ISO 13577-4:2022-07 (E)

Industrial furnaces and associated processing equipment - Safety - Part 4: Protective systems

Contents

Page

Foreword iv

Introduction v

1 Scope 1

2 Normative references 1

3 Termsanddefinitions 2

4 Design requirements for equipment in a protective system 4
4.1 General 4
4.2 Requirements for protective systems 6
4.2.1 Overview of methods 6
4.2.2 Method A 7
4.2.3 Method BC 8
4.2.4 Method D 10
4.3 Fault assessment for the wired section of protective systems 11
4.4 Failure of utilities 12
4.5 Reset 12

5 Information for use 12

Annex A (informative) Explanation of techniques and measures for avoiding systematic faults 13

Annex B (normative) Wiring of protective systems 15

Annex C (informative) Examples for the determination of safety integrity level (SIL) or performance level (PL) using the risk graph method 29

Annex D (informative) Example of a risk assessment for one safety instrumented function using the method according to the IEC 61511:2016 series 45

Annex E (informative) Examples for protective functions 53

Annex F (normative) Requirements for application software 82

Bibliography 84