# ISO 14934-4:2014-08 (E)

## Fire tests - Calibration and use of heat flux meters - Part 4: Guidance on the use of heat flux meters in fire tests

## Contents

Page


Foreword ..... iv

Introduction ..... v

1 Scope ..... 1

2 Normative references ..... 1

3 Terms and definitions ..... 1

4 General information on heat flux meters ..... 1
4.1 General ..... 1
4.2 Principle of measurement ..... 2
4.3 Design of heat flux meter ..... 3
4.4 Measurement characteristics ..... 5
4.5 Physical shape of heat flux meter ..... 8

5 Attachments to heat flux meters ..... 9
5.1 Air purging ..... 9
5.2 Windows ..... 10
5.3 Cooling system ..... 11

6 Selection of a suitable heat flux meter ..... 12
6.1 General ..... 12
6.2 Range of measurement ..... 12
6.3 Type, dimensions and orientation ..... 13
6.4 View angle ..... 14
6.5 Response time ..... 14
6.6 Sensitivity to convective heat transfer ..... 14

7 Performing a measurement ..... 14
7.1 Installation ..... 14
7.2 Target surface ..... 15
7.3 Electronics ..... 15
7.4 Relationship between output voltage and total heat flux ..... 15

8 Calibration ..... 16
8.1 Secondary standard heat flux meter ..... 16
8.2 Working standard heat flux meters ..... 16
8.3 Frequency of calibration ..... 16

9 Maintenance ..... 16
9.1 Absorber ..... 16
9.2 Wiring ..... 16
9.3 Water supply ..... 16

10 Use of heat flux meters in fire tests ..... 16
10.1 General ..... 16
10.2 Ignitability test: ISO 5657 ..... 17
10.3 Spread of flame test: ISO 5658 series ..... 17
10.4 Heat release, smoke production and mass loss: ISO 5660 series and ISO 17554 ..... 18

**10.5 Full-scale room test for surface products: ISO 9705 and ISO 13784 series ..... 18**
**10.6 Façade tests: ISO 13785 series ..... 18**
**10.7 Spread of flame test for floor coverings: ISO 9239 series ..... 18**

**Bibliography ..... 19**