Fires in U.S. Homes²

1988-1992 Average

Cause of Fire	No. Of Fires
Total Electrical Distribution System	42,300 (100%)
Faulty Fixed Wiring	15,400 (36%)
Switches, Receptacles, Outlets	4,800 (11%)

The results of an in-depth investigation of 149 residential fires caused by electrical distribution systems was summarized in an article by Smith & McCoskrie [2]. Of the fires occurring as a result of:

1. **faulty fixed wiring** - poor/loose splices, damaged connectors, improper installation and ground faults accounted for **94%** of these fires.
2. **receptacles and switches** - loose/poor connections accounted for **59%** of these fires.
3. **Lighting fixtures** - loose or poor connections accounted for **37%** of these fires.

Most of these faulty circuits and receptacles could have been previously identified as hazards with a 15-ampere load test, and many of these fires could have been easily prevented.

The **Philadelphia Housing Development Corporation** requires contractors to perform the 15-ampere-load test prior to insulating existing homes with insulation blown into attic crawl spaces in older row homes. [3] Prior to instituting the test, smoldering fires were associated with half a dozen installations. The PHDC found that 70% of the homes flunked the 5% maximum voltage drop test with "a cluster around 6%". The PHDC arbitrarily established **10%** as an unacceptable voltage drop, beyond which the contractor must repair/replace the circuit prior to proceeding with the insulation project. PHDC has been using this criteria successfully for 2 years (no fires in 2,500 installations).

RECOMMENDATIONS

For power efficiency, the NEC standard of 5% maximum voltage drop is recommended.

From a safety perspective, because wiring connections in some homes deteriorate with time (particularly in homes that use aluminum wiring for power circuits), and do-it-yourself modifications may be less than professional, excess voltage drop is a concern because of the potential fire hazard at high resistance connections, particularly on circuits that power electric motors while occupants of the dwelling are asleep, e.g. air conditioners, refrigerators, furnace fans, exhaust fans, etc.

Some agencies arbitrarily set a maximum voltage drop criteria of 10% to be considered unacceptable and a hazard. The author believes that any voltage drop difference of >1% from an adjacent receptacle should be investigated, that any voltage drop difference of >2% from an adjacent receptacle should be considered a hazard, and that using a maximum voltage drop criteria of more than 8% (3% above the “efficiency” recommendation) is courting disaster. A 3% voltage drop (3.6 volts in a 120 volt circuit) at one connection with a 15 ampere flow develops 54 watts of heat - which can cause ignition under certain conditions.

Footnotes

[1]NFPA *U.S. Home Product Report 1988-1992 (Appliances & Equipment)* Alison L. Miller August, 1994

[2] Smith, Linda & Dennis McCoskrie, “What Causes Wiring Fires in Residences” *Fire Journal* Jan/Feb 1990: 19-24, 69

[3] Kinney, Larry “Assessing the Integrity of Electrical Wiring” *Home Energy* Sept/Oct 1995: 5,6

Voltage Drop

By Mike Holt for EC&M Magazine

Electrical equipment shall be installed so that it operates within its voltage rating as specified by the manufacturer. Because of circuit conductor voltage drop, the operating voltage at electrical equipment will naturally be less than the output voltage of the power supply.

UL does not have any specific requirement that equipment manufactures specify the voltage range of equipment but, typically manufactures recommend that the minimum circuit voltage not be less than 10 percent of the equipment voltage rating.

We must be careful to understand the difference between *nominal circuit voltage*, *equipment voltage rating*, and *actual operating voltage*. For example, an 115V *rated* motor is designed to be installed on a 120 *nominal* voltage circuit, but the actual *operating* voltage should not be less than 104V.

Inductive loads (e.g., motors, ballasts, etc.) can overheat, resulting in shorter equipment operating life and increased cost if they operate at voltage below their rating. In addition, under voltage can cause sensitive electronic equipment such as computers, laser printers, copy machines, etc., to lock up or suddenly power down. This can result in data loss, increased production cost, and possible equipment failure.

Resistive loads that operate at under voltage simply will not provide the expected rated power output. For example, a 10 kW heater rated 230V will provide less than 8.2 kW of power (work) at 208V ($P = E^2/R$). This (under voltage and under power) might not be a hazard, but it could cause production delays as well as increased production cost because the process is not function as it was intended.

Reduced circuit voltage can cause incandescent lighting to flicker when other appliances, office equipment, or heating and cooling systems are cycled on. Though this might be annoying for some, it's not dangerous and does not violate the NEC.

The actual operating voltage for a load can be determined by subtracting the conductor voltage drop from the nominal voltage rating. The voltage drop of the circuit conductors for a single-phase load can be determined by multiplying the

current of the circuit by the total resistance of the circuit conductors:

$$VD \text{ Single Phase} = I \times Z \times 2$$

$$VD \text{ Single Phase} = I \times Z \times 1.732$$

I = The load in amperes

Z = The impedance of the conductor as listed in the National Electrical Code Chapter 9, Table 9.

