The primary code used in this book is the 2009 edition of the International Residential Code for One- and Two-Family Dwellings, published by the International Code Council (ICC). It is the most widely used residential code in the United States. The other major codes referenced here are the 2009 Uniform Plumbing Code and 2009 Uniform Mechanical Code, published by the International Association of Plumbing & Mechanical Officials (IAPMO). For most topics, these different codes are in agreement. Each of these codes also references standards, many of which are maintained by the organizations in Table 2 (T2).

Additional codes for specialized items are listed in T1. The National Fire Protection Association (NFPA) publishes several of these. They also maintain NFPA 54 – The National Fuel Gas Code, which forms the basis of the fuel gas provisions in the IRC, UPC, and UMC.

The 2009 cycle of codes is likely to remain in effect in most areas for at least 3 or 4 years after the cover date. Energy codes vary greatly from one area to another, and you should begin any project, check with your local building department to determine the codes for these systems. The building department should be consulted for their requirements.

All fixture traps req venting [3101.2.1] 901.0 This line is stating that all fixture traps require venting, and the rule is found in section 3101.2.1 of the IRC and section 901.0 of the UPC.

References to figures and tables are preceded by an F or a T as in the following example from p.8.

A change from the previous code edition is shown by a code citation in a different color. The superscript endnote after the code citation refers to the table on the inside back cover, where more information about the change is found. The following example is from p.36:

Single-Wall Vents

Not allowed in dwellings [n/a] (802.7.4.1) This line is saying that single-wall gas appliance vents are not allowed in dwellings. The IRC does not have such a rule, so the citation there is “n/a”. In the UMC, the rule is in section 802.7.4.1 and it is a change from the 2006 edition. The change is explained further in T45 on the inside back cover.

A line ending in EXC means that an exception to the rule is contained in the line that follows. The following example is from p.24:

Ignition source ≥18in above garage floor EXC F53 [2801.6] (508.14) These lines are stating that ignition source is at least 18 inches above the floor, unless the water heater is an FVIR type as shown in F54.

If a rule does not apply to a particular code, that will be indicated by “n/a” in the code citation column, as in this example from p.24:

WH also used for space heating must be L&L for both [2448.2] (n/a) This line is saying that a water heater used for space heating must be labeled for both purposes. The rule is in section 2448.2 of the IRC and it does not apply when using the UPC.

Rules that are not explicitly stated in a model code are sometimes based upon other local ordinances, as indicated in this example from p.5:

Building sewer depth per local ordinance [2603.6.1] (local) This line is saying that IRC section 2603.6.1 directs us to consult local ordinances for required sewer depth. The UPC does not have this rule, and the local building department should be consulted for their requirements.

For updates to this book, corrections, and additional valuable information visit: www.codecheck.com

The information contained in this document is believed to be accurate; however, it is being provided for informational purposes only and is not intended as a substitute for the full text of the codes referenced herein. Publication of this document by Taunton Press, ICC and the authors should not be considered by the user to be a substitute for the advice of a registered design professional.
Traps prevent sewer gases, vermin and other contaminants from entering the dwelling. The trap seal must be a sufficient depth (2in) to maintain a seal and not so deep (4in max) as to become blocked with sludge or create a siphoning effect. Trap arms (fixture drains) must be vented, otherwise the negative pressure created by water moving down the pipe will cause air to be sucked through the trap seal. The maintenance of proper trap seals is the underlying principle behind the code rules for drainage, traps and venting.

### General
- Each fixture reqs separate trap EXC [3201.6] (1001.1)
- Fixtures w/ integral traps (toilets) [3201.6X] (1001.1)
- 2 or 3 lavs, laundry tubs, or sinks of same type OK on 1 center trap in the same room [3201.6X] (1001.2)
- Laundry trap may drain to CW standpipe [3201.6X] (n/a)
- Fixtures sharing trap max 30in apart horizontal [3201.6X] (1001.2)
- Trap seal min 2in, max 4in [3201.2] (1005.0)
- Set traps level & protect from freezing [3201.3] (1005.0)
- No “S” traps, bell traps, drum traps, traps w/ moving parts or traps w/ interior partitions EXC [3201.5] (1004.0)
- Lav traps w/ plastic or stainless partitions [3201.5] (1004.0)
- Size per T6 [3201.7] (1003.3)
- Trap size ≥ fixture outlet size [3201.7] (1003.3)
- No double traps (in series) [3201.6] (1004.0)

