

# Texas Administrative Code

## RULE §535.229

### Standards of Practice: Inspection Guidelines for Mechanical Systems: Appliances, Cooling Systems, Heating Systems, Ducts, Vents and Flues, and Plumbing Systems

(a) Dishwasher. The inspector shall:

- (1) report as in need of repair any deficiencies in the door gasket, control knobs and interior parts, including the dish tray, rollers, spray arms and the soap dispenser;
- (2) report as in need of repair any interior signs of rust;
- (3) report as in need of repair a door spring that does not operate properly;
- (4) report as in need of repair deficiencies in the discharge hose or piping or the lack of back flow prevention;
- (5) report as in need of repair units that are not securely mounted;
- (6) report as in need of repair any water leaks;
- (7) inspect the unit's operation in normal mode with the soap dispenser closed; and
- (8) report as in need of repair spray arms that do not turn, soap dispensers that do not open or drying elements that do not operate.

(b) Food waste disposer. The inspector shall:

- (1) report as in need of repair any deficiencies in the splash guard, grinding components, wiring and exterior;
- (2) report as in need of repair a unit that is not securely mounted; and
- (3) inspect the operation of the unit and report as in need of repair any unusual noise or vibration level and any signs of water leaks.

(c) Range exhaust vent. The inspector shall:

- (1) report as in need of repair any deficiencies in the filter, vent pipe, light and switches;
- (2) inspect the operation of the blower and report as in need of repair any unusual sounds or vibration levels, or if the blower does not operate at all speeds;
- (3) report as in need of repair a vent pipe that does not terminate outside the structure when the unit is not of recirculating type or configuration.
- (4) report as in need of repair a vent pipe that is of inadequate material; and
- (5) report as in need of repair the absence of a range exhaust vent.

(d) Electric or gas ranges. The inspector shall:

- (1) report as in need of repair broken or missing knobs, elements, drip pans or other parts, inadequate clearance from combustible material, or the absence of an anti-tip device;
- (2) report as in need of repair signal lights and elements or burners that do not operate at low and high settings;
- (3) report as in need of repair improper materials that are used for the gas branch line and the connection to the appliance; and
- (4) report as in need of repair the absence of a gas shut-off valve, or valve that is not properly located, is inaccessible, or leaks.

(e) Electric or gas ovens. The inspector shall:

- (1) report as in need of repair any broken or missing knobs, handles, glass panels, door hinges, lights or light covers or other parts, or inadequate clearance from combustible material;
- (2) report as in need of repair deficiencies in the door gasket, tightness of closure and operation of the latch;
- (3) report as in need of repair an oven that is not securely mounted;
- (4) report as in need of repair heating elements and thermostat sensing elements that are not properly supported;
- (5) report as in need of repair deficiencies in the operation of the heating elements or the lighting, operation and condition of the flame;
- (6) report as in need of repair deficiencies in the operation of the clock and timer, thermostat and door springs; and
- (7) report as in need of repair any inaccuracy of the thermostat more than a 25 degree range plus or minus of a 350 degree setting, as measured by a thermometer.

(f) Microwave oven. The inspector shall:

- (1) report as in need of repair any broken or missing knobs, handles, glass panels, or other parts, or a unit that is not securely mounted;
- (2) report as in need of repair any deficiencies in the door and seal (the inspector is not required to test for radiation);
- (3) report as in need of repair an oven that does not operate by heating a container of water or with other test equipment, as reasonably determined by the inspector; and
- (4) report as in need of repair a light that does not operate.

(g) Trash compactor. The inspector shall:

- (1) inspect the overall condition of the unit;
- (2) report as in need of repair a unit that does not operate or operates with unusual noise or vibration levels; and
- (3) report as in need of repair a unit that is not securely mounted in place.

(h) Other built-in appliances. The inspector shall report as in need of repair any deficiencies in condition or operation of other built-in appliances not listed in this section.

