

**NFPA 70®-2020 Edition**  
**National Electrical Code®**  
**TIA Log No.: 1520**

**Reference:** Article 100, Part III, and various sections in Articles 500, 503, and 506

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**Submitter:** Michael W. Smith, K & F Electric Inc.

[www.nfpa.org/70](http://www.nfpa.org/70)

*1. Revise Article 100, Part III to include Combustible Fibers/Flyings and Ignitable Fibers/Flyings to read as follows:*

**Part III. Hazardous (Classified) Locations (CMP-14).**

...

**Combustible Fibers/Flyings.** Fibers/flyings, where any dimension is greater than 500 µm in nominal size, which can form an explosible mixture when suspended in air at standard atmospheric pressure and temperature. [499:3.3.4.1]

Informational Note No.1: This definition and Informational Notes No. 2 and 3 have been extracted from NFPA 499-2021, *Recommended Practice for the Classification of Combustible Dusts and of Hazardous (Classified) Locations for Electrical Installations in Chemical Process Areas*. The NFPA 499 reference is in brackets. Only editorial changes were made to the extracted text to make it consistent with this Code.

Informational Note No. 2: Section 500.5(D) of this Code prescribes a Class III location. Combustible fibers/flyings can be similar in physical form to ignitable fibers/flyings and protected using the same electrical equipment installation methods. Examples of fibers/flyings include flat platelet-shaped particulate, such as metal flake, and fibrous particulate, such as particle board core material. If the smallest dimension of a combustible material is greater than 500 µm, it is unlikely that the material would be combustible fibers/flyings, as determined by test. Finely divided solids with lengths that are large compared to their diameter or thickness usually do not pass through a 500 µm sieve, yet when tested could potentially be determined to be explosible. [499:A.3.3.4.1]

Informational Note No. 3: The typical test methods for evaluating an explosive mixture are ASTM E1226-2012a, *Standard Test Method for Explosibility of Dust Clouds*, ISO 6184-1-1985 (2005), *Explosion protection systems — Part 1: Determination of explosion indices of combustible dusts in air*, or ISO/IEC/UL 80079-20-2-2016, *Explosive atmospheres — Part 20-2: Material characteristics — Combustible dusts test methods*, for procedures for determining the explosibility of dusts. A material that is found to not present an explosive mixture hazard could still be an ignitable fiber/flying, as defined in this article. Historically, the explosibility condition has been described as presenting a flash fire or explosion hazard. It could be understood that the potential hazard due to the formation of an explosive mixture when suspended in air at standard atmospheric pressure and temperature would include ignition. [499:A.3.3.4.1]

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**Ignitable Fibers/Flyings.** Fibers/flyings where any dimension is greater than 500 µm in nominal size, which are not likely to be in suspension in quantities to produce an explosive mixture, but could produce an ignitable layer fire hazard. [499:3.3.4.2]

Informational Note No.1: This definition and Informational Note No. 2 have been extracted from NFPA 499-2021, *Recommended Practice for the Classification of*

Combustible Dusts and of Hazardous (Classified) Locations for Electrical Installations in Chemical Process Areas. The NFPA 499 reference is in brackets. Only editorial changes were made to the extracted text to make it consistent with this Code.

Informational Note No. 2: Section 500.5 of this Code prescribes a Class III location as one where ignitable fibers/flyings are present, but not likely to be in suspension in the air in quantities sufficient to produce ignitable mixtures. This description addresses fibers/flyings that do not present a flash-fire hazard or explosion hazard by test. This could be because those fibers/flyings are too large or too agglomerated to be suspended in air in sufficient concentration, or at all, under typical test conditions. Alternatively, this could be because they burn so slowly that, when suspended in air, they do not propagate combustion at any concentration. The zone classification system does not address ignitable fibers/flyings.

Where these are present, the user should consider installation in accordance with Article 503 of this Code. [499:A.3.3.4.2]

2. Revise Section 500.5(D) to read as follows:

**500.5(D) Class III Locations.** Class III locations are those that are hazardous because of the presence of easily ignitable fibers or where materials producing combustible flyings are handled, manufactured, or used, but in which such fibers/flyings are not likely to be in suspension in the air in quantities sufficient to produce ignitable mixtures. Class III locations shall include those specified in 500.5(D)(1) and (D)(2). Class III locations shall be locations meeting the requirements of 500.5(D)(1) and (D)(2).

