

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 |