

# ISO 834-10:2014-03 (E)

## Fire resistance tests - Elements of building construction - Part 10: Specific requirements to determine the contribution of applied fire protection materials to structural steel elements

---

<b>Contents</b>		<b>Page</b>
Foreword .....		v
Introduction .....		vi
1	Scope .....	1
2	Normative references .....	1
3	Terms and definitions .....	2
4	Symbols and abbreviated terms .....	4
5	Test equipment .....	5
5.1	General .....	5
5.2	Furnace .....	5
5.3	Loading equipment .....	5
6	Test conditions .....	5
6.1	General .....	5
6.2	Support and loading conditions .....	5
7	Test specimens .....	11
7.1	General .....	11
7.2	Specimen design and preparation .....	12
7.3	Composition of test component materials .....	16
7.4	Selection of test specimens .....	19
8	Installation of the test specimens .....	20
8.1	Loaded beams .....	20
8.2	Unloaded beams .....	21
8.3	Loaded columns .....	21
8.4	Unloaded columns .....	21
8.5	Test specimen installation patterns .....	21
8.6	Furnace load .....	22
9	Conditioning of the test specimens .....	22
10	Application of instrumentation .....	23
10.1	General .....	23
10.2	Instrumentation for measurement of furnace temperature .....	23
10.3	Instrumentation for measurement of steel temperatures .....	25
10.4	Instrumentation for measurement of furnace pressure .....	29
10.5	Instrumentation for measurement of deformation .....	30
10.6	Instrumentation for measurement of load .....	30
11	Test procedure .....	30
11.1	General .....	30
11.2	Furnace temperature and pressure .....	30
11.3	Application and control of load .....	30

11.4	Measurements and observations .....	31
12	Test results .....	31
12.1	Acceptability of test results .....	31
13	Presentation of test results .....	32
14	Test report .....	33
14.1	General .....	33
Annex A (normative) Measurement of properties of passive fire protection materials .....		35
Annex B (normative) Measurement of properties of reactive protection materials .....		38
Annex C (normative) Selection of test specimens - passive fire protection .....		40
ISO 834-10:2014(E) Annex D (normative) Principle of selection of test specimens - reactive fire protection .....		46
Annex E (normative) Fixing of thermocouples to steelwork and routing cables .....		52
Annex F (informative) Test method to the smouldering fire (slow heating curve) .....		54
Annex G (informative) Tables of section factors .....		57
Bibliography .....		61