### Fixture Tailpieces
- Fixture tailpiece max 24in vertical distance EXC [3201.6] (1001.4)
- CW standpipes 18in–42in (18in–30in UPC) [3207.6] (804.1)
- IRC: Max 30in horizontal distance [3201.6] (Ø)
- UPC: Max 24in total developed length [3201.6] (n/a)
- Directional fittings req’d for continuous wastes from disposer or DW (i.e., wyes, combos, or tees w/baffles) [3207.1] (404.4)

### Trap Seal
- Depth of Trap Seal
- Crown weir
- Upper dip

### Tailpiece Lengths
- IRC max. 24 in.
- UPC max. 24 in.
- Max. 1 slip joint
- IRC max. 30 in.

### S Trap
- Water filling the downstream vertical portion of the S trap will cause siphoning and loss of trap seals. Trap seals must be maintained to prevent sewer gases and vermin from entering the dwelling. The combination waste and vent (F38) is not an S trap because it has a horizontal arm and an increased size in the vertical drain.

### Slip Joints & Access
- An access opening at least 12 in. by 12 in. is required for repair or replacement of concealed slip joints. The opening can be in a ceiling or a wall.
The length and slope of the trap arm must allow air to be admitted above the dotted line in the figure. If the slope or length are excessive, the dotted line (trap weir elevation) would be above the vent opening.

**TABLE 13**

<table>
<thead>
<tr>
<th>Trap Arm Diameter</th>
<th>IRC Min.</th>
<th>IRC Max.</th>
<th>UPC Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1¼ in.</td>
<td>2½ in.</td>
<td>5 ft.</td>
<td>2 ft. 6 in.</td>
</tr>
<tr>
<td>1½ in.</td>
<td>3 in.</td>
<td>6 ft.</td>
<td>3 ft. 6 in.</td>
</tr>
<tr>
<td>2 in.</td>
<td>4 in.</td>
<td>8 ft.</td>
<td>5 ft.</td>
</tr>
<tr>
<td>3 in.</td>
<td>6 in.</td>
<td>12 ft.</td>
<td>6 ft.</td>
</tr>
<tr>
<td>4 in. or larger</td>
<td>8 in.</td>
<td>16 ft.</td>
<td>10 ft.</td>
</tr>
</tbody>
</table>

A. In the IRC, these arms can have 1/8 in./ft. slope. In the UPC all arms must slope ¼ in./ft.
B. The maximum length from a water closet to the vent is 6 ft. in the UPC and is unlimited in the IRC.
Temperature & Pressure-Relief Valves General
- All WHs req pressure relief device F56, F58
- All WHs req temperature limiting device F56, F57
- Devices may be combination TPRV (mandatory for storage-tank water heaters in UPC) F56
- Temp probe (in top 6in of tank (AMI in UPC) F53,59
- Settings not >150psi OR 210°F
- Watts 210 also req’s PRV F57,58

TPRV Drain Piping
- No shutoff valves before or downstream of TPRV
- Piping may not be shared w/ condensate drain or relief valves of other systems
- Drain must end outside building or at other approved location
- TPRV may discharge into pan (not allowed in UPC)
- End ≤8in (6 to 24in UPC) from ground or receptor
- Drain size at least same as outlet of valve
- Must drain by gravity; cannot run uphill or be trapped
- No kinks or restrictions in pipe
- End of pipe visible & no threads on end
- Material can be any allowed for water distribution
- Protect from freezing
- May not drain to crawlspace

Watts 210 Gas Shutoff Valve

Temperature & Pressure-Relief Valve
When the water heater is in a basement or below grade, it may not be possible to arrange for a gravity drain of the TPRV valve. A Watts 210 valve (F57) can be installed. The temperature-sensing bulb of the valve goes in the upper portion of the tank & the gas piping runs through the valve. The Watts 210 shuts off the gas if the temperature is excessive. In addition, a separate water pressure-relief valve (F58) must be installed in the piping & must drain by gravity to an approved location. Check with the local AHJ to see if this method is accepted in your area.

