

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

Contents		Page
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