Professional Qualifications of R. James Seffrin 6 Elmwood Drive Tabernacle, NJ 08088 (609) 268-3316

CERTIFICATIONS

2000 to present	Infraspection Institute, Burlington, NJ. Appointed as Director & Manager.
2016	Society for Maintenance and Reliability Professionals, Atlanta, GA. Achieved CMRP status.
1998	Centrally Controlled Industrial Certification Network, Arvada, CO. Certified as Level III Thermal/Infrared Inspector.
1997	Infraspection Institute, Shelburne, Vermont. Appointed as instructor for Levels I, II & III Certified Infrared Thermographer Training Courses.
1996	Certified as Level 3 NDT technician in the Thermal/Infrared Testing Method in accordance with ASNT SNT-TC-1A.
1995	Infraspection Institute, Certified Infrared Thermographer Level III.
1989	Infraspection Institute, Certified Infrared Thermographer Level II.
1984	Infraspection Institute, Certified Infrared Thermographer #1131
1983	Fairleigh Dickinson University, Rutherford, New Jersey Bachelor of Science Degree Biology.

PROFESSIONAL MEMBERSHIPS

1998 - 2004	American National Standards Institute, New York, NY. Appointed as Secretary of International Standards Organization subcommittee ISO/TC 135/SC 8 on infrared thermography. Responsibilities include development of consensus standards for worldwide use in the field of infrared thermography.
1989 - Present	American Society for Non-destructive Testing, Columbus, Ohio. Member in good standing. Participate on committee to develop and implement training program for certification of NDT personnel in Thermal/Infrared Methods. Member No: 52707
1985 - Present	ASTM International, West Conshohocken, Pennsylvania. Member in good standing. Participated on committee C-16.30 to develop a standard test procedure for roof moisture analysis of flat roofs. Participate on Committee E-7 for other infrared standards development. Member Number: 000106282
1997 – Present	Roof Consultants Institute, Raleigh, NC. Member in good standing. Participated on committees to develop standard test procedures for roof moisture analysis of flat roofs utilizing infrared and nuclear methodologies. Member ID# 10497
2007 – Present	Society for Maintenance and Reliability Professionals, Atlanta, GA. Member in good standing.

List of Publications by R. James Seffrin

2016	Short Course – "IR Inspection of Photovoltaic Systems"
2015	Co-author of Standard for Infrared Thermal Imaging of Horses. Standard Published by Infraspection Institute.
2014	Co-author of Standard for Infrared Inspection of Installed Photovoltaic Systems. Standard Published by Infraspection Institute.
2013	Co-author of applications course, "IR Thermography for Weatherization Professionals"
2011	Co-author of Standard for Infrared Inspection of Recreational Yachts and Small Craft Constructed of Fiberglass Reinforced Plastic and Composite Materials. Standard Published by Infraspection Institute.
2010	Short Course – "Distance Learning – Cost Effective Training for Maintenance Professionals"
2008	Short Course - "Starting, Marketing, and Managing an Infrared Consulting Company"
2007	"Level II Infrared Thermography". World's First Advanced Distance Learning Course for Infrared Thermographers
	Short Course - "Current NDT Programs Affecting IR Thermography"
	Short Course - "Designing an Effective Website"
	Short Course - "Infrared Inspections for Building Science"
	Co-author of several testing standards for infrared inspections and thermal imaging equipment published by Infraspection Institute. Titles include:
	Standard for Infrared Inspection of Insulated Roofs
	Standard for Infrared Inspection of Building Envelopes
	 Standard for Infrared Inspections to Detect Pests and Pest Related Damage
	 Standard for Infrared Inspection of Electrical Systems & Rotating Equipment
	 Standard for Measuring Distance/Target Size Values for Infrared Imaging Radiometers
	 Standard for Measuring and Compensating for Transmittance of an Attenuating Medium Using Infrared Imaging Radiometers
	 Standard for Measuring and Compensating for Emittance Using Infrared Imaging Radiometers
	 Standard for Measuring and Compensating for Reflected Temperature Using Infrared Imaging Radiometers

