

Volume 6 Issue 7 July 2017

Director's Message



When referring to the measurement uncertainty of infrared radiometers, many manufacturers state instrument accuracy as “ $\pm 2\%$ ”. The significance of this specification is often poorly understood causing many to overestimate the accuracy of non-contact temperature measurements.

An accuracy statement of “ $\pm 2\%$ ” is actually an abbreviated statement. The full statement is “ $\pm 2\%$ of target temperature or 2°C , whichever is greater”. The full statement is required since measurement accuracy generally decreases with lower temperature targets. Furthermore, an accuracy of “ $\pm 2\%$ ” would place accuracy at 0% when measuring targets operating at 0°C !

With respect to accuracy statements, it is also important to note that manufacturers test infrared instruments under laboratory conditions using high-emittance, blackbody simulators in a controlled environment. As a result, manufacturers derive accuracy specs under 'best case' conditions which may not be possible to duplicate in a given work environment.

To help ensure measurement accuracy, thermographers should:

- Always measure perpendicular to the target
- Correctly set radiometer inputs for emittance, reflected temperature, distance, and humidity
- Ensure target size is adequate for subject radiometer's spot measurement size

Lastly, real-world challenges can create situations where it is not possible to measure temperatures to the accuracy level promised by an instrument's spec sheet. These challenges include, but are not limited to, hot or cold ambient temperatures, and the use of different lenses or filters. Whenever accurate infrared temperature measurement is not possible, one should consider using contact thermometry instead.

Upcoming Courses

[Level I Certified Infrared Thermographer®](#)

- Jul 3 - 7 Melbourne
- Jul 17 - 21 West Windsor
- Jul 17 - 21 Brisbane
- Jul 17 - 21 Kuala Lumpur
- Jul 22 - 26 Montreal
- Jul 25 - 26 Kuala Lumpur*
- Sep 4 - 8 Monterrey
- Sep 11 - 15 West Windsor
- Oct 12 - 13 Auckland*
- Oct 17 - 18 Perth*
- Oct 16 - 20 Costa Rica
- Oct 30 - Nov 3 West Windsor

[Level II Certified Infrared Thermographer®](#)

- Aug 7 - 11 Kuala Lumpur
- Sep 18 - 22 West Windsor

[Level III Certified Infrared Thermographer®](#)

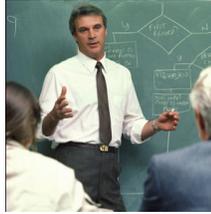
- Aug 14 Melbourne*
- Sep 25 - 27 West Windsor

* Flexible Learning Course

[Full 2017 Schedule](#)

Join Infrasppection Institute's Course Reseller Program

Proper training is essential to the success and longevity of any infrared inspection program. If you are a professional thermographer, distribute infrared or related test equipment, or are involved in professional training, we can help you to increase both sales and profits. An affiliation with Infrasppection Institute can also help to increase your company's visibility without compromising your credibility.

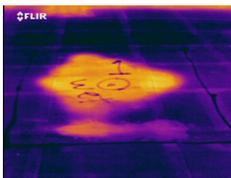


With the proliferation of cheaper infrared cameras, competition has become more fierce and profits more scarce. Offering training can not only expand your services and increase profits, it can help provide a long-term relationship that keeps your clients 'on the farm' and close to you.

Because Infrasppection Institute do not sell infrared equipment, our courses are presented without marketing hype. Since we are not affiliated with infrared equipment manufacturers, you can rest assured that your clients are not being hijacked by a competitor. Best of all, you have several options to choose from including open enrollment classes, on-site courses, and our convenient web-based Distance Learning courses.

[More Information](#)

Connecting the Dots



One of the most challenging aspects of an infrared inspection occurs when a qualified assistant must outline exceptions on the surface of the ground or an insulated roof.

Thermographers who perform infrared inspections of flat roofs or underground piping systems often outline the perimeter of exceptions with spray paint. Directing a qualified assistant to accurately outline exceptions can be both time-consuming and frustrating. The following suggestions can help to speed inspections while preserving coworker relations.

- When using spray paint to mark at ground level, use a spray paint and dispenser designed for the task
- Make sure surfaces to be marked are clean and dry and will not be damaged by spray paint
- Never spray paint where wind may carry paint to unintended surfaces

When outlining the perimeter of an exception, use a series of dots to outline the most prominent features of the exception. These dots can then be connected with a solid line once their location is deemed satisfactory. Depending upon weather and target

Upcoming Conferences

Infrasppection Institute invite you to see us at the following upcoming conferences. Be sure to stop by and say Hello!

[UI Thermal Imaging Conference](#)

October 1 - 4, 2017
San Antonio, TX

[SMRP Conference](#)

October 16 - 19, 2017
Kansas City, MO

[IR/INFO Conference](#)

January 21 - 24, 2018
New Orleans, LA

[Ultrasound World XIV](#)

May 8 - 10, 2018
Clearwater, FL

Links of Interest

[IRINFO.ORG](#)

[Maintenance & Reliability Topics](#)

[NACBI](#)

[CITA.ORG](#)

[Temperatures.com](#)

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conditions, spray painted lines will often show clearly within the thermal image.

[More Information](#)



Call for Papers for IR/INFO 2018

Infraspection Institute are pleased to announce that our annual Advanced Training Conference, Technical Symposium and Technology Expo, IR/INFO 2018, will be held January 21 – 24, 2018 in New Orleans, Louisiana. Now in its 29th year, IR/INFO features four days of networking, learning, and fun in a relaxed, yet professional, family atmosphere.



We are presently seeking papers and presenters for IR/INFO 2018. Invited topics include, but are not limited to: safety, emerging applications, building sciences, related NDT, case histories, as well as tips and tricks.

Presentations are typically 20-25 minutes with 5 minutes for Q & A time with the audience. All papers and presentations will be published in the IR/INFO Proceedings. The deadline for abstract submissions is July 31.

[Submit an Abstract](#)

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