(i) Bathroom exhaust vents and electric heaters. The inspector shall operate the unit, and report as in need of repair unusual sounds, speed and vibration levels or, when possible, vent pipes that do not terminate outside the structure.

(j) Whole house vacuum system. The inspector shall:

- (1) inspect the condition of the main unit;
- (2) report as in need of repair a unit that does not operate; and
- (3) inspect the system from all accessible outlets throughout the house.

(k) Water heaters. The inspector shall:

- (1) report the energy source;
- (2) inspect the unit and report as in need of repair fittings that leak or are corroded;
- (3) report as in need of repair temperature and pressure relief valve piping that lacks gravity drainage, is improperly sized (no smaller than the outlet fittings), has deficiencies in material, or lacks a correct termination;
- (4) report as in need of repair a temperature and pressure relief valve that does not operate when the valve is of an operable type and operation will not cause damage to persons or property as reasonably determined by the inspector (for example, it would be reasonable not to operate the valve if there is improper or undetermined termination of the drain pipe, a corroded or damaged valve, improper installation of valve or drain pipe, the drain pipe is of inappropriate material or there is no water supply cut-off valve at the unit);
- (5) report as in need of repair any broken or missing parts, covers or controls;
- (6) report as in need of repair deficiencies in the burner, flame and burner compartment, the operation of heating elements and the condition of wiring;
- (7) report as in need of repair deficiencies in materials used for the gas branch line and the connection to the appliance, the absence of a gas shut-off valve, or a valve that is not properly located, is inaccessible, or leaks;
- (8) if applicable, report as in need of repair deficiencies in the vent pipe, draft diverter, draft hood and their condition, draft, proximity to combustibles and vent termination point, observing for adequate combustion and draft air;
- (9) report as in need of repair the lack of a safety pan and drain (including the termination of the drain line) when applicable;
- (10) report as in need of repair an unsafe location or installation; and
- (11) inspect garage units or units which are located in rooms or enclosures opening into a garage and report as in need of repair the following:

(A) a lack of protection for physical damage to the unit; and

(B) burners, burner ignition devices or heating elements, switches or thermostats that are not a minimum of 18 inches above the lowest garage floor elevation.

(l) Doorbell and chimes. The inspector shall:

- (1) inspect the condition of the unit and report as in need of repair a unit that does not operate; and
- (2) report as in need of repair any deficiencies in visible and accessible parts.

(m) Attic power vents. The inspector shall:

- (1) report as in need of repair deficiencies in the operation and installation of the unit, including the wiring and mounting of the thermostat control, if so equipped and accessible; and
- (2) report as in need of repair unusual sounds or speed and vibration levels.

(n) Garage door operator. The inspector shall:

- (1) report as in need of repair deficiencies in the installation, condition and operation of the garage door operator;
- (2) operate the door both manually and by an installed automatic door control;
- (3) report as in need of repair a door that does not automatically reverse during closing cycle, any installed electronic sensors that are not operable or not installed at the proper heights above the garage floor; and
- (4) report as in need of repair door locks or side ropes that have not been removed or disabled.

(o) Hydrotherapy or whirlpool equipment. The inspector shall:

- (1) report as in need of repair a unit that does not operate, leaks, or is inaccessible;
- (2) report as in need of repair a unit that lacks a ground fault circuit interrupter or has an interrupter that does not operate;
- (3) report as in need of repair switches that are not in a safe location or do not operate;
- (4) report evidence of leaks under the tub if the access cover is available and accessible, reporting when the cover is absent or inaccessible (the inspector is not required to determine the adequacy of self-draining features of the circulation system); and
- (5) report as in need of repair deficiencies in the ports, valves, grates and covers.

(p) Specific limitations for appliances. The inspector is not required to do the following:

- (1) operate or determine the condition of other auxiliary components of inspected items; or
- (2) inspect self-cleaning functions.

