

DIN EN 45552:2020-05 (E)

General method for the assessment of the durability of energy-related products

Contents		Page
European foreword		4
Introduction		5
1	Scope	6
2	Normative references	6
3	Terms and definitions	6
3.1	General definitions	6
3.1.1	Terms related to reliability and durability	6
3.1.2	Terms related to functions	7
3.1.3	Activities related to use	8
3.1.4	Other terms	9
3.2	Abbreviations	9
4	Concept and process overview	10
4.1	Concept	10
4.1.1	General	10
4.1.2	Difference between reliability and durability	11
4.1.3	Concepts of functional analysis, primary, secondary and tertiary functions	11
4.1.4	Concepts of limiting event and limiting state	12
4.2	Process overview and guidance	12
5	Definition of the Product	13
5.1	Functional analysis	13
5.2	Environmental and operating conditions	14
5.3	Additional information	14
6	Reliability	14
6.1	General considerations	14
6.2	Reliability analysis	15
6.3	Reliability assessment methods	15
7	Durability	16
7.1	General considerations	16
7.2	Durability analysis	16
7.3	Durability assessment methods	17
8	Documenting the assessment of reliability and durability	17
8.1	General	17
8.2	Elements of the assessment	17
8.3	Documentation	18
Annex A(informative) Additional details on durability and reliability analysis		19
A.1	Environmental and operating conditions	19
A.2	Stress analysis	20
A.3	Damage modelling	21
A.4	Acceleration factors (AF)	21
Annex B(informative) Additional details on testing development		25

B.1	Stress modelling	25
B.2	Accelerated tests	25
Annex C(informative) Maintenance and repair considerations for an increased reliability and durability		28
C.1	General	28
C.2	Wear-out parts and spare parts considerations	29
Annex D(informative) Additional details on limiting event and limiting state		31
Bibliography		32