List of Publications by R. James Seffrin

2006	Short Course - "Current Standards & Specifications Affecting IR Thermography"
	Short Course - "Determining Spot Size for Your Imager"
	Short Course - "Marketing and Promoting Infrared Inspection Services"
	Short Course - "Infrared Thermography for Pest Detection"
2005	"Level I Infrared Thermography" World's First Distance Learning Course for Infrared Thermographers
	Short Course - "Changes to NFPA 70E – What You Need to Know"
	Short Course - "Documenting IR Inspections – How to Reduce Report Time, Increase Efficiency and Profits"
	Short Course - "Certification – Where Do We Go From Here?"
2004	Short Course - "Generating Standards - Compliant Infrared Reports"
	Short Course - "Temperature Limits for Electrical and Mechanical Equipment"
	Short Course - "Setting Up a Predictive Maintenance Program"
2003	"Selecting Specifying and Purchasing Thermal Imaging Equipment". Published at IRINFO.ORG.
2003	"Thermal Imaging for Detecting Potential SARS Infection". Presented at National Conference on Thermal Imagers for Fever Screening - Selection, Usage and Testing, 30 May 2003 Sheraton Towers Singapore.
2002 to present	Author for numerous articles at IRINFO.ORG, including "Tip of the Week" advisory column.
2001 to present	Selected as website expert on Thermography for RELIABILITYWEB.COM. Author of several responses to technical questions on IR thermography.
2002	"Applying Distance to Spot Ratio Values to Infrared Imagers for Accurate Temperature Measurement". Presented at Infraspection Institute's IR/INFO 2003, Orlando, FL and published in proceedings of same.
2000	Developer of Exception [®] 2000 software. Data management and report writing software for generating standards-compliant reports. Published by Infraspection Institute.
1999	"Infrared Thermography for PPM". Published in <u>Maintenance Technology</u> magazine.
1999	"Infrared Thermography for Expert Witness and Legal Documentation". Presented at Infraspection Institute's IR/INFO '99, Las Vegas, NV and published in proceedings of same.

List of Publications by R. James Seffrin

1998	"Non-Destructive Inspection of Steam Traps". Published in <u>Maintenance Journal</u> by International Maintenance Institute.
1997	"Non-Destructive Inspection of Steam Traps". Published in <u>Reliability Magazine</u> .
1997	"NFPA 70E and Infrared Inspections of Electrical Distribution Systems". Presented at Infraspection Institute's IR/INFO '97, New Orleans, LA and published in proceedings of same.
1996	"Thermography Advances Aid Proactive Maintenance". Published by <u>Energy User News</u> Magazine.
1996	"OSHA and Infrared Inspections of Electrical Distribution Systems". Presented at Infraspection Institute's IR/INFO '96, Orlando, FL and published in proceedings of same.
1995	"Defining the Elements for Successful Infrared Thermography". Presented at Infraspection Institute's IR/INFO '95, Las Vegas, NV and published in proceedings of same.
1991	"Qualitative and Quantitative Electrical Inspections Through Holes in Cabinets". Presentation at Infraspection Institute's IR/INFO '91, Las Vegas, NV.
1989	"Non-Destructive Inspection of Steam Traps". Published in <u>Infraspection Institute Newsletter</u> , Summer 1989 edition.
1988	"The Use of Infrared Thermography and Resistive Load Banks for Testing Electrical Bus Duct". Presented at the International Society for Optical Engineering's Thermosense X Conference, Orlando, FL and published in proceedings of same.

Work Experience of R. James Seffrin

WORK EXPERIENCE

2002 to present	Publisher, editor, and author for IRINFO.ORG, a content-based website and online community for infrared thermography and related NDT technologies.
2000 to present	Infraspection Institute, Burlington, NJ Director, Manager and Instructor. Responsible for company operations, ongoing curriculum development, software development, course instruction, and standards compliancy. Worked as technical consultant to equipment manufacturers in design and development of new instruments. Worked as consultant to develop new applications for thermography including medical applications.
1984 - 2000	Jersey Infrared Consultants, Burlington, New Jersey. Vice President, General Manager, Certified Thermographer. Developed infrared surveys for industrial and commercial applications. Infrared Inspection experience encompasses electrical systems, mechanical systems, petro-chemical refineries, steam systems, flat roofs, building envelopes, underground piping and aerial infrared surveys.
	Co-authored standards and specifications for international publication.
	Worked as expert witness in numerous sivil seese. Experience includes

Worked as expert witness in numerous civil cases. Experience includes international casework for both plaintiffs and defendants.

