

2021 International Mechanical Code
Subsection 506.3.2.5 amended to read as follows

506.3.2.5 Grease duct test.

Prior to the use or concealment of any portion of a grease duct system, a leakage test shall be performed. Ducts shall be considered to be concealed where installed in shafts or covered by coatings or wraps that prevent the ductwork from being visually inspected on all sides. The permit holder shall be responsible for providing the necessary equipment and performing the grease duct leakage test. A duct leakage test, in accordance with this section, shall be performed for the entire duct system, including the hood-to-duct connection. The duct work shall be permitted to be tested in sections, provided that every joint is tested. To determine the tightness of the grease duct construction, a smoke test shall be made in accordance with the following conditions and requirements:

1. The test shall be performed in the presence of the special inspector.
2. The grease duct shall be filled with a thick penetrating smoke produced by one or more smoke machines, or smoke bombs. The test shall be applied for a length of time sufficient to permit the inspection of the grease duct.
3. If the test shows any evidence of leakage or other defects, such defects shall be corrected in accordance with the requirements of this chapter, and the test shall be repeated until there is no visible smoke observed.

THIS AMENDMENT CALLS OUT THE USE OF SMOKE BOMBS/DEVICES FOR THE TESTING OF GREASE DUCT SYSTEMS INSTEAD OF A LIGHT TEST

2021 International Residential Code
Table E3803.1 shall be amended to read as follows

TABLE E3803.1 (Table 300.5)
MINIMUM COVER REQUIREMENTS, BURIAL IN INCHES^{a, b, c, d, e, h}

LOCATION OF WIRING METHOD OR CIRCUIT	TYPE OF WIRING METHOD OR CIRCUIT				
	1 Direct burial cables or conductors (All direct buried cables/conductors shall be installed in an approved conduit or raceway)	2 Rigid metal conduit or intermediate metal conduit	3 Nonmetallic raceways listed for direct burial without concrete encasement or other approved raceways	4 Residential branch circuits rated 120 volts or less with GFCI protection and maximum overcurrent protection of 20 amperes	5 Circuits for control of irrigation and landscape lighting limited to not more than 30 volts and installed with Type UF or in other identified cable or raceway
All locations not specified below	24 ^h	6	18	12	6 ^{f, g}
In trench below 2-inch-thick concrete or equivalent	18 ^h	6	12	6	6
Under a building	0 (In raceway only or	0	0	0 (In raceway only or Type MC	0 (In raceway only or Type MC

	Type MC identified for direct burial)			identified for direct burial)	identified for direct burial)
Under minimum of 4-inch-thick concrete exterior slab with no vehicular traffic and the slab extending not less than 6 inches beyond the underground installation	18 h	4	4	6 (Direct burial) 4 (In raceway)	6 (Direct burial) 4 (In raceway)
Under streets, highways, roads, alleys, driveways and parking lots	24 h	24	24	24	24
One- and two-family dwelling driveways and outdoor parking areas, and used only for dwelling-related purposes	18 h	18	18	12	18
In solid rock where covered by minimum of 2 inches concrete extending down to rock	2 (In raceway only)	2	2	2 (In raceway only)	2 (In raceway only)

For SI: 1 inch = 25.4 mm.

A. Raceways approved for burial only where encased concrete shall require concrete envelope not less than 2 inches thick.

B. Lesser depths shall be permitted where cables and conductors rise for terminations or splices or where access is otherwise required.

C. Where one of the wiring method types listed in columns 1 to 3 is combined with one of the circuit types in columns 4 and 5, the shallower depth of burial shall be permitted.

D. Where solid rock prevents compliance with the cover depths specified in this table, the wiring shall be installed in metal or nonmetallic raceway permitted for direct burial. The raceways shall be covered by a minimum of 2 inches of concrete extending down to the rock.

E. Cover is defined as the shortest distance in inches (millimeters) measured between a point on the top surface of any direct-buried conductor, cable, conduit or other raceway and the top surface of finished grade, concrete, or similar cover.

F. A lesser depth shall be permitted where specified in the installation instructions of a listed low-voltage lighting system.

G. A depth of 6 inches shall be permitted for pool, spa, and fountain lighting that is installed in a nonmetallic raceway, limited to not more than 30 volts and part of a listed low-voltage lighting system.

H. Direct buried cables for shall be installed in an approved conduit or raceway.

2020 National Electrical Code -NFPA 70 Subsection 230.30 (B) shall be amended to read as follows

B) Wiring Methods.

