DIN EN 549:2023-07 (En glisch)

Rubber materials for seals and diaphragms for gas appliances and gas equipment (includes Amendment :2023)

Contents

Page

European foreword 4

Introduction 5

1 Scope 6

2 Normative references 6

3 Terms and definitions 7

4 Product's information 7

5 Classification 8

6 Requirements 9
6.1 General 9
6.2 Requirements for rubber material used to manufacture seals 9
6.3 Requirements for rubber material used to manufacture diaphragms 11

7 Test methods 13
7.1 General 13
7.2 Hardness 13
7.3 Tensile strength and elongation at break 13
7.4 Compression set 13
7.5 Resistance to ageing 13
7.6 Resistance to gas 13
7.7 Resistance to condensate/liquid phase of combustible gases 14
7.8 Resistance to lubricants 14
7.9 Resistance to ozone 14
7.10 Stress relaxation in compression 17
7.11 Resistance to gas -- Change of volume 17
7.12 Resistance to condensate/liquid phase of combustible gases -- Change of volume 17

8 Evaluation of life-time for material used to manufacture seals 17

9 Infrared spectra of the material 17

Annex A (normative) Requirements and test of components 18

A.1 Scope 18
A.2 Requirements 18
A.2.1 General 18
A.2.2 Physical and chemical properties of seals 18
A.2.3 Physical and chemical properties of diaphragms 18
A.3 Tests methods for components 18
A.3.1 General 18
A.3.2 Hardness 18
A.3.3 Resistance to ageing 19
A.3.4 Resistance to gas 19
A.3.5 Resistance to condensate/liquid phase of combustible gas 19
A.3.6 Resistance to lubricants 19

A.3.7 Resistance to ozone 20

Annex B (normative) Infrared spectra of the material 24

B.1 Scope 24
B.2 Requirements 24
B.2.1 General 24
B.2.2 Solvent extract 24
B.2.3 Infrared spectra 24
B.2.4 Density 24
B.3 Methods of test 24
B.3.1 General 24
B.3.2 Solvent extraction 24
B.3.3 Infrared spectra 25
B.3.4 Density 25

Annex C (normative) Evaluation of lifetime for material used to manufacture seals by using the compression set method 26

C.1 General 26
C.2 Requirements 27
C.3 Test Procedure 27
C.4 Evaluation of Test Results 28
C.5 Documentation 29

Annex D (informative) Verification of identity of material 30

D.1 Scope 30
D.2 Verification requirements 30
D.2.1 General 30
D.2.2 Solvent extract 30
D.2.3 Infrared spectra 30
D.2.4 Density 30

Annex ZA (informative) Relationship between this European Standard and the essential requirements of Regulation 2016/426 aimed to be covered 31

Bibliography 32