ISO 22762-6:2022-07 (E)

Elastomeric seismic-protection isolators - Part 6: High-durability and high-performance specifications and test methods

Contents

Page

Foreword v

Introduction vi

1 Scope 1

2 Normative references 1

3 Terms and definitions 1

4 Symbols 4

5 Classification 4

6 Requirements 5
6.1 General 5
6.2 Type tests and routine tests 5
6.3 Functional requirements 5
6.4 Design compressive force and design shear displacement 5
6.5 Performance requirements 5
6.5.1 General 5
6.5.2 Compressive properties 14
6.5.3 Shear properties 14
6.5.4 Tensile properties 14
6.5.5 Dependencies of shear properties 14
6.5.6 Dependencies of compressive properties 14
6.5.7 Shear displacement capacity 15
6.5.8 Durability 15
6.6 Test pieces for type testing 15
6.6.1 General 15
6.6.2 Number of test pieces 16
6.6.3 Scale of test pieces 17
6.7 Rubber material requirements 17
6.8 Dimensional requirements 17
6.9 Requirements on steel used for flanges and reinforcing plates 17
6.10 Requirements on lead material for LRB 17

7 Marking and labelling 17
7.1 General 17
7.2 Information to be provided 18
7.3 Additional requirements 18
7.4 Marking and labelling examples 18

8 Test methods 19
8.1 General 19
8.2 Various dependence tests 19
8.2.1 Repeated deformation dependence of shear properties 19
8.2.2 Horizontal biaxial loading dependency 21
8.2.3 Dependence of compression properties on shear strain 23
8.3 Ultimate properties under horizontal biaxial loading test 23
8.3.1 Principle 23

8.3.2 Test machine 24
8.3.3 Test piece 24
8.3.4 Test conditions 24
8.3.5 Procedure 24
8.3.6 Expression of results 25
8.3.7 Test report 25
8.4 Tensile testing 26
8.4.1 Allowable tensile strain 26
8.4.2 Shear strain dependency of tensile yield strength 27
8.4.3 Shear strain dependency of allowable tensile strain 28
8.4.4 Tensile fracture strain 29
8.5 Durability 30
8.5.1 Cumulative shear strain 30
8.5.2 Horizontal shear creep test and residual shear strain test 32

9 Quality assurance 34

Annex A (informative) Shear displacement capacity of various elastomeric seismic- protection isolators 35

Annex B (informative) Example of the test method for ultimate properties under horizontal biaxial loading 41

Bibliography 45