Question: Can a 16A, 115V motor be connected to a 120V circuit, if the 12 AWG circuit conductors are no more than 100 ft each?

Answer: Yes this installation will be fine, because the NEC does not limit the voltage drop to this type of load.

The voltage drop of the circuit conductors is equal to the current of the load times the impedance of the circuit conductors. The load is equal to 16A and the resistance of 12 AWG conductors in accordance to Chapter 8, Table 9 is equal to: 0.4 ohms [(2 ohm/1,000 ft) x 200 ft].

The circuit voltage drop is equal to 6.4V (16A x 0.4 ohms), therefore, the load will be operating at 113.6V, assuming the circuit voltage is 120V nominal.

Other factors that need to be taken into consideration include the power factor of the load as well as some of the NEC requirements. But remember, we need to be sure the equipment is supplied with a voltage that meets the equipment manufacturer's requirements.

Mike Holt's Comment: If you have any comments or feedback, please let me know at Mike@MikeHolt.com

Copyright © 2002 Mike Holt Enterprises, Inc.
1-888-NEC-CODE (1-888-632-2633)

Consumer Product Safety Commission

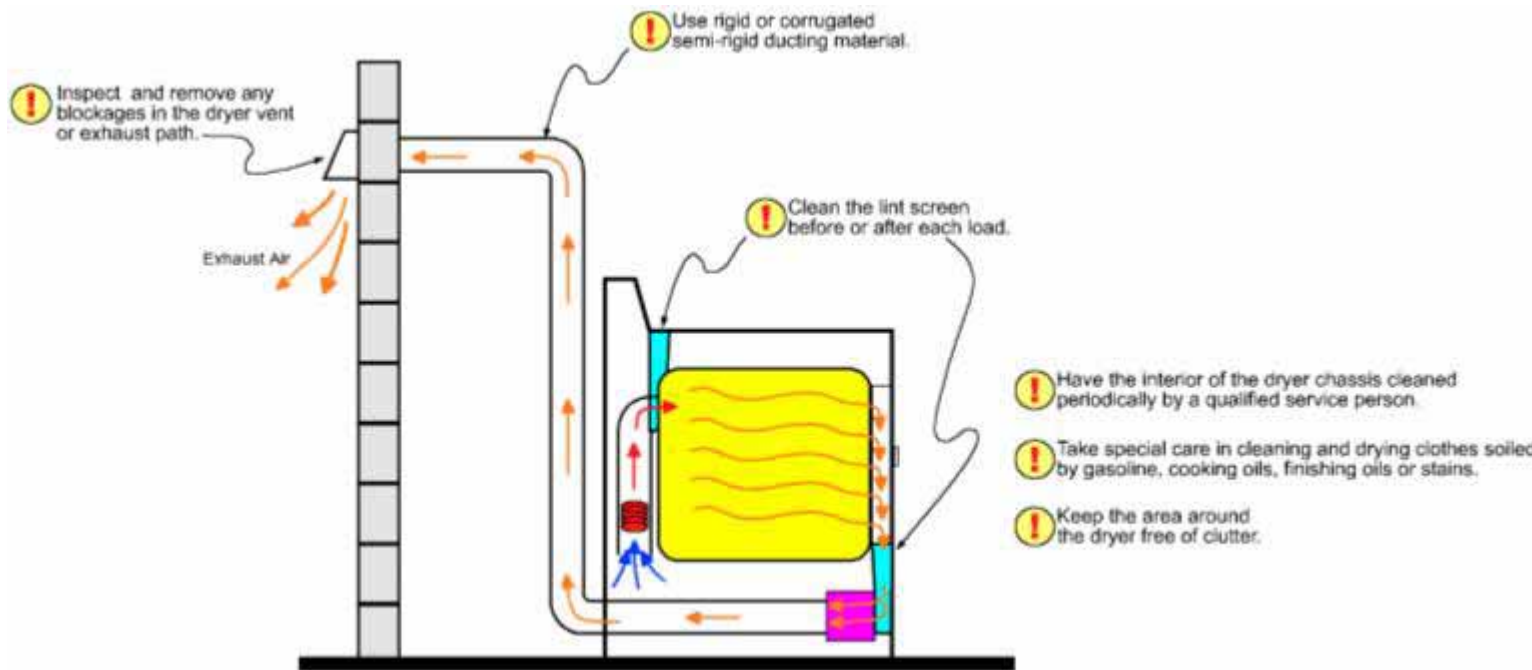
Overheated Clothes Dryers Can Cause Fires

CPSC Document # 5022
Updated June 2003

The U.S. Consumer Product Safety Commission estimates that in 1998, clothes dryers were associated with 15,600 fires, which resulted in 20 deaths and 370 injuries. Fires can occur when lint builds up in the dryer or in the exhaust duct. Lint can block the flow of air, cause excessive heat build-up, and result in a fire in some dryers.