**(1) Class III, Division 1.**

A Class III, Division 1 location is a location in which easily ignitable fibers/flyings are handled, manufactured, or used. Class III, Division 1 locations shall include those locations specified in 500.5(D)(1)(a) and (D)(1)(b).

(a) Combustible Fibers/Flyings. Locations where nonmetal combustible fibers/flyings are in the air under normal operating conditions in quantities sufficient to produce explosible mixtures or where mechanical failure or abnormal operation of machinery or equipment might cause combustible fibers/flyings to be produced and might also provide a source of ignition through simultaneous failure of electrical equipment, through operation of protection devices, or from other causes shall be classified as Class III, Division 1.

Locations where metal combustible fibers/flyings are present shall be classified as Class II, Division 1, Group E.

Informational Note No. 1: Such locations usually include some parts of rayon, cotton, and other textile mills; ~~combustible fibers/flyings associated~~ manufacturing and processing plants; cotton gins and cotton-seed mills; flax-processing plants; clothing manufacturing plants; woodworking plants; and establishments and industries involving similar hazardous processes or conditions.

Informational Note No. 2: Combustible fibers/flyings include flat platelet-shaped particulate such as metal flake and fibrous board such as particle board.

(b) Ignitable Fibers/Flyings. Locations where ignitable fibers/flyings are handled, manufactured, or used shall be classified as Class III, Division 1.

Informational Note No. 1: Such locations usually include some parts of rayon, cotton, and other textile mills; ~~combustible fibers/flyings associated~~ manufacturing and processing plants; cotton gins and cotton-seed mills; flax-processing plants; clothing manufacturing

plants; woodworking plants; and establishments and industries involving similar hazardous processes or conditions.

Informational Note No. 2: ~~Easily ignitable fibers/flyings~~ can include rayon, cotton (including cotton linters and cotton waste), sisal or henequen, istle, jute, hemp, tow, cocoa fiber, oakum, baled waste kapok, Spanish moss, excelsior, and other materials of similar nature.

**(2) Class III, Division 2.**

~~A Class III, Division 2 location is a location in which easily ignitable fibers/flyings are stored or handled other than in the process of manufacture.~~ Class III, Division 2 locations shall include those locations specified in 500.5(D)(2)(a) and (D)(2)(b).

(a) *Combustible Fibers/Flyings.* Locations where nonmetal combustible fibers/flyings might be present in the air in quantities sufficient to produce explosible mixtures due to abnormal operations or where accumulations of nonmetal combustible fibers/flyings accumulations are present but are insufficient to interfere with the normal operation of electrical equipment or other apparatus but could, as a result of infrequent malfunctioning of handling or processing equipment, become suspended in the air shall be classified as Class III, Division 2.

(b) *Ignitable Fibers/Flyings.* Locations where ignitable fibers/flyings are stored or handled, other than in the process of manufacture, shall be classified as Class III, Division 2.

3. *Revise Section 500.6 to read as follows:*

**500.6 Materials Groups.**

~~For purposes of testing, approval, and area classification, various air mixtures (not oxygen enriched) shall be grouped in accordance with 500.6(A) and (B).~~

~~Exception: Equipment identified for a specific gas, vapor, dust, or fiber/flying.~~

~~Informational Note: This grouping is based on the characteristics of the materials.~~

~~Facilities are available for testing and identifying equipment for use in the various atmospheric groups.~~

**(A) Class I Group Classifications. ...**

**(B) Class II Combustible Dust Group Classifications.**

~~Class II groups shall be in accordance with 500.6(B)(1) through (B)(3).~~

Combustible dust shall be grouped in accordance with 500.6(B)(1) through (B)(3).

...