(q) Cooling systems other than evaporative coolers. The inspector shall:

- (1) report the type of system and energy sources;
- (2) operate the system using normal control devices except when the outdoor temperature is less than 60 degrees Fahrenheit;
- (3) inspect for proper performance; such as by observing the temperature difference between the supply air and the return air or noticeable vibration of the blower fan and report as in need of repair any deficiencies;

(4) report as in need of repair the lack of, or deficiencies in drainage of, condensate drain line and secondary drain line when applicable, including pipes made of inadequate material;

(5) report as in need of repair a primary drain pipe that terminates in a sewer vent, if the termination is visible;

(6) report as in need of repair a safety pan that is not appropriately sized for the evaporator coil or free of water or debris;

(7) report as in need of repair a return chase and plenum that are not free of improper and hazardous conditions, such as gas pipes, sewer vents, refrigerant piping or electrical wiring.

(8) report as in need of repair the lack of insulation on refrigerant pipes and the primary condensate drain pipe;

(9) report as in need of repair a condensing unit that does not have adequate clearances, or air circulation, or that has deficiencies in the condition of fins, location, levelness and elevation above ground surfaces; and

(10) report as in need of repair conductor sizing and over-current protective devices that are not appropriately sized for the unit.

(r) Evaporative coolers. The inspector shall:

(1) operate the motor and report as one or two speed;

(2) observe the electrical pigtail connection at the motor

(3) inspect the power source in the unit;

(4) report as in need of repair a pump that does not function or deficiencies in the spider tubes, tube clips and bleeder system;

(5) report as in need of repair deficiencies in the water supply line and float bracket;

(6) report as in need of repair the absence of a minimum one-inch air gap between water discharge at float and water level;

(7) report as in need of repair deficiencies in the fan (blower) and squirrel cage or rust build-up, deterioration or corrosion;

(8) report as in need of repair deficiencies in the fan belt and pulleys;

(9) report as in need of repair deficiencies in the housing side panels, the water trays, the exterior housing and the roof frame;

(10) report as in need of repair deficiencies in the roof jack or other mounting point and the location of the seasonal damper at the unit; and

(11) report as in need of repair deficiencies in the interior registers and the supply duct.

(s) Specific limitations for cooling systems. The inspector is not required to do the following:

(1) inspect for the pressure of the system coolant or determine the presence of leaks;

(2) program digital-type thermostats or controls; or

(3) operate setback features on thermostats or controls.

(t) Heating systems. The inspector shall:

(1) report the type of heating system and its energy sources;

(2) report as in need of repair a system that does not operate properly using normal control devices;

(3) report as in need of repair deficiencies in the controls and accessible operating components of the system;

(4) in gas units, inspect the burner, and report as in need of repair deficiencies in the burner compartment, type, condition, draft and termination of the vent pipe, or proximity to combustibles; the lack of combustion and draft air or inappropriate location, or the lack of forced air in the burner compartment (full evaluation of the integrity of a heat exchanger requires dismantling of the furnace and is beyond the scope of a visual inspection);

(5) report as in need of repair gas units that display flame impingement, uplifting flame, improper flame color or excessive scale buildup;

(6) report as in need of repair gas units that use improper materials for the gas branch line and the connection to the appliance;

(7) report as in need of repair in gas units deficiencies in materials used for the gas branch line and the connection to the appliance, the absence of a gas shut-off valve, or a valve that is not properly located, is inaccessible, or leaks; and

(8) report as in need of repair elements in electric furnaces that do not operate;

(9) report as in need of repair a return chase or plenum that are not free of improper and hazardous conditions, such as gas pipes, sewer vents, refrigerant piping or electrical wiring; and

(10) report if the inspector deemed the furnace to be inaccessible.

(u) Specific limitations for heating systems. The inspector is not required to do the following:

(1) inspect accessories such as humidifiers, air purifiers, motorized dampers, heat reclaimers, electronic air filters or wood-burning stoves;

(2) determine the efficiency or adequacy of a system;

(3) program digital-type thermostats or controls; or

(4) operate radiant heaters, steam heat systems or unvented gas-fired heating appliances.

