

SUBJECT: Industrial Trucks in Class II, Division 1 and 2 Areas

Purpose: To resolve the disparity between Table N-1 and 1910.178(c)(2)(vii) relating to the proper industrial truck designation for Class II, Division 2 hazardous locations and to clarify the proper industrial truck designation for work areas in Grain Handling facilities.

Scope: This instruction applies MNOSHA-wide.

References:

1. 1910.399 defines a Class II, Division 1 area as a "...location in which combustible dust is or may be in suspension 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 electric equipment through operation of protection devices, or from other causes; or in which combustible dusts of an electrically conductive nature may be present." This classification may include areas of grain handling and processing plants, starch plants, sugar-pulverizing plants, malting plants, hay-grinding plants, coal pulverizing plants, areas where metal dusts and powders are produced or processed, and other similar locations that contain dust producing machinery and equipment (except where the equipment is dust-tight or vented to the outside).

1910.399 defines a Class II, Division 2 area as a "location in which combustible dust will not normally be in suspension in the air in quantities sufficient to produce explosive or ignitable mixtures... but combustible dust may be in suspension in the air as a result of infrequent malfunctioning of handling of processing equipment." This classification includes locations where dangerous concentrations of suspended dust would not be likely, but where dust may accumulate on electrical equipment and become suspended as an ignitable concentration of dust under abnormal operating conditions.
2. 1910.178(a)(7) defines an approved industrial truck as one "that is listed or approved for fire safety purposes for the intended use by a nationally recognized testing laboratory".
3. 1910.178(a)(3) requires that powered industrial trucks "bear a label or some other identifying mark indicating approval by the testing laboratory."
4. 1910.178 (c)(2)(vi)(b) requires that only industrial trucks designated as EX be used in grain handling facilities where dust may normally be in suspension in quantities sufficient to produce explosive or ignitable mixtures
5. 1910.178(c)(2)(vii) requires that only industrial trucks designated as DY, EE, or EX be used in Class II, Division 2 areas.
6. Table N-1 allows industrial trucks designated as DS, ES, GS, and LPS to be used in Class II, Division 2 areas, as well as the DY, EE, and EX designation allowed by 1910.178(c)(2)(vii).
7. NFPA No. 505 -2006. Powered Industrial Trucks.
 - 4.2.6 Approved power-operated industrial trucks designated as Type DX or Type EX shall be used in either of the following locations:
 - (1) Where Group G combustible dust is in suspension or can be in suspension under normal operating conditions in quantities sufficient to produce explosive or ignitable mixtures.
 - (2) Where mechanical failure or abnormal operation of machinery or equipment can cause explosive or ignitable mixtures to be produced

4.2.7.1 Approved power-operated industrial trucks designated as Type DX, Type DY, Type EE, or Type EX shall be permitted to be used in Class II, Division 2, Group F or Class II, Division 2, Group G hazardous (classified) locations.

4.2.7.2 Type CNS, Type DS, Type ES, Type GS, Type LPS, Type GS/CNS, or Type GS/LPS industrial trucks shall be permitted to be used.

ACTION:

OSHIs will use the following guidelines in determining the proper designation of industrial trucks for Class II, Division 2 areas:

1. Trucks designated as DX, DY, EE, and EX may be used in **Groups F & G** Class II, Division 2 location.
2. Trucks designated as CNS, GS/CNS, GS/LPS, DS, ES, GS, or LPS may be used **only** in the following Class II, Division 2 **Groups F & G** locations:
 - a. Rooms and areas containing only closed spouting and conveyors.
 - b. Rooms and areas containing only closed bins or hoppers.
 - c. Rooms and areas containing machines and equipment from which appreciable amounts of dust would escape only under abnormal operating conditions.
 - d. Rooms or areas into which explosive or ignitable concentrations of suspended dust might be communicated only under abnormal operation conditions.
 - e. Rooms or areas where the formation of explosive or ignitable concentrations of suspended dust is prevented by the operation of effective dust control equipment.
 - f. Warehouses and shipping rooms where dust producing materials are stored or handled only in bags or containers.
 - g. Other similar locations.
3. Only trucks designated as EX may be used in the following work areas in grain handling facilities where dust may normally be in suspension in quantities sufficient to produce explosive or ignitable mixtures (Class II, Division 1). Rooms/areas containing:
 - a. Grinders or pulverizers.
 - b. Cleaners, graders, scalpers.
 - c. Open conveyors or spouts.
 - d. Open bins or hoppers.
 - e. Mixers or blenders.
 - f. Automatic or hopper scales.
 - g. Packing machinery.
 - h. Elevator heads and boots.

- i. Stock distributors.
- j. Dust and stock collectors.
- k. All similar dust-producing machinery and equipment.

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