**(C) Class III Combustible Fibers/Flyings.** Combustible fibers/flyings shall not be further grouped.

**(D) Class III Ignitable Fibers/Flyings.** Ignitable fibers/flyings shall not be further grouped.

4. *Revise Section 500.8(D)(2) and (D)(3) to read as follows:*

**500.8(D) Temperature.**

**(1) Class I Temperature. ....**

**(2) Class II Temperature.** The temperature marking specified in 500.8(C) shall be less than the ignition temperature of the specific dust or metal fiber/flying to be encountered. For organic dusts that may dehydrate or carbonize, the temperature marking shall not exceed the lower of either the ignition temperature or 165°C (329°F).

Informational Note: See NFPA 499-2017-2021, *Recommended Practice for the*

*Classification of Combustible Dusts and of Hazardous (Classified) Locations for Electrical Installations in Chemical Process Areas*, for minimum ignition temperatures of specific dusts.

**(3) Class III Temperature.** The temperature marking specified in 500.8(C) shall be less than the ignition temperature of the specific fiber/flying to be encountered, except as specified in 500.8(D)(3)(a) or (D)(3)(b).

(a) For nonmetal combustible fibers/flyings that may dehydrate or carbonize, the temperature marking shall not exceed the lower of either the ignition temperature or 165°C (329°F).

(b) When ignitable fibers/flyings are present, the maximum surface temperatures under operating conditions shall not exceed 165°C (329°F) for equipment that is not subject to overloading and 120°C (248°F) for equipment (such as motors or power transformers) that could be overloaded.

5. *Revise Section 503.1 to read as follows:*

**503.1 Scope.** Article 503 covers the requirements for electrical and electronic equipment and wiring for all voltages in Class III, Division 1 and 2 locations where fire or explosion hazards may exist due to nonmetal combustible fibers/flyings or ignitable fibers/flyings.

6. *Revise Section 503.5 and 503.6 to read as follows:*

**503.5 General.** Equipment installed in Class III locations shall be able to function at full rating without developing surface temperatures high enough to cause excessive dehydration or gradual carbonization of accumulated fibers/flyings. ~~Organic material that is carbonized or excessively dry is highly susceptible to spontaneous ignition. The maximum surface temperatures under operating conditions shall not exceed 165°C (329°F) for equipment that is not subject to overloading, and 120°C (248°F) for equipment (such as motors or power transformers) that may be overloaded.~~

Informational Note No. 1: For electric trucks, see NFPA 505-2018, *Fire Safety Standard for Powered Industrial Trucks Including Type Designations, Areas of Use, Conversions, Maintenance, and Operations.*

Informational Note No. 2: Organic material that is carbonized or excessively dry is highly susceptible to spontaneous ignition.

**503.6 Zone Equipment.** Equipment listed and marked in accordance with 506.9(C)(2) for Zone 20 locations and with a temperature marking class of in accordance with 500.8(D)(3) not greater than T120°C (for equipment that may be overloaded) or not greater than T165°C (for equipment not subject to overloading) shall be permitted in Class III, Division 1 locations.

Equipment listed and marked in accordance with 506.9(C)(2) for Zone 20, 21, or 22 locations and with a temperature marking in accordance with 500.8(D)(3) class of not greater than T120°C (for equipment that may be overloaded) or not greater than T165°C (for equipment not subject to overloading) shall be permitted in Class III, Division 2 locations.

7. Revise Section 503.125 Exception to read as follows:

**503.125 Motors and Generators — Class III, Divisions 1 and 2.**

In Class III, Divisions 1 and 2 locations, motors, generators, and other rotating machinery shall be totally enclosed nonventilated, totally enclosed pipe ventilated, or totally enclosed fan cooled.

*Exception: In locations where, in the judgment of the authority having jurisdiction, only moderate accumulations of ~~lint or~~ ignitable fibers/flyings are likely to collect on, in, or in the vicinity of a rotating electrical machine and where such machine is readily accessible for routine cleaning and maintenance, one of the following shall be permitted:*

- (1) Self-cleaning textile motors of the squirrel-cage type
- (2) Standard open-type machines without sliding contacts, centrifugal or other types of switching mechanisms, including motor overload devices
- (3) Standard open-type machines having such contacts, switching mechanisms, or resistance devices enclosed within tight housings without ventilating or other openings

8. Revise Section 503.145 Exception to read as follows:

**503.145 Receptacles and Attachment Plugs — Class III, Divisions 1 and 2.**

Receptacles and attachment plugs shall be of the grounding type, shall be designed so as to minimize the accumulation or the entry of fibers/flyings, and shall prevent the escape of sparks or molten particles.

