

INFRARED THERMOGRAPHY – Level 1

(Course Code : AJ 4003)



Course Length (Days)	Taught Hours	Practical Content (%)	Theoretical Content (%)
04	30	30	70

TARGET AUDIENCE

Operation & maintenance personnel, plant & facility managers, M&E consultants & contractors, fire/safety officers, etc within various industries: marine & offshore, oil & gas, petrochemical, building & construction, automotive, civil defence, insurance (risk asset management), energy/power generation, security & surveillance.

COURSE OBJECTIVES

To provide participants with the necessary skills and knowledge in implementing infrared inspection & survey for repair, operation and maintenance personnel and for those who wish to pursue infrared thermography as a career.

COURSE CONTENT

Introduction to IR Thermography Thermal / Infrared Physics

The Nature of Heat & Temperature

Heat Transfer Mode Familiarisation

Conduction Fundamentals
Convection Fundamentals

Radiosity Concepts

Reflectance, Transmittance
Absorptance, Emittance
Radiometry and Imaging
Spatial Resolution Concepts
Error Potential in Radiant Measurement

Infrared Equipment Operation

Thermography Defined
How Images Work
Equipment Overview / Features

Infrared Image and Documentation

Clarity (spatial focus)
Thermal Focus (level and span)
Dynamic Range
Recognising and Dealing with Reflection & Emissivity
Recognising and Dealing with Convection

Supporting Data Collection

Environmental Data Emittance
Surface Modification
Surface Reference Temperature
Support Equipment for IR Inspection

Temperature Measurement

Performing Accurate Temperature / Emissivity / Measurement
Compensating for Distance and Small Object Size
Field Quantification
Checking Equipment Calibration

Hands-on Practical Sessions

IR inspection exercises
Additional hands-on session using IIRT's Integrated Training

Infrared Application Overview

Electrical Inspections
Mechanical Inspections
Furnace Inspections
Detecting Thermal Anomalies

Report Generation

IR Software Generic Overview
Elements of a good report
Page layouts
Database Programme
Printing
Class – Discussion – Interpretation of IR Images based on field exercises
Revision of IR Physics and Fundamentals
Operation of Equipment

DELIVERY

Teaching aids, apparatus, slides, questionnaires, theory and practical assessment.

CERTIFICATION

Certificates of Attendance awarded by Institute of Infrared Thermography

Minimum Number Of Delegates Required Per Event

10

Times Of Training

08:30 to 17:00

Venue

28B Penjuru Close, #01-06, Singapore 609130

Special Requirements

Nil

Dates And Prices

Please check with course administrator.