

Contents

	Page
Foreword	v
Introduction	vii
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
3.1 General terms	2
3.2 Thermography terms	4
4 Symbols and abbreviated terms	7
5 Example applications of use of thermography in building assessments	8
6 Customer preparation	8
7 Qualification of personnel	9
7.1 Personnel — General guidance	9
7.2 Application specific requirements	10
7.2.1 Residential buildings — Qualification requirements	10
7.2.2 Commercial buildings — Qualification requirements	10
7.2.3 Institutional / Industrial buildings — Qualification requirements	10
8 Equipment requirements for thermographic examination of residential, commercial and institutional buildings	11
8.1 Equipment — General requirements	11
8.2 Calibration and checking of equipment	12
9 Safety	12
10 Thermography techniques	12
10.1 General	12
10.2 Comparative thermography	12
10.2.1 General	12
10.2.2 Technique	13
10.3 Comparative qualitative thermography	13
10.4 Comparative quantitative thermography	14
10.4.1 General	14
10.4.2 Comparative quantitative thermography — Limitations	14
11 Non-contact infrared radiometry (spot radiometry) using infrared thermography cameras	15
12 Air leakage and mass transfer	15
12.1 Air leakage	15
12.2 Mass transfer — Moisture	15
13 Moisture detection	16
13.1 Conductivity test method — Moisture detection	16
13.2 Capacitance test method — Moisture detection	16
13.3 Phase change test method — Moisture detection	16
14 Baseline measurements for building maintenance and condition monitoring	17
15 Data collection	17
16 Field measurements of reflected temperature and emissivity, and attenuating media	18
17 Comparative assessment criteria — Severity	18
18 Diagnosis and prognosis	18
18.1 Survey intervals	18

18.2	Image interpretation	18
18.3	Fault identification process	19
19	Test report	19
19.1	General information	19
19.2	Building-specific information	20
19.3	Qualitative inspections	21
19.4	Quantitative inspections	21
19.5	Reporting of unsafe conditions	22
Annex A (normative) Pro-forma safety rules and guidelines		23
Annex B (normative) Field measurements of reflected apparent temperature and emissivity		24
Annex C (informative) Examples of buildings heat, air and moisture faults, failures and anomalies detected by infrared thermography (IRT)		28