*Exception: In locations where, in the judgment of the authority having jurisdiction, only moderate accumulations of ~~lint or~~ ignitable fibers/flyings are likely to collect in the vicinity of a receptacle, and where such receptacle is readily accessible for routine cleaning, and mounted to minimize the entry of fibers/flyings, general-purpose grounding-type receptacles ~~mounted so as to minimize the entry of fibers/flyings~~ shall be permitted.*

9. Revise Section 506.1 to read as follows:

**506.1 Scope.** This article covers the requirements for the zone classification system as an alternative to the division classification system covered in Article 500, Article 502, and Article 503 for electrical and electronic equipment and wiring for all voltages in Zone 20, Zone 21, and Zone 22 hazardous (classified) locations where fire and explosion hazards may exist due to combustible dusts, ~~or~~ combustible fibers/flyings, or ignitable fibers/flyings.

This article does not cover area classification and general requirements for dusts for the division system as described in 500.1. This Code does not address the unique risk and explosion hazards associated with explosives, pyrotechnics, and blasting agents.

Informational Note No. 1: For the requirements for electrical and electronic equipment and wiring for all voltages in Class I, Division 1 or Division 2; Class II, Division 1 or Division 2; Class III, Division 1 or Division 2; Zone 0; Zone 1; or Zone 2 hazardous (classified) locations where fire or explosion hazards may exist due to flammable gases or vapors, flammable liquids, or combustible dusts or ignitable fibers/flyings, refer to Articles 500 through 505. See 505.20 or 505.22 for Zone 0, Zone 1, or Zone 2 hazardous (classified) locations where fire or explosion hazards may exist due to flammable gases or vapors or flammable liquids.

Informational Note No. 2: Zone 20, Zone 21, and Zone 22 area classifications are based

on the modified IEC area classification system as defined in ANSI/ISA 60079-10-2 (12.10.05)- 2013, *Explosive Atmospheres — Part 10-2: Classification of Areas — Combustible Dust Atmospheres*.

~~Informational Note No. 3: The unique hazards associated with explosives, pyrotechnics, and blasting agents are not addressed in this article.~~

Informational Note No. 34: NFPA 499-2017~~2021~~, *Recommended Practice for the Classification of Combustible Dusts and of Hazardous (Classified) Locations for Electrical Installations in Chemical Process Areas*, provides additional information for classification of hazardous (classified) locations using zone methodology.

10. Revise Section 506.5 to read as follows:

**506.5 Classification of Locations.**

**(A) Classifications of Locations.** Locations shall be classified on the basis of the properties of the combustible dust, ~~or ignitable-combustible fibers/flyings, or ignitable fibers/flyings~~ that may be present, and the likelihood that a combustible or ~~ignitable combustible~~ concentration or quantity is present. Each room, section, or area shall be considered individually in determining its classification. Where pyrophoric materials are the only materials used or handled, these locations are outside of the scope of this article.

**(B) Zone 20, Zone 21, and Zone 22 Locations.** Zone 20, Zone 21, and Zone 22 locations are those in which combustible-dust, ~~or ignitable-combustible fibers/flyings, or ignitable fibers/flyings~~ are or may be present in the air or in layers, in quantities sufficient to produce explosive or ignitable mixtures. Zone 20, Zone 21, and Zone 22 locations shall include those specified in 506.5(B)(1), (B)(2), and (B)(3).

Informational Note: Through the exercise of ingenuity in the layout of electrical installations for hazardous (classified) locations, it is frequently possible to locate much of the equipment in a reduced level of classification and, thus, to reduce the amount of special equipment required.

**(1) Zone 20.** A Zone 20 location is a location in which any of the following occur:

(1) Ignitable concentrations of combustible dust, ~~or ignitable-combustible fibers/flyings, or ignitable fibers/flyings~~ are present continuously ~~or for long periods of time~~.

