



Coffee Break Training - Fire Protection Series

Inspection Techniques: Electrical “Classified Locations”: Class II and III Examples (Part 6)

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Learning Objective: The student shall be able to list examples of areas that could receive a Class II or III hazardous area designation.

Hazardous area classification should be performed by knowledgeable and qualified experts. Generally, they will follow industry protocols which include some of the following questions:

- Is a dust likely to be in suspension in air continuously, periodically, or intermittently under normal conditions in quantities to produce an ignitable mixture?
- Are there dust layers or accumulations on surfaces deeper than 1/8 inch?
- Are there dust layers or accumulations on surfaces that make the colors of the floor or equipment discernible?
- What is the 24-hour dust accumulation?
- Is the equipment in poor condition, questionable condition, or in need of repair?
- Do maintenance practices result in the formation of ignitable mixtures?
- What equipment is used for dust collection?



Dust collection systems, like this bag house, may reduce dust accumulations below the level that requires hazardous classification.

In determining the proper classification of an area, the quantity of combustible dust that may be present and the adequacy of dust removal systems are factors that are considered when determining the classification, and may result in an unclassified area. Where products such as seed are handled in a manner that produces low quantities of dust, the amount of dust deposited may not warrant classification.

Here are some examples of areas that typically receive a Class II or Class III designation:

- parts of rayon, cotton, and other textile mills;
- combustible fibers/flyings 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.

Less hazardous—but still classified—locations may handle or store rayon, cotton (including cotton lint 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.

For additional information, refer to National Fire Protection Association (NFPA) 70[®], National Electrical Code[®], Chapter 5 Special Occupancies.



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