Required Pans & Drain
- Watertight corrosion-resistant pan req'd for WHs in attics or where leakage could cause damage
- Pan 24 gage Zi or listed corrosion-resistant material
- Pan drain size min ¾in
- Pan drain req’d to end in indirect waste or outdoors 6 to 24in above grade (to any approved location in UPC)
- Pan min 1½in deep
- Material can be any allowed for interior water pipe (no PVC)

Pan & TPRV drain only with materials approved for interior water pipe (no PVC)
GAS APPLIANCE COMBUSTION AIR (C.A.)

General 09 IRC 09 UMC
Note: The IRC & UMC address combustion air only for gas-burning appliances. Oil-fired appliances are governed by NFPA 31 (see p.38).

☐ C.A. req’d for natural draft appliances EXC [2407.1] (701.1.1)
  □ Direct-vent appliances installed AMI [2407.1] (701.1X1)
☐ Draft hood in same space as appliance [2407.3] (701.1.3)
☐ Provide make-up air to offset exhaust fans (kitchen, bath) [2407.4] (701.1.4)

Mechanically Supplied Combustion Air 09 IRC 09 UMC
☐ Mechanical C.A. supply min 0.35cu.ft/minute/kBtu ___ [2407.9] (701.7)
☐ Appliance interlock req’d if mechanically supplied C.A. [2407.9.2] (701.8.2)

Openings 09 IRC 09 UMC
☐ Outside air openings req screens w/ mesh ≥1/4in ___ [2407.10] (701.9B)
☐ No screens allowed on ducts terminating in attic ___ [2407.11] (701.10)
☐ Net free area of louvers 75% for metal, 25% for wood [2407.10] (701.9A)
☐ Motorized louvers/dampers req appliance interlock ___ [2407.10] (701.9C)

Ducts 09 IRC 09 UMC
☐ Duct galv metal or material of equivalent performance [2407.11] (701.10)
☐ Ducts to outdoors min dimension 3in ___ [2407.6] (701.4)
☐ No manual dampers in C.A. ducts ___ [2407.6] (701.11)
☐ Joist/stud space as C.A. duct ≤1 fireblock removed [2407.11X] (701.10X)
☐ Exterior openings min 12in above finished ground T34, F79,80 [2407.11] (701.10)
☐ Ducts may serve only 1 enclosure or appliance space [2407.11] (701.10)
☐ Upper & lower ducts remain separate to source ___ [2407.11] (701.10)

Ventilation for Combustion Air

Attic & Crawl-Space Sources 09 IRC 09 UMC
☐ Ventilated attics & crawl spaces considered equivalent to outdoors F77,81 [2407.6.1(1&2)] (F7-2.3)
☐ Crawl space only for lower C.A., not upper F82 [2407.11] (701.10)

Indoor Air Source 09 IRC 09 UMC
☐ ACH = air changes per hour ___ [2407.5.2] (701.2.1.1)
☐ Indoor air source alone only OK if infiltration >.40 ACH [2407.5] (701.2)
☐ Min volume of space 50cu.ft./1kBtu/hr. T34, F83 [2407.5.1] (701.2.1)
☐ Indoor air volume includes rooms directly communicating w/ appliance space F84 [2407.5] (701.2)
☐ Openings connecting indoor spaces req’d to be located in upper & lower 12in of appliance space F83 [2407.5.3.1] (701.3.1)
☐ Openings connecting indoor spaces min 100sq.in each & min 1sq.in/kBtu if on same level, 2sq.in if on different levels T34 [2407.5.3] (701.3.1)
☐ If ACH <.40, min volumes for known air infiltration method:
  □ Non fan-assisted appliance (21cu.ft/ACH) per kBtu [2407.5.2] (701.2.2)
  □ Fan-assisted appliance (15cu.ft/ACH) per kBtu [2407.5.2] (701.2.2)

Outdoor Air Openings
☐ Fan-assisted appliance (15cu.ft/ACH) per kBtu [2407.5.2] (701.2.2)
☐ Vents connecting attic & Crawl-space sources ___ [2407.1] (701.1.1)

Table 34 Combustion Air Opening Sizes

<table>
<thead>
<tr>
<th>Indoor Air</th>
<th>Outdoor Air Openings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Btu</td>
<td>cu.ft. min. (sq.ft.)</td>
</tr>
<tr>
<td>30k</td>
<td>100 sq.in.</td>
</tr>
<tr>
<td>40k</td>
<td>100 sq.in.</td>
</tr>
<tr>
<td>50k</td>
<td>100 sq.in.</td>
</tr>
<tr>
<td>60k</td>
<td>100 sq.in.</td>
</tr>
<tr>
<td>80k</td>
<td>100 sq.in.</td>
</tr>
<tr>
<td>100k</td>
<td>100 sq.in.</td>
</tr>
<tr>
<td>125k</td>
<td>125 sq.in.</td>
</tr>
<tr>
<td>150k</td>
<td>150 sq.in.</td>
</tr>
</tbody>
</table>