TRIAL

US District Court, Portland , OR – FLIR SYSTEMS, INC. v. FLUKE CORPORATION CASE NO. 3:10-CV-00971. Provided testimony for Plaintiff relevant to claims of false advertising, patent infringement

HEARINGS

NJ Superior Court - GENNARI v. WEICHERT CO. REALTORS 288 N.J. Super. 504, 541. Provided testimony for plaintiff relevant to infrared inspections conducted by Mr. Seffrin of the thermal envelope of four separate single-family homes that were the subject of civil litigation.

Western District of NY - USA v. DOMENICO LONARDO CASE NO. 10-CR-6226-CJS-JWF. Provided testimony for defendant relevant to use of thermal imaging as a surveillance tool to detect indoor cannabis cultivation in the prosecution of a criminal case.

Rent Court, Bronx, NY – EJD Realty. Provided testimony for defendant relevant to use of thermal imaging as a diagnostic tool for building energy loss that was contended in civil litigation by one of their tenant.

Virginia Beach, VA - Commonwealth of Virginia v. Richard Franklin Edwards Jr. CASE NO. CR12-3267. Provided testimony for defendant relevant to use of thermal imaging as a surveillance tool to detect indoor cannabis cultivation in the prosecution of a criminal case.

DEPOSITIONS

S. T. Hudson International. Provided testimony for defendant rebutting the conduct of an infrared inspection and subsequent documentation in civil litigation surrounding water leaks at the Frank D. Reeves Office Building, Washington, DC.

Summit Bank. Provided testimony for plaintiff relevant to infrared inspections conducted by Mr. Seffrin of the roofing system at the Summit Bank Operations Center in Dayton, NJ that was the subject of civil litigation.

Jersey Infrared Consultants vs. High Potential Testing, Inc., et al., Docket No. BUR-C-163-96. Provided testimony in case involving electronic theft of confidential data by former employee.

Continental Casualty Company a/s/o SJP Prop Co. v. East Coast Industries, Docket Number: HUD-L-666-07. Provided testimony for defendant affirming that conduct of an infrared inspection and subsequent documentation were in compliance with accepted industry practice and published standards.

A & G Contracting, Inc. v. The Design/Build Collaborative. Docket Number: CV-106008755-S. Provided testimony for Plaintiff relevant to infrared inspection conducted by Mr. Seffrin of the building envelope at the residence of Laura Nichols in Weston, CT that was the subject of civil litigation.

Testimonial Experience of R. James Seffrin

DECLARATIONS

European Patent Office AOKI v. Inductotherm Industries. Expert for defendant in patent infringement claim where thermal imaging and non-contact thermometry had been improperly used in a patent filing pertaining to blow molding of plastic bottles.

ANDRADE v. CHOJNACKI US District Court, S.D. Texas, Houston Division. Expert for plaintiffs relevant to use of an airborne thermal imaging system and FLIR data recorded as part of covert surveillance of Mount Carmel Church prior to, and during, the fire that occurred on April 19, 1993.

COMMONWEALTH v. FREDERICK SEAGRAVES Commonwealth of Massachussetts Case No. 03-376. Expert for defendant relevant to use of thermal imaging as a surveillance tool to detect indoor cannabis cultivation in the prosecution of a criminal case.

PEOPLE v. KRIETER State of Michigan 66th Judicial District Case No. MGT-0003-10. Expert for defendant relevant to use of thermal imaging as a surveillance tool to detect indoor cannabis cultivation in the prosecution of a criminal case.

STATE OF WISCONSIN v. RANDY HOLDT State of Wisconsin Case No. 10-CV-281. Expert for defendant relevant to use of thermal imaging as a surveillance tool to detect indoor cannabis cultivation in the prosecution of a criminal case.

STATE OF MICHIGAN v. Sal S. Mansy Case No. 2012-003887 –FH Expert for defendant relevant to use of thermal imaging as a surveillance tool to detect indoor cannabis cultivation in the prosecution of a criminal case.

STATE OF MICHIGAN v. Reynaldo Alvarez Case No. 12-000727 FY Expert for defendant relevant to use of thermal imaging as a surveillance tool to detect indoor cannabis cultivation in the prosecution of a criminal case.

STATE OF MICHIGAN v. Dennis Dale Darnell Case No. 2013-0725 FY Expert for defendant relevant to use of thermal imaging as a surveillance tool to detect indoor cannabis cultivation in the prosecution of a criminal case.

STATE OF MICHIGAN v. Andrew John Lewis Case No. 14-0994-FY Expert for defendant relevant to use of thermal imaging as a surveillance tool to detect indoor cannabis cultivation in the prosecution of a criminal case.