

Overheat and Fire Detection in Barns and Stables

According to Factory Mutual Research Corporation, barns and stables are by definition storage occupancies, and are therefore, classified in the same broad category as warehouses, parking garages, aircraft hangars and freight terminals. In no other application does one occupancy present such a wide range of hazards as related to contents and their arrangement, operational characteristics, life safety considerations, building construction, and special uses.

When considering the fire risk associated with these structures, it is not unusual to find large densely stored quantities of combustible materials such as feed, grain, or straw. What is generally not considered, however, is the fact that in many cases these structures contain a variety of occupancies which in addition to animal stalls may include human sleeping quarters, feed and tack rooms, equipment storage rooms, kitchens, mechanical equipment rooms, and blacksmith shops.

Because barns and stables typically consist of large floor areas occupied by only a few personnel, fires often go undetected for a long period of time after they start. Common fire hazards often associated with these structures are careless disposal of smoking materials, poor housekeeping practices, sparks from cutting or welding equipment, ignition from tractors or other mobile farm equipment, improper use of portable electrical heating equipment and arson.

Protectowire Linear Heat Detector provides an effective solution for the risks associated with this unique application, and offers distinct advantages over other types of detectors such as spot heat or smoke detectors. Unlike rate-of-rise heat detectors, Protectowire's actuation temperature remains constant throughout its approved installation range. It is not adversely affected by temperature fluctuations which often occur between the heated and unheated areas of the building, or when the large entrance doors are opened and closed. In addition, other environmental factors associated with barns and stables such as dust, dirt, and insects all adversely effect the operation of ionization and photo-electric type smoke detectors, thereby, severely limiting their use.



The use of automatic sprinkler systems in barns and stables can also provide a highly effective safeguard against the loss of life and property. Because many areas in these structures are unheated, preaction type systems are generally recommended in order to prevent freezing. In those cases, Protectowire Linear Heat Detection Systems may be used to activate the preaction sprinkler system. Protectowire FireSystem Control Panels are available in a variety of NEMA rated enclosures depending upon the installation environment. Their versatility eliminates the need for multiple control panels and ensures complete system integration.

Due to its linear nature, the entire length of Protectowire is a fixed temperature heat detector. This characteristic allows the Detector to be easily installed on the roof, under overhangs, in stall and storage rooms or any other areas which require detection. The Detector is available in a variety of temperatures and outer jackets designed to accommodate the widest range of installation environments. There are no contacts to foul or corrode and the Detector is not effected by dust, dirt or insects which are typical of this application.

The risk of property damage or loss of life associated with barn and stable fires must not be underestimated. In addition to the potential loss of the building structure itself, additional risks include the loss of animal life including select breeding stock, destruction of feed and grain stuffs, and damage or loss of expensive farm equipment such as tractors. Protectowire Linear Heat Detection Systems are designed to provide the most reliable and cost-effective fire protection available for the risks and environmental conditions associated with this unique application.

Protectowire Linear Heat Detector is a component of a complete family of fire detection systems manufactured by The Protectowire Company.