(2) ~~Ignitable concentrations of combustible dust or ignitable fibers/flyings are present for long periods of time~~

~~Informational Note No. 1: As a guide to classification of Zone 20 locations, refer to ANSI/ISA 60079-10-2 (12.10.05)- 2013, *Explosive Atmospheres — Part 10-2: Classification of areas — Combustible dust atmospheres*.~~

~~Informational Note No. 2: Zone 20 classification includes locations inside dust containment systems; hoppers, silos, etc., cyclones and filters, dust transport systems, except some parts of belt and chain conveyors, etc.; blenders, mills, dryers, bagging equipment, etc.~~

~~(23)~~ Group IIIC combustible dusts are present in quantities sufficient to be hazardous continuously or for long periods of time.

**(2) Zone 21.** A Zone 21 location is a location where one of the following apply:

(1) Ignitable concentrations of combustible dust, ~~or ignitable-combustible fibers/flyings, or ignitable fibers/flyings~~ are likely to exist occasionally under normal operating conditions; or

(2) Ignitable concentrations of combustible dust, ~~or ignitable-combustible fibers/flyings, or ignitable fibers/flyings~~ may exist frequently because of repair or maintenance operations or because of leakage; or

(3) Equipment is operated or processes are carried on, of such a nature that equipment breakdown or faulty operations could result in the release of ignitable concentrations of combustible dust, ~~or ignitable combustible fibers/flyings, or ignitable fibers/flyings~~ and also cause simultaneous failure of electrical equipment in a mode to cause the electrical equipment to become a source of ignition; or

(4) The location is adjacent to a Zone 20 location from which ignitable concentrations of combustible dust, or ignitable combustible fibers/flyings, or ignitable fibers/flyings could be communicated.

*Exception: When communication from an adjacent Zone 20 location is minimized by adequate positive pressure ventilation from a source of clean air, and effective safeguards against ventilation failure are provided.*

(5) Group IIIC combustible dusts are present in quantities sufficient to be hazardous occasionally; under normal or abnormal operating conditions; or frequently because of repair or maintenance operations or because of leakage.

Informational Note No. 1: As a guide to classification of Zone 21 locations, refer to ANSI/ISA 60079-10-2 (12.10.05)-2013, *Explosive Atmospheres — Part 10-2: Classification of areas — Combustible dust atmospheres*.

Informational Note No. 2: This classification usually includes locations outside dust containment and in the immediate vicinity of access doors subject to frequent removal or opening for operation purposes when internal combustible mixtures are present; locations outside dust containment in the proximity of filling and emptying points, feed belts, sampling points, truck dump stations, belt dump over points, etc., where no measures are employed to prevent the formation of combustible mixtures; locations outside dust containment where dust accumulates and where due to process operations the dust layer is likely to be disturbed and form combustible mixtures; locations inside dust containment where explosive dust clouds are likely to occur (but neither continuously, nor for long periods, nor frequently) as, for example, silos (if filled and/or emptied only occasionally) and the dirty side of filters if large self-cleaning intervals are occurring.

**(3) Zone 22.** A Zone 22 location is a location where one of the following apply:

(1) Ignitable concentrations of combustible dust, ~~or ignitable combustible fibers/flyings, or ignitable fibers/flyings~~ are not likely to occur in normal operation and, if they do occur, will only persist for a short period; or

(2) Combustible dust, ~~or ignitable combustible fibers/flyings, or ignitable fibers/flyings~~ are handled, processed, or used but in which the dust or fibers/flyings are normally confined within closed containers or closed systems from which they can escape only as a result of the abnormal operation of the equipment with which the dust or fibers/flyings are handled, processed, or used; or

(3) The location is adjacent to a Zone 21 location, from which ignitable concentrations of combustible dust, or ignitable combustible fibers/flyings, or ignitable fibers/flyings could be communicated.

