

DIN EN ISO 13577-4:2024-01 (E)

Industrial furnaces and associated processing equipment - Safety - Part 4: Protective systems (ISO 13577-4:2022)

| Contents | Page |
|--|-------------|
| European foreword | 3 |
| Foreword..... | 4 |
| Introduction | 5 |
| 1 Scope | 6 |
| 2 Normative references | 6 |
| 3 Terms and definitions | 7 |
| 4 Design requirements for equipment in a protective system | 9 |
| 4.1 General..... | 9 |
| 4.2 Requirements for protective systems | 11 |
| 4.2.1 Overview of methods | 11 |
| 4.2.2 Method A..... | 12 |
| 4.2.3 Method BC | 13 |
| 4.2.4 Method D..... | 15 |
| 4.3 Fault assessment for the wired section of protective systems..... | 16 |
| 4.4 Failure of utilities | 17 |
| 4.5 Reset..... | 17 |
| 5 Information for use | 17 |
| Annex A (informative) Explanation of techniques and measures for avoiding systematic faults | 18 |
| Annex B (normative) Wiring of protective systems | 20 |
| Annex C (informative) Examples for the determination of safety integrity level (SIL) or performance level (PL) using the risk graph method | 34 |
| Annex D (informative) Example of a risk assessment for one safety instrumented function using the method according to the IEC 61511:2016 series | 50 |
| Annex E (informative) Examples for protective functions | 58 |
| Annex F (normative) Requirements for application software | 87 |
| Bibliography | 89 |