

DIN EN 14373:2022-07 (E)

Explosion suppression systems

Contents

	Page
European foreword	4
1 Scope.....	5
2 Normative references.....	5
3 Terms and definitions	6
4 Symbols and abbreviations (EN 14373)	8
5 Explosion suppression	9
5.1 Design.....	9
5.2 General function.....	10
5.3 Requirements for explosion suppression systems.....	11
6 Environmental aspects	15
6.1 General.....	15
6.2 Suppressant	15
6.3 Actuators and other components.....	15
7 Experimental testing of the efficacy of an explosion suppression system.....	15
7.1 Information to be submitted prior to testing	15
7.1.1 General.....	15
7.1.2 Intended use	16
7.1.3 Information on the parts of the suppression system.....	16
7.1.4 Calculation model.....	17
7.2 Testing	17
7.2.1 General requirements for test setup	17
7.2.2 Test program for non metallic dusts	17
7.2.3 Test program for metal dust.....	21
7.2.4 Test program for gas.....	21
7.2.5 Test program for hybrid mixtures of non metallic dust and gas	22
7.2.6 Test program for mist-air mixtures	22
7.3 Parameters to be measured.....	22
7.4 Test report.....	23
8 Instructions.....	24
8.1 General.....	24
8.2 Installation of cables.....	24
8.3 Assembling	25
8.3.1 General.....	25
8.3.2 Process information requirements.....	25
8.4 Commissioning	25
8.4.1 General.....	25
8.4.2 Instructions for hand-over	25
8.4.3 Commissioning report	25
8.5 Safety	26
8.6 Maintenance	26
9 Marking and packaging	26
9.1 General.....	26
9.2 Parts of the explosion suppression system	26
9.3 Explosion suppression system	28
Annex A (informative) Development of an explosion suppression calculation model	29

A.1	General	29
A.2	Extinction.....	29
A.3	Functional tests for model development	30
A.4	Model validation	31
Annex B (informative) Applications.....		32
B.1	General	32
B.2	Hazard definition.....	32
B.3	Typical process equipment.....	33
B.3.1	Spray dryers	33
B.3.1.1	Introduction	33
B.3.1.2	Definition of elements.....	33
B.3.1.3	Dust concentration.....	34
B.3.1.4	Protection concept.....	35
B.3.1.5	Isolation	35
B.3.1.6	Advanced inerting	35
B.3.1.7	Flame Duration.....	35
B.3.1.8	Interlocking	35
B.3.2	Clean volumes.....	35
B.3.3	Elevators	35
B.3.4	Elongated enclosures	36
B.3.5	Pipes	36
B.3.6	Occupied spaces	36
Annex C (informative) Extrapolation to larger volumes		38
Annex D (informative) Significant changes between this European Standard and EN 14373:2005		42
Annex ZA (informative) Relationship between this European Standard and the essential requirements of EU Directive 2014/34/EU aimed to be covered		44
Bibliography		46