*Exception No. 1: When communication from an adjacent Zone 21 location is minimized by adequate positive pressure ventilation from a source of clean air, and effective safeguards against ventilation failure are provided.*

*Exception No. 2: For Group IIIC combustible dusts or metal combustible fibers/flyings, there ~~shall are only~~ be Zone 20 or 21 locations.*

Informational Note No. 1: As a guide to classification of Zone 22 locations, refer to

ANSI/ISA 60079-10-2 (12.10.05)-2013, *Explosive Atmospheres — Part 10-2: Classification of areas — Combustible dust atmospheres.*

Informational Note No. 2: Zone 22 locations usually include outlets from bag filter vents, because in the event of a malfunction there can be emission of combustible mixtures; locations near equipment that has to be opened at infrequent intervals or equipment that from experience can easily form leaks where, due to pressure above atmospheric, dust will blow out; pneumatic equipment, flexible connections that can become damaged, etc.; storage locations for bags containing dusty product, since failure of bags can occur during handling, causing dust leakage; and locations where controllable dust layers are formed that are likely to be raised into explosive dust–air mixtures. Only if the layer is removed by cleaning before hazardous dust–air mixtures can be formed is the area designated unclassified.

Informational Note No. 3: Locations that normally are classified as Zone 21 can fall into Zone 22 when measures are employed to prevent the formation of explosive dust–air mixtures. Such measures include exhaust ventilation. The measures should be used in the vicinity of (bag) filling and emptying points, feed belts, sampling points, truck dump stations, belt dump over points, etc.

11. *Revise Section 506.6 to read as follows:*

**506.6 Material Groups.** For the purposes of testing, approval, and area classification, various air mixtures (not oxygen enriched) shall be grouped as required in 506.6(A), (B), and (C).

**(A) Group IIIC.**

~~Combustible metal dust., including metal combustible fibers/flyings. Group IIIC shall be considered to be equivalent to Class II, Group E. [499:3.3.8.2.1]~~

**(B) Group IIIB.**

~~Combustible dust other than combustible metal dust. Group IIIB shall be considered to be equivalent to Class II, Groups F and G. [499:3.3.8.2.2]~~

Informational Note: Group IIIA materials are larger particle- size than Group IIIB materials and do not include metal combustible dust or metal combustible fibers/flyings. [499:A.3.3.8.2.3]

**(C) Group IIIA.**

~~Solid particles, including fibers, greater than 500 µm in nominal size, which could be suspended in air and could settle out of the atmosphere under their own weight. Group IIIA shall be considered to be equivalent to Class III. Combustible fibers/flyings or ignitable fibers/flyings other than metal. [499:3.3.8.2.3]~~

Informational Note No. 1: Group IIIA materials are larger particle- size than Group IIIB materials and do not include metal dust or metal fibers/flyings. [499:A.3.3.8.2.3]

Informational Note No. 2: Examples of ignitable fibers/flyings include rayon, cotton (including cotton linters and cotton waste), sisal, jute, hemp, cocoa fiber, oakum, and baled waste kapok.

Informational Note No. 3: Combustible fibers/flyings include flat platelet-shaped particulate such as metal flake and fibrous board such as particle board.

12. *Revise Sections 506.7(C) and (D) to read as follows:*

**506.7 Special Precaution.**



...

**(C) Reclassification Permitted.** A Class II or Class III, Division 1 or Division 2 location shall be permitted to be reclassified as a Zone 20, Zone 21, or Zone 22 location, provided that all of the space that is classified because of a single combustible dust, ~~or ignitable combustible~~ fiber/flying, or ignitable fiber/flying source is reclassified under the requirements of this article.

**(D) Simultaneous Presence of Flammable Gases and Combustible Dusts or Fibers/Flyings.** Where flammable gases, combustible dusts, ~~or ignitable combustible~~ fibers/flyings, or ignitable fibers/flyings are or may be present at the same time, the simultaneous presence shall be considered during the selection and installation of the electrical equipment and the wiring methods, including the determination of the safe operating temperature of the electrical equipment.

13. *Revise Sections 506.9(B) and (C)(1) to read as follows:*

**506.9 Equipment Requirements.**

...