Underground service conductors shall be installed in accordance with the applicable requirements of this Code covering the type of wiring method used and shall be limited to the following methods:

- (1) RMC conduit
- (2) IMC conduit
- (3) Type NUCC conduit
- (4) HDPE conduit
- (5) PVC conduit
- (6) RTRC conduit
- (7) Type IGS cable
- (8) Type USE conductors or cables
- (9) Type MV or Type MC cable identified for direct burial applications
- (10) Type MI cable where suitably protected against physical damage and corrosive conditions
- (11) Type TC-ER cable where identified for service entrance use and direct burial applications

NOTE: All direct buried cables and conductors shall be installed in an approved conduit or raceway.

2020 National Electrical Code -NFPA 70
Table 300.5(A) shall be amended to read as follows

Table 300.5(A) Minimum Cover Requirements, 0 to 1000 Volts ac, 1500 Volts dc, Nominal, Burial in Millimeters (Inches)

Location of Wiring Method or Circuit	Type of Wiring Method or Circuit									
	Column 1 Direct Burial Cables or Conductors (All Direct Burial Cables or Conductors shall be installed in an approved conduit or raceway)		Column 2 Rigid Metal Conduit or Intermediate Metal Conduit		Column 3 Electrical Metallic Tubing, Nonmetallic Raceways Listed for Direct Burial Without Concrete Encasement, or Other Approved Raceways		Column 4 Residential Branch Circuits Rated 120 Volts or Less with GFCI Protection and Maximum Overcurrent Protection of 20 Amperes		Column 5 Circuits for Control of Irrigation and Landscape Lighting Limited to Not More Than 30 Volts and Installed with Type UF or in Other Identified Cable or Raceway	
	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.
All locations not specified below	600	24	150	6	450	18	300	12	150 ^{1,2}	6 ^{1,2}
In trench below 50 mm (2 in.) thick concrete or equivalent	450	18	150	6	300	12	150	6	150	6
Under a building	0	0	0	0	0	0	0	0	0	0
	(in raceway or Type MC or Type MI cable identified for direct burial)						(in raceway or Type MC or Type MI cable identified for direct burial)		(in raceway or Type MC or Type MI cable identified for direct burial)	
Under minimum of 102 mm (4 in.) thick concrete exterior slab with no vehicular traffic and the slab extending not less than 152 mm (6 in.) beyond the underground installation	450	18	100	4	100	4	150 (direct burial) 100 (in raceway)	6 4	150 (direct burial) 100 (in raceway)	6 4
Under streets, highways, roads, alleys, driveways, and parking lots	600	24	600	24	600	24	600	24	600	24
One- and two-family dwelling driveways and outdoor parking areas, and used only for dwelling-related purposes	450	18	450	18	450	18	300	12	450	18
In or under airport runways, including adjacent areas where trespassing is prohibited	450	18	450	18	450	18	450	18	450	18

¹ A lesser depth shall be permitted where specified in the installation instructions of a listed low-voltage lighting system.

² A depth of 150 mm (6 in.) shall be permitted for pool, spa, and fountain lighting, installed in a nonmetallic raceway, limited to not more than 30 volts where part of a listed low-voltage lighting system.

Notes:

- Cover shall be defined as the shortest distance in mm (in.) measured between a point on the top surface of any direct-buried conductor, cable, conduit, or other raceway and the top surface of finished grade, concrete, or similar cover.
- Raceways approved for burial only where concrete encased shall require a concrete envelope not less than 50 mm (2 in.) thick.
- Lesser depths shall be permitted where cables and conductors rise for terminations or splices or where access is otherwise required.
- Where one of the wiring method types listed in Columns 1 through 3 is used for one of the circuit types in Columns 4 and 5, the shallowest depth of burial shall be permitted.
- Where solid rock prevents compliance with the cover depths specified in this table, the wiring shall be installed in a metal raceway, or a nonmetallic raceway permitted for direct burial. The raceways shall be covered by a minimum of 50 mm (2 in.) of concrete extending down to rock.

THESE AMENDMENTS TO THE IRC AND NEC REQUIRE ALL DIRECT BURIED CABLES AND CONDUCTORS TO BE INSTALLED IN AN APPROVED CONDUIT OR RACEWAY

2021 International Residential Code
Subsection G2417.4(406.4) shall be amended to read as follows

G2417.4(406.4) Test pressure measurement.

