

Infrasense Scans 4 Bridge Decks in Waukesha County Using Infrared Thermography

Infrasense recently completed a bridge deck scanning project in Waukesha County, Wisconsin, using infrared scanning. In order to aid bridge deck rehabilitation planning, Infrasense scanned 4 bridges and provided maps showing surface and subsurface deterioration.

Boston, MA ([PRWEB](#)) September 29, 2016 -- Infrasense recently scanned 4 bridge decks in Waukesha County using infrared thermography (IR). The infrared data was collected with corresponding high resolution video at a rolling speed using a vehicle-based system. The infrared and video data was analyzed to quantify and map rebar-level delamination, patching, and spalling. Hammer sounding was conducted at select locations to confirm the presence of delaminations observed in the IR scans during data collection. The mapped delaminations, patches, and spalls were delivered to the client in a CADD compatible format facilitating subsequent rehab design efforts. The purpose of this project is to aid in the [Department of Public Works](#)' deck rehabilitation planning efforts.

Infrared scanning is being used by an increasing number of transportation agencies to efficiently obtain quantitative and comprehensive deck condition information. The ability to evaluate the condition of a large number of decks in a single inspection season is a valuable bridge management tool. Quantities and maps resulting from infrared scanning surveys allow for robust, data-driven decisions, and help to optimize the use of shrinking budgets.

Over the past 5 years Infrasense has completed infrared surveys of over 700 bridge decks in States such as Wisconsin, Michigan, Minnesota, Idaho, Illinois, Wyoming, and Nevada. A majority of these decks carry major interstates, and range in size from a single span to a [1.5 mile-long viaduct](#).

Infrasense carries out infrared surveys according to [ASTM D 4788 – 03](#) using a vehicle-based system that covers one lane per driving pass. For a typical deck with 2 lanes and left and right shoulders, the survey is carried out in four passes – one in each lane and one in each shoulder. Each pass covers a deck width of 12 to 15 feet. The survey produces a series of infrared and visual images across the length of the deck. During the analysis, infrared data is reviewed simultaneously with the video data to differentiate delaminated areas from surface features (discoloration, oil stains, sand and rust deposits, etc.) that appear in the infrared, but are unrelated to subsurface conditions. Distinct areas with relatively higher temperatures that are unrelated to surface conditions are hammer sounded, quantified and mapped. These are "hot spots" where the surface temperatures are higher due to the thermal barrier produced by the delaminations. The resulting delamination maps, which also include patching and spalling, are provided in CADD compatible format.

About Infrasense, Inc.

Since 1987, Infrasense, Inc. has applied the most current technologies to the most difficult challenges in subsurface scanning. Infrasense's engineers are able to nondestructively extract critical information from a diverse range of structures. The firm has conducted research to advance the field of subsurface detection, while also providing valuable information to clients across the country. Learn more about Infrasense, Inc. and its services at www.infrasense.com



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