A. For construction w/ known air infiltration rate>0.40/hr.
B. Req’d opening between confined space (<50 cu.ft. per kBtu’s) & unconfined space.
C. Ex: sq. ft. for 8 ft. ceiling – use actual room volume.
GAS APPLIANCE VENTING

The most common forms of gas appliances, such as water heaters, have traditionally used a “gravity” vent system, where combustion gases are lighter than the surrounding air and therefore rise by gravity to the outdoors. As appliances are becoming more efficient, other types of venting systems are being used, as shown in T37. The type of vent should match the appliance category and the manufacturer’s recommendations. The venting tables that are supplied by the manufacturer and shipped with gas appliances must be used in vent systems that include induced draft appliances.

### Table 37: APPLIANCE VENTING CATEGORIES

<table>
<thead>
<tr>
<th>Category</th>
<th>Condensation</th>
<th>Static Pressure</th>
<th>Typical vent</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>No</td>
<td>Non-positive</td>
<td>B Vent</td>
</tr>
<tr>
<td>II</td>
<td>Yes</td>
<td>Non-positive</td>
<td>Per manu</td>
</tr>
<tr>
<td>III</td>
<td>No</td>
<td>Positive</td>
<td>Stainless</td>
</tr>
<tr>
<td>IV</td>
<td>Yes</td>
<td>Positive</td>
<td>Plastic</td>
</tr>
</tbody>
</table>

### Table 38: TYPE OF VENTING SYSTEM TO BE USED (T2427.4) (T8-1)

<table>
<thead>
<tr>
<th>Appliances</th>
<th>Type of Vent</th>
<th>IRC</th>
<th>UMC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listed Cat. I</td>
<td>Type B gas vent</td>
<td>2427.6</td>
<td>802.6</td>
</tr>
<tr>
<td>Listed appliances w/ draft hoods</td>
<td>Chimney</td>
<td>2427.5</td>
<td>802.5</td>
</tr>
<tr>
<td>Listed chimney lining for gas</td>
<td>Single-wall metal pipe</td>
<td>2427.7</td>
<td>Ø</td>
</tr>
<tr>
<td>Cat. II, III &amp; IV appliances</td>
<td>Special vent listed for appliance</td>
<td>24274.2</td>
<td>802.4.3</td>
</tr>
<tr>
<td>Unlisted appliances</td>
<td>Chimney</td>
<td>24275</td>
<td>802.5</td>
</tr>
<tr>
<td>Decorative appliances in vented fireplaces</td>
<td>Chimney</td>
<td>24275</td>
<td>907.2</td>
</tr>
<tr>
<td>Direct-vent appliances</td>
<td>As specified by manu.</td>
<td>24272.1</td>
<td>802.2.5</td>
</tr>
<tr>
<td>Appliances w/ integral vent</td>
<td>As specified by manu.</td>
<td>24272.2</td>
<td>802.2.6</td>
</tr>
</tbody>
</table>

**Single-Wall Vents**

- Not allowed in dwellings [2427.7.4] (n/a) [802.7.4.1]^a
- Only for runs from appliance space directly to outside [24277.4] (n/a)
- May not originate in attic or pass through inside wall [24277.6] (n/a)
- Min 6in clear to combustible for single wall pipe [24277.8] (n/a)
- Terminations min 2ft above roof [24277.3] (n/a)
- Minimum 2ft higher than building with 10ft [24277.3] (n/a)
- Not allowed outdoors in cold (freezing) climates [24277.7] (n/a)

**Vent Size Using Manufacturer's Tables**

- Tables can be used for all Category I appliances [24276.8.1] (802.6.3.1)
- Required to be used if appliance is induced draft [24277.10.3.1] (802.10.3.1)
- Connector not >2 sizes larger than flue collar [24228.2.11] (803.1.10)
- When vertical vent > than connector, use vertical diameter to determine table min & connector diameter for table max [24282.8] (803.1.7)

