

Thermal imaging from Fluke provides improved risk management to agricultural policy holders

Application Note

Testing Functions Case Study



Established in 1892, the Grenville Mutual Insurance Company is a Spencerville, Ontario based liability and property insurance company that specializes in coverage for agricultural customers in Eastern Ontario. As part of its Loss Prevention Services, Grenville recently launched a Thermal Imaging Program to allow inspectors to use thermal imaging to better evaluate electrical equipment and wiring for both existing and new clients.

In early 2007, inspectors began working with a Ti45 IR (infrared) FlexCam® Thermal Imager with IR-Fusion® from Fluke to locate hot spots within circuits that require modifications or replacement. Initial trials were so successful the plan is to roll out the full program to all its brokers and sales force in the months to come.

The lay of the land

"I've seen what thermal imaging can do and realized the benefits it could bring to our company," says David McLaughlin, W.E.T.T., Loss Prevention for Grenville Mutual, who was responsible for starting the thermal imaging program. "With proper training—combined with the fact that the cost of the technology had gone down considerably—I felt we could use that capability to enhance our loss prevention services."

Agricultural properties can be especially challenging from an insurance standpoint since in many cases, wiring is 25 to 30 years old. This can be an ongoing issue, since many owners don't do a lot of preventive maintenance usually only acting when there is a problem.

Traditionally loss prevention representatives perform visual inspections on farm properties. While there are indicators of electrical problems that can be seen with the naked eye, there is a lot that can go undetected. "You might see evidence of improper wiring or loose connections, but that's about it," McLaughlin says.

The power of pictures

The thermal imager allows a loss prevention specialist to inspect circuits while they are under load and see things that would otherwise be missed. Typical problems found with the thermal imager can include heating due to high resistance or loose connections, overloading, and worn and pitted contacts. "When we find anomalies, we prepare a report to go with the normal inspection documentation, and make repair recommendations to policy holders based on those findings," McLaughlin explains.

Tool: Fluke Ti45 Flexcam Portable Thermal Imager

Profile: David McLaughlin, W.E.T.T., Loss Prevention for Grenville Mutual, Spencerville, Ontario

Inspections: Load evaluation of wiring and electrical equipment for agricultural properties



Inspection of an electrical control circuit.

The Fluke thermal imagers feature everything needed for detailed thermography tasks, including a 160 x 120 detector and a temperature sensitivity down to 0.08 °C (80mK) (NETD). Sensors deliver high resolution images of even the smallest temperature differences to an easy-to-read screen on the handheld unit. The technology also offers an extended troubleshooting feature set to allow on the spot analysis in the field through the IR-Fusion Technology. This feature captures the visible light image in addition to the infrared image to simplify IR image analysis and help users identify and report suspect areas and allow repairs to be done.

After checking several products, McLaughlin chose the Fluke product because it delivered the best combination of price, functions and features. A particular draw was the IR Fusion® Technology and software features.

He adds that having an easy-to-read picture of temperature fluctuations is extremely valuable when presenting results to property owners and technicians. "The Ti45 provides a very good visual picture of what is happening with the circuits, which in turn gives the policy holder very concrete evidence of the problems. When they ask the electrician to go out and make the repair, they have evidence in hand to know which piece of equipment, breaker or switch needs to be looked at and fixed."

Safety first means good business

Having this insight into electrical circuits is both a safety and financial benefit, since it can be invaluable in detecting problems ahead of time. "All you need to do is find one problem that could cause a fire and you have saved a potential \$1 million payout—not to mention the risk to the property owner and their livestock," McLaughlin says.

Now that the pilot has proven successful, Grenville plans to introduce the inspection service to policy holders through its broker network. The first step is to educate brokers and sales agents on the technology and the benefits to customers and the insurance industry.

"In our industry, rates are based on loss history," he explains. "By preventing losses we can help to stabilize rates and reduce costs for everyone. It's especially helpful for policy holders with older equipment and buildings, because they can stay on top of potential problems and maintain their preferred rate."

Staying on top of electrical systems is becoming even more challenging as a number of progressive farmers are now exploring the concept of selling electricity collected from methane driven generators. "That will be an interesting area we have to consider," says McLaughlin.

Since he began using the thermal imager for inspections, McLaughlin says inspection is no longer looked at as a necessary evil. "People used to dread inspectors coming out. Now brokers and clients are calling and asking us to provide this as part of their loss prevention service because they can all see the benefits."

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Printed in U.S.A. 5/2008 3338239 A-EN-N Rev A