

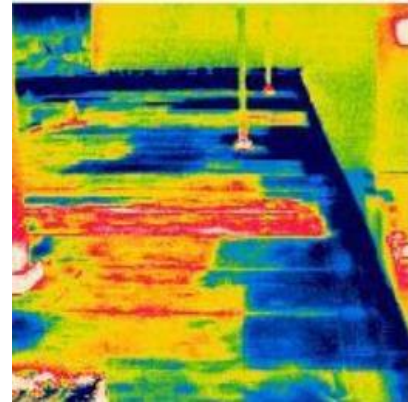
NDT&E Tech Brief

Sunrise, Sunset

When should an infrared roof moisture survey be conducted? “One hour after sunset” is used for “most” surveys, according to ASTM C1153. But in New York City, adjacent buildings – and multiple stories within the same building – can remove insolation (sunlight) from a roof hours before sunset. To account for these conditions, it is best to be on-site starting at mid-afternoon.

What about roofs that are never exposed to the sun? In that case, a visit in the morning a few hours after sunrise – when the air temperature has risen enough to have an impact on the surface temperature of the roof – is the appropriate time for the IR survey.

Of course, infrared thermography is used for more than investigating failed roof membranes or flashing. IR can also be used on a building’s façade to detect a variety of conditions, from air leaks at joints and seals to thermal bridging across weeps to missing insulation and, yes, entrapped moisture. ASTM C1060 states those inspections can be of the exterior or the interior “or both,” but does not explicitly mention the time of day.



When should an infrared perimeter survey be conducted? In our experience, an interior IR survey is best performed during daylight hours, but with all shades drawn and, unfortunately, only during seasons when there is a significant temperature differential between the outside and inside (winter and summer). For an exterior IR survey, two visits – one in the morning on a shady day, and one late afternoon and early evening on a sunny day – provide the most information. By taking identical shots – from the same distance and angle – during the two exterior IR surveys, entrapped moisture can be distinguished from thermal bridging and other failures.

Infrared thermography is just one of many technologies we use to analyze and diagnose the building envelope, unlike specialized IR firms. For a list of all of the tests that SUPERSTRUCTURES provides, click [here](#).

Barry Drogin, *Director of Non-Destructive Testing & Evaluation*

SUPERSTRUCTURES ENGINEERS + ARCHITECTS

A&E Website: www.superstructures.com

NDT&E Website: www.superstructures-te.com

E-mail: bdrogin@superstructures.com

14 Wall Street, 25th Floor, New York, NY 10005

212.505.1133 x1311

646.437.1311 direct