ISO 8686-1:2012-12 (E)

Cranes - Design principles for loads and load combinations - Part 1: General

Contents

Page

Foreword iv

1 Scope 1

2 Normative references 1

3 Termsanddefinitions 1

4 Symbols 2

5 General 2
5.1 General principles 2
5.2 Methods of proof of competence calculations 3
5.3 Assessment of loads 3
5.4 Categories of loads 4

6 Loads and applicable factors 4
6.1 Regular loads 4
6.2 Occasional loads 9
6.3 Exceptional loads 10
6.4 Miscellaneous loads 13

7 Principles of choice of load combinations 13
7.1 Basic considerations 13
7.2 Load combinations during erection, dismantling and transport 17
7.3 Application of Table 3 17
7.4 Partial safety factors for the proof of rigid body stability 20

Annex A (normative) Application of allowable stress method and limit state method of design 21

Annex B (informative) General guidance on application of dynamic factors 26

Annex C (informative) Example of model for estimating value of dynamic factor 4 for cranes travelling on rails 27

Annex D (informative) Example of determination of loads caused by acceleration 31

Annex E (informative) Example of method for analysing loads due to skewing 40

Annex F (informative) Illustration of types of hoist drives 46

Bibliography 49