(v) Ducts, vents (including dryer vents) and flues. The inspector shall:

(1) report as in need of repair deficiencies such as damaged ducting or insulation, improper material or improper routing of ducts where visible and accessible;

(2) report as in need of repair the absence of air flow at all accessible supply registers in the habitable areas of the structure;

(3) report as in need of repair deficiencies in accessible duct fans and filters;

- (4) report as in need of repair deficiencies in installation, such as gas piping, sewer vents, electrical wiring or junction boxes in the plenum, returns or chases or improper sealing, where visible;
  - (5) report as in need of repair deficiencies in the flue system components;
  - (6) report as in need of repair a flue or vent pipe that does not properly terminate; and
  - (7) report as in need of repair deficiencies in materials used for the venting systems.
- (w) Specific limitations for ducts and vents. The inspector is not required to do the following:
- (1) determine the efficiency, adequacy or capacity of the systems;
  - (2) determine the uniformity of the supply of conditioned air to the various parts of the structure;
  - (3) determine the types of materials contained in insulation, wrapping of pipes, ducts, jackets, boilers and wiring;
  - (4) operate venting systems unless ambient temperatures or other circumstances, in the reasonable opinion of the inspector, are conducive to safe operation without damage to the equipment; or
  - (5) operate a unit outside its normal operating range as reasonably determined by the inspector.
- (x) Plumbing systems. The inspector shall:
- (1) inspect and report as in need of repair deficiencies in the type and condition of all accessible and visible water supply and waste-water and vent pipes;
  - (2) inspect and report as in need of repair deficiencies in the operation of all fixtures and faucets where the flow end of the faucet is not connected to an appliance;
  - (3) report as in need of repair the lack of back-flow devices, anti-siphon devices or systems or air gaps when applicable;
  - (4) report as in need of repair incompatible materials in connecting devices between differing metals in the supply system, where visible;
  - (5) report as in need of repair deficiencies in water supply by viewing functional flow in two fixtures operated simultaneously;
  - (6) report as in need of repair deficiencies in functional drainage at accessible plumbing fixtures;
  - (7) report as in need of repair deficiencies in installation and identification of hot and cold faucets;
  - (8) report as in need of repair mechanical drainstops that are missing or do not operate if installed on sinks, lavatories and tubs;
  - (9) report as in need of repair commodes that have cracks in the ceramic material, are improperly mounted on the floor, leak or have tank components which do not operate;
  - (10) report as in need of repair accessible supply and drain pipes that leak;
  - (11) report as in need of repair the lack of a visible vent pipe system to the exterior of the structure or improper routing or termination of the vent system;
  - (12) report as in need of repair a shower enclosure that leaks; and
  - (13) report as in need of repair any exterior faucet attached or immediately adjacent to the structure that does not operate properly.
- (y) Specific limitations for plumbing systems. The inspector is not required to do the following:
- (1) operate any main, branch or shut-off valves;
  - (2) inspect any system that has been shut down or otherwise secured;
  - (3) inspect any components that are not visible or accessible;
  - (4) inspect any exterior plumbing components such as water mains, private sewer systems, water wells, sprinkler systems or swimming pools;
  - (5) inspect fire sprinkler systems;
  - (6) inspect or operate drain pumps or waste ejector pumps;
  - (7) inspect the quality or the volume of well water;
  - (8) determine the potability of any water supply;
  - (9) inspect water-conditioning equipment, such as softeners or filter systems;
  - (10) inspect solar water heating systems;
  - (11) determine the effectiveness of anti-siphon devices on appropriate fixtures or systems;
  - (12) operate free-standing appliances;
  - (13) inspect private water supply systems, swimming pools, or pressure tanks;
  - (14) inspect the gas supply system for leaks; or
  - (15) inspect for sewer clean-outs.