

ISO 13822:2010-08 (E)

Bases for design of structures - Assessment of existing structures

Contents		Page
Foreword		v
Introduction		vi
1	Scope	1
2	Normative references	1
3	Terms and definitions	2
4	General framework of assessment	3
4.1	Objectives	3
4.2	Procedure	4
4.3	Specification of the assessment objectives	5
4.4	Scenario	5
4.5	Preliminary assessment	5
4.6	Detailed assessment	6
4.7	Results of assessment	7
5	Data for assessment	7
5.1	General	7
5.2	Actions and environmental influences	7
5.3	Material properties	8
5.4	Properties of the structure	8
5.5	Dimensions	8
6	Structural analysis	9
6.1	Models	9
6.2	Limit states	9
6.3	Basic variables	9
6.4	Model uncertainties	9
6.5	Conversion factors	9
6.6	Uncertainty about the condition of components	9
6.7	Deterioration models	9
7	Verification	10
7.1	Bases	10
7.2	Reliability assessment	10
7.3	Limit states	10
7.4	Plausibility check	10
7.5	Target reliability level	10
8	Assessment based on satisfactory past performance	10
8.1	Assessment of safety	10
8.2	Assessment of serviceability	11
9	Interventions	11
10	Report	11
10.1	General	11
10.2	Conclusions	11
10.3	Sufficient reliability	11

10.4	Insufficient reliability	12
10.5	Recommendations for interventions	12
10.6	Inspection and maintenance plan	12
10.7	Documented information	12
10.8	Reporting style	12
11	Judgement and decision	12
11.1	Decision	12
Annex A (informative) Hierarchy of terms		13
Annex B (informative) Flowchart for the general assessment of existing structures		14
Annex C (informative) Updating of measured quantities		15
Annex D (informative) Testing for static and dynamic properties of structures		21
Annex E (informative) Assessment of time-dependent reliability		24
Annex F (informative) Target reliability level		28
Annex G (informative) Test report format		30
Annex H (informative) Design of upgrading		33
Annex I (informative) Heritage structures		35
Bibliography		44