

Overheat and Fire Detection in Bridges and Piers

Hostile environments – contaminated and combustible wood construction – difficult access for fire fighters – all render bridges and piers especially vulnerable to fire. Flexing timbers and extreme ambient temperatures compound the difficulties encountered in designing a fire detection system for these vital locations. These challenges are met by Protectowire Linear Heat Detector and controls in proven, long-term installations.

In railroad timber trestles, the Linear Heat Detector is run through special tubing which protects the Detector from shock and corrosive materials, but does not materially affect its rapid heat sensing capabilities. A fire can be distinguished from a trouble signal because the heat of a fire causes two conductors within the cable to close together due to the fusion of a thermoplastic coating on the conductors. This contact causes closure of the detection circuit.



Alarm signals can locate the fire and be multiplexed over a single voice grade telephone line to a continuously manned location. The fire department nearest to the emergency can be notified, saving critical response time. In instances of remote location, Protectowire Linear Heat Detector can be used to activate automatic extinguishing systems. Uncovered bridges are protected with the Detector run over the decking along both sides.

Piers and adjoining warehouses have additional fire risks – storage of combustible material – high hazard work functions – flammable debris collecting under open structures. In addition, warehouse sprinkler systems can be supervised and actuated with Protectowire FireSystem controls. Protectowire Linear Heat Detector resists moisture, abrasion and cold temperatures.

On wooden covered bridges the Linear Heat Detector is installed under the roof peak, beneath eaves, and below decking through bottom chords and bolster beams. Underneath the bridge, the Detector is supported by messenger wire under areas that are not available for surface mounting.

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



Protectowire Linear Heat Detector



Protectowire Linear Heat Detector within tubing

Photo taken at: Vermont Central Railway, East Alburgh Trestle, Missisquoi Bay, Vermont, U.S.A.