

breakers, using wrong fuses, bypassing fuses, and installing equipment without authorization

Electrical installations and all electrical equipment should be periodically inspected and tested to assure continued satisfactory performance and to detect deficiencies

Smoking

Carelessly discarded cigarettes, pipe embers, and cigars are a major source of fire

Although it might be desirable to eliminate smoking completely in a plant, such a rule is difficult to enforce. It is better to allow smoking at specified times and in a safe place where supervision can be maintained than to have it done surreptitiously in out-of-the-way places

Smoking should be prohibited in wood-working shops, textile mills, flour mills, grain elevators, and places where flammable liquids or combustible products are manufactured, stored, or used. Even in these operations, enclosed or removed areas can be set aside to allow workmen to satisfy their smoking needs in a safe manner

"No smoking" areas should be marked with conspicuous signs and their exclusive use rigidly enforced—everyone, including supervisors and visitors, should adhere to the regulation. It may be necessary to use more than signs to draw attention to the "no smoking" areas. Lines drawn on the floor or illuminated barriers placed around areas or processes have been effective

In many high-hazard occupancies, smoking is permitted in special fire-safe rooms or during periods when there is no exposure. In such cases, instructions or warning signs to that effect should be posted. Where the exposure is severe, employees should even be prohibited from carrying matches, lighters, and sometimes smoking material of any kind into the danger areas

In any case, the use of "safety" matches should be encouraged, and smoking should be allowed only in fire-safe areas. Where carrying matches into the plant is prohibited, special lighters should be provided in smoking rooms

Even in plants where there is little fire hazard, employees should be encouraged to discard matches and smoking materials in a safe container rather than on the floor. This

practice will discourage employees from throwing matches and cigarettes into places which may not be free of hazards

Friction

Excessive heat generated by friction causes a very high percentage of industrial fires. A program of preventive maintenance on plant machinery can avert fires resulting from inadequate lubrication, misaligned bearings, and broken or bent equipment

Fires frequently result from overheated power transmission bearings and shafting in buildings where dust and lint accumulate, such as grain elevators, cereal, textile, and woodworking mills, and plastic and metal-working plants. Frequent inspection should be made to see that bearings are kept well oiled and do not run hot. Accumulation of flammable dust or lint on them should be held to a minimum

Drip pans should be provided beneath bearings and should be cleaned frequently to prevent oil from dripping to the floor or on combustible material below. Oil holes of bearings should be kept covered to prevent dust and gritty substances from entering the bearings to cause overheating

Frictional heat sufficient to cause ignition can result from the jamming of process material during production. Another common problem, frequently overlooked, is the tension adjustment on belt-driven machinery. If the belt is too tight or too loose, excessive friction can cause serious overheating

Foreign objects or tramp metal

Every precaution should be taken to keep foreign objects which might strike sparks from entering machines or processes where there are flammable dusts, gases, or vapors or combustible material such as cotton lint or metal powder. Screens or magnetic separators are commonly used for this purpose, as in textile mills, grain elevators, and other operations which have explosive mixtures of dusts

Open flames

Although open flames are probably the most obvious source of ignition for ordinary combustibles, and one would think they could be most easily avoided, they still account for a large percentage of industrial fires. Heating