Test pressure shall be measured with a manometer or with a pressure-measuring device designed and calibrated to read, record, or indicate a pressure loss caused by leakage during the *pressure test* period. **Spring type test gauges are not permitted.** The source of pressure shall be isolated before the *pressure tests* are made. Mechanical gauges used to measure test pressures shall have a range such that the highest end of the scale is not greater than five times the test pressure.

2021 International Fuel Gas Code
Subsection 406.4 shall be amended to read as follows

406.4 Test pressure measurement.

Test pressure shall be measured with a manometer or with a pressure-measuring device designed and calibrated to read, record or indicate a pressure loss caused by leakage during the pressure test period. **Spring type test gauges are not permitted.** The source of pressure shall be isolated before the pressure tests are made. Mechanical gauges used to measure test pressures shall have a range such that the highest end of the scale is not greater than five times the test pressure.

THESE AMENDMENTS TO THE IRC AND IFGC CALL OUT THE USE OF DIAPHRAGM TYPE GAUGES, AND PROHIBIT THE USE OF SPRING GAUGES

2021 International Residential Code
Subsection R315.2.2 shall be amended to read as follows:

R315.2.2 Alterations, repairs and additions.

Where *alterations, repairs* or *additions* requiring a *permit* occur, the individual *dwelling unit* shall be equipped with carbon monoxide alarms located as required for new *dwellings*.

Exceptions:

1. Work involving the exterior surfaces of *dwellings*, such as the replacement of roofing or siding, or the addition or replacement of windows or doors, or the addition of a porch or deck.
- 2. Installation, alteration or repairs of plumbing systems that are not fuel fired.**
3. Installation, alteration, or repairs of mechanical systems that are not fuel fired.

Permanently installed lighting fixtures shall be controlled with either a dimmer, an occupant sensor control or other control that is installed or built into the fixture.

Exception: Lighting controls shall not be required for the following:

1. Bathrooms.
2. Hallways.
3. Exterior lighting fixtures.
4. Lighting designed for safety or security.

R404.3 Exterior lighting controls.

Where the total permanently installed exterior lighting power is greater than 30 watts, the permanently installed exterior lighting shall comply with the following:

1. Lighting shall be controlled by a manual on and off switch which permits automatic shut-off actions.

Exception: Lighting serving multiple dwelling units.

2. Lighting shall be automatically shut off when daylight is present and satisfies the lighting needs.
3. Controls that override automatic shut-off actions shall not be allowed unless the override automatically returns automatic control to its normal operation within 24 hours.

THIS AMENDMENT ADDS THE REQUIREMENT OF INSTALLING A CARBON MONOXIDE ALARM WHEN INSTALLING, ALTERING OR REPAIRING PLUMBING SYSTEMS WHEN THEY ARE FUEL FIRED. (EXAMPLE: FUEL FIRED WATER HEATERS)

2021 International Residential Code Subsection P2801.6.1 shall be amended to read as follows

P2801.6.1 Pan size and drain.

The pan shall be not less than 1 1/2 inches (38 mm) deep and shall be of sufficient size and shape to receive dripping or condensate from the tank or water heater. The pan shall be drained by an indirect waste pipe of not less than 3/4-inch (19 mm) diameter. Piping for safety pan drains shall be of those materials indicated in Table P2906.5.

Where a pan drain was not previously installed, a pan drain shall not be required for a replacement water heater installation if a water leak detection device with an audible alarm is installed inside the pan.

THIS AMENDMENT ADD THE REQUIREMENT OF AN AUDIBLE LEAK DETECTION DEVICE INSIDE THE PAN FOR REPLACEMENT OF A WATER HEATER THAT DOES NOT HAVE A PAN DRAIN.

2021 International Plumbing Code Subsection 504.7.2 shall be amended to read as follows

504.7.2 Pan drain termination.

The pan drain shall extend full size and terminate over a suitably located indirect waste receptor or floor drain or extend to the exterior of the building and terminate not less than 6 inches (152 mm) and not more than 24 inches (610 mm) above the adjacent ground surface. Where a pan drain was not previously installed, a pan drain shall not be required for a replacement water heater installation if a water leak detection device with an audible alarm is installed inside the pan.

THIS AMENDMENT ADD THE REQUIREMENT OF AN AUDIBLE LEAK DETECTION DEVICE INSIDE THE PAN FOR REPLACEMENT OF A WATER HEATER THAT DOES NOT HAVE A PAN DRAIN.