ISO 16733-1:2015-09 (E)

Fire safety engineering - Selection of design fire scenarios and design fires - Part 1: Selection of design fire scenarios

Contents

Page

Foreword iv

Introduction v

1 Scope 1

2 Normative references 1

3 Terms and definitions 1

4 Symbols and abbreviated terms 2

5 Fire safety engineering applications 3
5.1 Fire safety engineering process 3
5.1.1 Establish project scope 3
5.1.2 Identify fire safety objectives 4
5.1.3 Determine functional requirements 4
5.1.4 Identify performance criteria 4
5.1.5 Hazard identification 4
5.1.6 Fire safety design plan 4
5.2 The role of design fire scenarios in fire safety design 4
5.3 The role of design fires in fire safety design 5

6 Design fire scenarios 6
6.1 Characteristics of fire scenarios 6
6.2 Identification of fire scenarios 6
6.2.1 General 6
6.2.2 Step 1 -- Identify the specific safety challenges 8
6.2.3 Step 2 -- Location of fire 9
6.2.4 Step 3 -- Type of fire 10
6.2.5 Step 4 -- Potential complicating hazards leading to other fire scenarios 11
6.2.6 Step 5 -- Systems and features impacting on fire 11
6.2.7 Step 6 -- Occupant actions impacting on fire 12
6.3 Step 7 -- Selection of design fire scenarios 12
6.3.1 General 12
6.3.2 Combining scenarios into scenario clusters 12
6.3.3 Caution on exclusion of scenarios believed to have negligible risk 12
6.3.4 Demonstrating that the scenario structure is complete 13
6.3.5 Scenario selection procedure based on level of analysis 13
6.3.6 Selection of design fire scenarios for deterministic analysis 13
6.4 Step 8 -- Modify scenario selection based on system availability and reliability 14
6.5 Step 9 -- Final selection and documentation 15

Annex A (informative) Data for development of design fire scenarios 16

Annex B (informative) Example of a set of explicit fire scenarios 18

Annex C (informative) Design fires 21

Bibliography 30