**(B) Listing.** Equipment that is listed for Zone 20 shall be permitted in a Zone 21 or Zone 22 location of the same combustible dust, or ignitable combustible fiber/flying, or ignitable fiber/flying. Equipment that is listed for Zone 21 may be used in a Zone 22 location of the same combustible dust, or ignitable combustible fiber/flying, or ignitable fiber/flying.

**(C) Marking.**

**(1) Division Equipment.** Equipment identified for Class II, Division 1, or Class II, Division 2, or Class III, Division 1, or Class III, Division 2 shall, in addition to being marked in accordance with 500.8(C), be permitted to be marked with all of the following:

- (1) Zone 20, 21, or 22 (as applicable)
- (2) Material group in accordance with 506.6
- (3) Maximum surface temperature in accordance with 506.9(D), marked as a temperature value in degrees C, preceded by "T" and followed by the symbol "°C"

14. *Revise Section 506.16 to read as follows:*

**506.16 Sealing.** Where necessary to protect the ingress of combustible dust, ~~or ignitable combustible~~ fiber/flying, or ignitable fiber/flying, or to maintain the type of protection, seals shall be provided. The seal shall be identified as capable of preventing the ingress of combustible, ~~or ignitable combustible~~ fiber/flying, or ignitable fiber/flying and maintaining the type of protection but need not be explosionproof or flameproof.

15. *Revise Section 506.20 to read as follows:*

**506.20 Equipment Installation.**

**(A) Zone 20.** In Zone 20 locations, only equipment listed and marked as suitable for the location shall be permitted.

*Exception No. 1: Equipment listed for use in Class II, Division 1 locations with a suitable temperature class shall be permitted.*

*Exception No. 2: For Group IIIA materials, equipment listed for use in Class III, Division 1 locations with a suitable temperature in accordance with 500.8(D)(3) shall be permitted.*

**(B) Zone 21.** In Zone 21 locations, only equipment listed and marked as suitable for the location shall be permitted.

*Exception No. 1: Apparatus listed for use in Class II, Division 1 locations with a suitable temperature class shall be permitted.*

*Exception No. 2: Pressurized equipment identified for Class II, Division 1 shall be permitted. Exception No 3: For Group IIIA materials, equipment listed for use in Class III, Division 1 locations with a suitable temperature in accordance with 500.8(D)(3) shall be permitted.*

**(C) Zone 22.** In Zone 22 locations, only equipment listed and marked as suitable for the location shall be permitted.

*Exception No. 1: Apparatus listed for use in Class II, Division 1 or Class II, Division 2 locations with a suitable temperature class shall be permitted.*

*Exception No. 2: Pressurized equipment identified for Class II, Division 1 or Division 2 shall be permitted.*

*Exception No 3: For Group IIIA materials, equipment listed for use in Class III, Division 1 or Class III, Division 2 locations with a suitable temperature in accordance with 500.8(D)(3) shall be permitted.*

...

**(F) Temperature.** The temperature marking specified in 506.9(C)(2)(5) shall comply with one of the following:

(1) ~~For e~~ Combustible dusts or combustible fibers/flyings shall be less than the lower of either the layer or cloud ignition temperature of the specific combustible dust or combustible fiber/flying. For ~~nonmetal organic~~ nonmetal combustible fibers/flyings that may dehydrate or carbonize, the temperature marking shall not exceed the lower of either the ignition temperature or 165°C (329°F).

(2) For ignitable fibers/flyings, less than 165°C (329°F) for equipment that is not subject to overloading, or 120°C (248°F) for equipment (such as motors or power transformers) that may be overloaded.

**Substantiation:** This TIA is necessary to define the terms “combustible fibers/flyings” and “ignitable fibers/flyings” and include them in the hazardous (classified) location descriptions to draw the connection to the combustible dust standards and hazardous location classification documents. This alignment will allow the combustible dust documents to remove any prescriptive limitation or prohibition for use of the Zone system for classification.

We have not yet and do not expect to completely agree on a definition for combustible dust because of the need to include process-specific atmospheres in NFPA 652 and the commodity standards. This proposal makes the functional usage of the term “combustible dust” equivalent between NFPA 70 and the various dust standards.

**Emergency Nature:** The NFPA Standard contains a conflict within the NFPA Standards or within another NFPA Standard.