**Use double-wall vent tables only for vents not exposed to outdoors below the roof line** (B vent in vented chase insulated to R-8 or in unused masonry chimney flue not considered outdoors) [24282.9] (803.1.8.1)

- Zero lateral values only if straight vent connects directly to top outlet draft hood or flue collar [24282.4] (803.1.3)
- No elbows if using “zero lateral length” part of table [24282.3] (803.1.2)
- Vent tables w/ lateral length allow for 2-90° elbows [24282.3] (803.1.2)
- Reduce table capacity 5% each elbow up to 45° & 10% each elbow >45° up to 90° [24282.3] (803.1.2)

**Multipurpose Vents in Common**

- Tables req’d to be used if induced draft included [242710.3.1] (802.10.3.1)
- Connect multiple connectors as high as possible per available headroom & clearance F96 [242710.3.4] (802.10.3.4)
- Connect smaller above larger EXC F96 [242710.4] (802.10.4.1)
- OK if both at same level if max 45° from vertical [242710.4.1] (802.10.4.1)
- If both appliances have draft hoods, OK to size vent for 100% of larger + 50% of smaller [242710.3.4] (802.10.3.4)

**Forced Vents (Category IV)**

- All mechanical draft systems L&L & installed AMI [24273.3] (802.3.4.1.1)
- Forced draft system must be gas tight [24273.3] (802.3.4.3)
- No natural & forced-vent to common flue [24273.3] (802.3.4.4)
- Terminate min 7ft above ground where adjacent to public walkways [24273.3] (802.3.4.6)
- Minimum 3ft above forced air inlets within 10ft [24278] (802.8.1)
- Minimum 3ft to side or below or 1ft above building openings, min 1ft above ground level EXC [24278] (802.8.2.1)
- Terminal can be the same as direct vent [p.35] if AMI [24278] (802.8.1.2)
- Collect & dispose of condensate from vent (see p.29) [24278] (802.9)

---

**FIG. 96:**

- Smaller appliance connects vent above larger connector.
- Openings into vent at same level min. 45° from horizontal
- Smaller appliance connector as high as possible per available headroom before offsetting horizontally
Electric Heat

Electric resistance heating can be in the form of central forced-air furnaces, baseboard heaters, radiant ceiling panels, duct heaters, and even exotic systems such as electric heat in ceramic tile bath floors. The wiring for electric heating must be sized to 125% of the load to assure that it does not also become a heater.

General 09 IRC 11 NEC
- Circuits considered continuous load [3702.10] (424.3B)
- Circuits for continuous loads must be sized to 125% of load [3701.3] (210.2A)
- All electric heating equipment must be L&L [3403.3] (424.6)
- Factory-applied nameplates must include: [1303.1] (424.6)
  - Label with manu name, model & serial number
  - Operating & maintenance instructions or publication number of manual
  - Rating in volts, amperes, or watts, no. of phases if >1
  - Req’d clearances from combustibles

Central Electric Heat 09 IRC 11 NEC
- Disconnect in sight of equipment unless breaker capable of being locked in OFF position [4101.5] (424.19)
- Locking means must remain with or without lock installed [T4101.5] (424.19)

Baseboard Heaters 09 IRC 11 NEC
- Must be L&L and installed AMI [3403.3] (424.6)
- Branch circuits for 2 or more units can be 15, 20, 25, or 30 amperes [3702.10] (210.3)
- No receptacles above heaters: integral receptacles with heaters can substitute for req’d receptacles in rooms F108 [1405.1] (424.9)

Electric Radiant Heat Systems 09 IRC 11 NEC
- Install AMI [1406.1] (424.93A1)
- Install panels parallel to framing [1406.3] (424.93B2)
- Fasteners >4in from heating element [1406.3] (424.93B3)
- Min 8in distance from surface-mounted fixture boxes [n/a] (424.93A3)
- Min 2in distance from recessed fixtures & trim [n/a] (424.93A3)
- No field modification of panels unless so listed [1406.3] (424.93B4)
- Wiring above heated ceiling min 2in clearance [n/a] (424.94)
- Wiring above heated ceiling considered as 50°C ambient unless over 2in thermal insulation [n/a] (424.94)

