

# Class II: Combustible dusts

<b>Area Classification Comparison</b>	
<p><i>Division 1:</i></p> <p>Where ignitable concentrations of combustible dust can exist all of the time or some of the time under normal operating conditions.</p>	<p><i>Zone 20:</i></p> <p>Where ignitable concentrations of combustible dust or ignitable fibers/flyings are present continuously or for long periods of time under normal operating conditions.</p> <p><i>Zone 21:</i></p> <p>Where ignitable concentrations of combustible dust or ignitable fibers/flyings are likely to exist under normal operating conditions.</p>
<p><i>Division 2:</i></p> <p>Where ignitable concentrations of combustible dust are not likely to exist under normal operating conditions.</p>	<p><i>Zone 22:</i></p> <p>Where ignitable concentrations of combustible dust or ignitable fibers/flyings are not likely to exist under normal operating conditions.</p>

## **Class II, Division 1**

A Class II, Division 1 location is a location...

- In which combustible dust is in the air under normal operating conditions in quantities sufficient to produce explosive or ignitable mixtures, or
- Where mechanical failure or abnormal operation of machinery or equipment might cause such explosive or ignitable mixtures 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, or
- In which Group E combustible dusts may be present in quantities sufficient to be hazardous.

## **Class II, Division 2**

A Class II, Division 2 location is a location...

- In which combustible dust due to abnormal operations may be present in the air in quantities sufficient to produce explosive or ignitable mixtures; or
- Where combustible dust accumulations are present but are normally 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; or
- In which combustible dust accumulations on, in, or in the vicinity of the electrical equipment could be sufficient to interfere with the safe dissipation of heat from electrical equipment, or could be ignitable by abnormal operation or failure of electrical equipment.

## **Zone 20**

A Zone 20 location is a location in which...

- Ignitable concentrations of combustible dust or ignitable fibers/flyings are present continuously.
- Ignitable concentrations of combustible dust or ignitable fibers/flyings are present for long periods of time.

## **Zone 21**

A Zone 21 location is a location...

- In which ignitable concentrations of combustible dust or ignitable fibers/flyings are likely to exist occasionally under normal operating conditions; or
- In which ignitable concentrations of combustible dust or ignitable fibers/flyings may exist frequently because of repair or maintenance operations or because of leakage; or

- In which 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 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
- That is adjacent to a Zone 20 location from which ignitable concentrations of dust or ignitable fibers/flyings could be communicated, unless communication is prevented by adequate positive pressure ventilation from a source of clean air and effective safeguards against ventilation failure are provided.

## **Zone 22**

A Zone 22 location is a location...

- In which ignitable concentrations of combustible dust 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
- In which combustible dust or 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
- That is adjacent to a Zone 21 location, from which ignitable concentrations of dust or fibers/flyings could be communicated, unless such communication is prevented by adequate positive pressure ventilation from a source of clean air and effective safeguards against ventilation failure are provided.

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