To help prevent fires:

- **Clean the lint screen/filter before or after drying each load of clothes.** If clothing is still damp at the end of a typical drying cycle or drying requires longer times than normal, this may be a sign that the lint screen or the exhaust duct is blocked.
- **Clean the dryer vent and exhaust duct periodically.** Check the outside dryer vent while the dryer is operating to make sure exhaust air is escaping. If it is not, the vent or the exhaust duct may be blocked. To remove a blockage in the exhaust path, it may be necessary to disconnect the exhaust duct from the dryer. Remember to reconnect the ducting to the dryer and outside vent before using the dryer again.
- **Clean behind the dryer, where lint can build up.** Have a qualified service person clean the interior of the dryer chassis periodically to minimize the amount of lint accumulation. Keep the area around the dryer clean and free of clutter.
- **Replace plastic or foil, accordion-type ducting material with rigid or corrugated semi-rigid metal duct.** Most manufacturers specify the use of a rigid or corrugated semi-rigid metal duct, which provides maximum airflow. The flexible plastic or foil type duct can more easily trap lint and is more susceptible to kinks or crushing, which can greatly reduce the airflow.
- **Take special care when drying clothes that have been soiled with volatile chemicals** such as gasoline, cooking oils, cleaning agents, or finishing oils and stains. If possible, wash the clothing more than once to minimize the amount of volatile chemicals on the clothes and, preferably, hang the clothes to dry. If using a dryer, use the lowest heat setting and a drying cycle that has a cool-down period at the end of the cycle. To prevent clothes from igniting after drying, do not leave the dried clothes in the dryer or piled in a laundry basket.



[Send the link for this page to a friend!](#) Consumers can obtain this publication and additional publication information from the [Publications section](#) of CPSC's web site or by sending your publication request to info@cpsc.gov.

This document is in the public domain. It may be reproduced without change in part or whole by an individual or organization without permission. If it is reproduced, however, the Commission would appreciate knowing how it is used. Write the U.S. Consumer Product Safety Commission, Office of Information and Public Affairs, 4330 East West Highway, Bethesda, MD 20814 or send an e-mail to info@cpsc.gov.

The U.S. Consumer Product Safety Commission is charged with protecting the public from unreasonable risks of serious injury or death from more than 15,000 types of consumer products under the agency's jurisdiction. Deaths, injuries and property damage from consumer product incidents cost the nation more than \$700 billion annually. The CPSC is committed to protecting consumers and families from products that pose a fire, electrical, chemical, or mechanical hazard or can injure children. The CPSC's work to ensure the safety of consumer products - such as toys, cribs, power tools, cigarette lighters, and household chemicals - contributed significantly to the 30 percent decline in the rate of deaths and injuries associated with consumer products over the past 30 years.

To report a dangerous product or a product-related injury, call CPSC's hotline at (800) 638-2772 or CPSC's teletypewriter at (800) 638-8270, or visit CPSC's web site at www.cpsc.gov/talk.html. To join a CPSC email subscription list, please go to www.cpsc.gov/cpsclist.asp. Consumers can obtain this release and recall information at CPSC's Web site at www.cpsc.gov.

[Consumer Safety \(Home\)](#) | [About CPSC](#) | [Library](#) | [Business](#)

Thomas Glynn

Inspection Credentials

- **State of Florida Board of Professional Engineers Certification - #1100008097(EI)**
 - **Residential Building Inspector - International Code Council - ICC Certification # 5166766-B1**
 - **Residential Electrical Inspector - International Code Council -ICC Certification # 5166766-E1**
 - **National Professional Home Inspectors Board Certification - ASI ID - #92-US-92010506**
 - **Bachelor of Engineering Degree – Manhattan College 1986**
 - **State of Florida Pest Control Business License - #JB119667**
 - **State of Florida Department of Agriculture and Consumer Services Certified Pest Control Operator License - #JF118618**
 - **Wood Destroying Organisms Inspector ID - #JE85395**
 - **National Society of Professional Engineers Member # 104049955**
 - **Registered Professional Inspector - Florida Association of Building Inspectors ID#- RPI 0447**
 - **Certified Member American Society of Home Inspectors ID # 205294**
 - **International Brotherhood of Carpenters & Joiners – Member Local Union #608, NYC Since 1985. Ledger Page #1934**
 - **Palm Beach County License - #2003-16237**
 - **Port St. Lucie, Indian River & Martin County License - #2003-275-429**
 - **Broward County License # 329-0028284**
 - **Okeechobee County License No. 1570 Company ID #: 8429**
 - **General Contractor on Residential & Commercial Building Projects in NY**
 - **Certification – Gold Coast School of Construction in Home Inspection 1997**
 - **Certification in New Construction – Florida Building Code**
 - **Twenty Five (25) Years in the Construction, Building Maintenance, Engineering & Inspection Industry**
 - **Seven (7) Years Experience in the Home Inspection Field**
 - **Over Four Thousand (4000) Professional Building Inspections Performed**
 - **Owner: Five-O Building Inspections Inc. Ph # 561.756.3144**
-