Electric Duct Heaters 09 IRC 11 NEC
- Install AMI [1407.1] (424.66)
- If used in system with AC, must be L&L for same [1407.1] (424.62)
- If <4ft from heat pump/air-conditioning, both must be listed for such clearances [1407.3] (424.61)
- Install w/ manu recommended clearance from Class 1 ducts unless L&L for direct connection [1407.2] (424.66)
- Lockable breaker req’d or disconnect within sight [4101.5] (424.65)
- Each unit req’s integral limit controls & manual reset [1407.1] (424.64)
- Must be accessible for servicing [1407.4] (424.66)
- Interlock req’d to prevent heat if fan not operating [1407.5] (424.63)

Heating Cables in Concrete or Masonry Floors 11 NEC
- Min 1in spacing between cables [424.44B]
- Leads protected where leaving floor [424.44E&F]
- GFCI protection req’d for cables in bathroom floors [424.44B]
- Secure in place while concrete or other finish applied [424.44C]
- Inspection & approval req’d before covering [424.44G]

Clothes Dryers

Electric Clothes Dryer Exhaust 09 IRC 09 UMC
- L&L ductless (condensing) dryers OK per L&L [1502.2X] (n/a)
- Closet installation req’s make-up air opening min 100sq.in [n/a] (504.3.2)
- Flexible transition ducts L&L & single piece [1502.4.3] (504.3.2.1X)
- Connectors not concealed & max 8ft (6ft UMC) F1009 [1502.4.3] (504.3.2.1X)
- Duct smooth metal, no screws in air flow F109 [1502.4.2] (504.3.2.1)
- Support & secure to max 4ft intervals [1502.4.2] (n/a)
- Duct min 4in diameter [1502.4.1] (504.3.2)
- IRC: Max length AMI or 25ft minus bends per T41 [1502.4.4] (n/a)
- UMC: Max length 14ft minus 2ft each 90° turn more than 2 [n/a] (504.3.2.2)
- No mixing w/ or passage through other systems [1502.1] (504.3.1)
- Min 3ft from other building openings [1502.3] (n/a)
- Length of concealed duct on tag ≤6ft of connection [1502.5.4] (n/a)
- Shield plates <11/4in from framing surface F109 [1502.5.4] (n/a)

UMC length 14 ft., up to 2 90° bends, deduct 2 ft. for each additional 90°

IRC length 25 ft. for electric, 35 ft. for gas or AMI

Backdraft Damper

End outside & no screens

Ducts for bends T41

Flexible transition ducts L&L & single piece

Dryers with specific manu instructions are allowed longer lengths than otherwise permitted by code.

Dryer Exhaust

If duct length based on manu instructions, copy must be provided to AHJ & duct must be inspected.

The Consumer Product Safety Commission (CPSC) estimates that up to 16,000 home fires a year originate at clothes dryers. Common causes of these fires are lint buildup from improperly installed or maintained exhaust ducts. Screws should not penetrate to the interior of the duct as they accumulate lint which leads to blockage.

TABLE 41

<table>
<thead>
<tr>
<th>Fitting Radius</th>
<th>Equivalent Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>45° Elbow</td>
<td>5 ft.</td>
</tr>
<tr>
<td>6 in. smooth</td>
<td>1 ft.</td>
</tr>
<tr>
<td>8 in. smooth</td>
<td>1 ft.</td>
</tr>
<tr>
<td>10 in. smooth</td>
<td>9 in.</td>
</tr>
</tbody>
</table>

Gas Clothes Dryer Exhaust

- Closet req’s make-up air opening [min 100sq.in IRC] [2439.4] (905.3A)
- Flexible transition ducts (connectors) L&L & single piece [2439.5.4] (905.4C)
- Connectors not concealed & max 8ft in IRC F109 [2439.5.4] (905.4C)
- Duct smooth metal, no screws in air flow F109 [2439.5.1] (905.4B)
- Support intervals max 4ft spacing [2439.5.2] (n/a)
- Duct min 4in diameter [2439.5.1] (n/a)
- Max 35ft minus bends per T41 or AMI F109 [2439.5.1] (n/a)
- No mixing w/ or passage through other systems [2439.1] (905.4A)
- End outside in backdraft damper & no screens F110 [1502.3] (504.3.1)
- Shield plates <11/4in from framing surface F109 [1502.5.4] (n/a)
- Length of concealed duct on tag ≤6ft of connection [2439.6.4] (n/a)

Common causes of these fires are lint buildup from improperly installed or maintained exhaust ducts. Screws should not penetrate to the interior of the duct as they accumulate lint which leads to blockage.