TRU TechnicalRisk UNDERWRITERS

WHITEPAPER

THERMAL IMAGING CAMERAS FOR HOT WORK AND OTHER CONSTRUCTION USES

The Concern

Hot Work is any activity or process that involves open flames or generates sparks or heat, including welding; heat treating; grinding; thawing pipes; powder-driven fasteners; hot riveting; torch-applied roofing; and similar applications. As one would expect, Hot Work is common on construction sites, regardless of whether the project involves concrete, steel, or wood construction. According to the National Fire Protection Agency, Hot Work-related activities are responsible for roughly 26% of the construction fires that occur annually within the U.S. and generate about 42% of the monetary damages.

Hot Work losses often result from work areas not being properly monitored and subsequently verified upon completion. This can include a Fire Watch that is inadequate in duration after the Hot Work activity is completed and / or human error in detecting lingering hot spots. For these reasons, in addition to best practices and applicable codes, TRU recommends the use of a thermal imaging camera (TIC) as a supplement to the required Fire Watch. A TIC may provide an accurate method of verifying safe levels of heat dissipation following Hot Work activity so the Fire Watch can be dismissed when appropriate.

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Though TICs are widely available through construction suppliers and online retailers, TRU recommends the C5 or similar C-line cameras from FLIR Systems, Inc. (FLIR). Any TIC may provide benefits, including models that simply attach onto an Android or iOS phone, but the FLIR C5 is durable, easy to use, roughly the size of a cell phone, and offers the ability to scan large portions of a Hot Work area when determining if any hot spots still exist.

Thermal Imaging Cameras have a wide variety of construction uses. These may include, but are not limited to, the following:

- **Improved Hot Work Safety** by enhancing the fire watch's capabilities to accurately verify areas have been sufficiently cooled down after a hot work task has been completed.
- **Identifying Electrical Issues** related to concerns such as loose connectors, unbalanced phase supply, and overheating components.
- **Mechanical and Welding** inspections to ensure condition of a weld and equipment; particularly useful for HVAC systems.
- **Identifying Leaks** and blockages in pipes and ventilation systems, as well as examining the quality of installations on seals, windows, doors and insulation.