N **(2) Liquidtight Flexible Metal Conduit.** Liquidtight flexible metal conduit shall comply with 506.30(B)(2)(a) and (B)(2)(b).

(a) Liquidtight flexible metal conduit shall include an equipment bonding jumper of the wire type in accordance with 250.102.

(b) In Zone 22 locations, the bonding jumper shall not be required where all of the following conditions are met:

(1) Listed liquidtight flexible metal conduit 1.8 m (6 ft) or less in length, with fittings listed for grounding, is used.
(2) Overcurrent protection in the circuit is limited to 10 amperes or less.
(3) The load is part of a meter, instrument, or relay circuit.

ARTICLE

Δ 511 Commercial Garages, Repair and Storage

Δ **511.1 Scope.** These occupancies shall include locations used for service and repair operations in connection with self-propelled vehicles (including, but not limited to, passenger automobiles, buses, trucks, and tractors) in which volatile flammable liquids or flammable gases are used for fuel or power.

Informational Note: See NFPA 30A-2021, *Code for Motor Fuel Dispensing Facilities and Repair Garages*, for extracted text that is followed by a reference in brackets. Only editorial changes were made to the extracted text to make it consistent with this *Code*.

Article 100 defines *garage* as "a building or portion of a building in which one or more self-propelled vehicles can be kept for use, sale, storage, rental, repair, exhibition, or demonstration purposes." Article 511 applies to commercial garages in which the primary operation is the service and repair of self-propelled vehicles that use flammable gases or liquids for fuel. Garages are further defined in Article 100 as either a major repair garage or minor repair garage. Service operations in which minor repairs, such as oil changes, occur are covered under the requirements of this article.

The requirements of Article 511 mitigate the potential for an ignition-capable arc or spark from electrical wiring or equipment used in or above hazardous locations.

See also

511.3 and its associated commentary for area classification of garages

555.12, which requires that the repair facilities for boats and other marine craft comply with the requirements of Article 511

N **511.2 Other Articles.** In addition to the requirements of this article, these occupancies shall comply with Table 511.2, as applicable, except as modified by this article.

N *TABLE 511.2 Other Articles*

Requirement	Division Classified Locations	Zone Classified Locations
Area classification	500.5, 500.6	505.5, 505.6, 505.7
Equipment	Part III of 501, 500.7, 500.8, 501.5	505.8, 505.9, 505.20, 505.22
Wiring	Part II of 501	505.15, 505.16, 505.17, 505.18, 505.19, 505.26, 505.30

511.3 Area Classification, General. Where Class I liquids or gaseous fuels are stored, handled, or transferred, electrical wiring and electrical utilization equipment shall be designed in accordance with the requirements for Class I, Division 1 or 2 hazardous (classified) locations as classified in accordance with 500.5 and 500.6, and this article. A Class I location shall not extend beyond an unpierced wall, roof, or other solid partition that has no openings. [**30A:**8.3.1, 8.3.3]

Where the term "Class I" is used with respect to Zone classifications within this article of the *Code*, it shall apply to Zone 0, Zone 1, and Zone 2 designations.

Informational Note: The term "Class I" was originally included as a prefix to Zone 0, Zone 1, and Zone 2 locations and references as an identifier for flammable gases, vapors, or liquids to differentiate from Class II and Class III locations. Zone 0, Zone 1, and Zone 2 only apply to flammable gases, vapors, or liquids so the "Class I" prefix is redundant and has been deleted, except for text that is extracted from other documents or to remain consistent throughout this article.

The classification of areas in a garage is dependent upon the level of repair (major or minor) being conducted and the handling of flammable liquids or gaseous fuels other than for dispensing purposes. As stated in 511.3(B), the classification of dispensing areas in a repair garage is addressed in Article 514.

The term *transferred* is used in determining the requirements for classifying locations where a significant quantity of flammable or gaseous liquids is exposed to the atmosphere by a motor vehicle repair operation (e.g., major engine overhauls or repairs that require draining of the motor vehicle fuel tank). Minor repair garages, by definition, are not permitted to conduct such types of repair operations involving the transfer of flammable or gaseous liquids.

The term *Class I liquids* refers to *flammable liquids* as defined in NFPA 30, *Flammable and Combustible Liquids Code*, which are liquids with a flash point below 100°F (38°C). Gasoline is a common Class I liquid, whereas diesel fuel, with a flash point above 100°F, is classified as a Class II combustible liquid. The use of Class I, Class II, and Class III in NFPA 30 for the classification of liquids has no direct correlation to the use of Class I, Class II, and Class III in the *NEC*® to designate hazardous locations.

The need to establish hazardous locations can be mitigated through the use of mechanical ventilation that meets the specified air exchange parameters. The *NEC* indicates different classification areas dependent on whether or not ventilation is provided. Where it is determined that hazardous locations exist within a commercial garage, all applicable requirements of Article 501 for installing wiring and equipment in Class I, Division 1 and 2 locations must be followed.