

DIN EN 13555:2014-07 (E)

Flanges and their joints - Gasket parameters and test procedures relevant to the design rules for gasketed circular flange connections

Contents	Page
Foreword	4
Introduction	5
1 Scope	6
2 Normative references	6
3 Terms and definitions	7
4 Symbols	8
5 List of gasket parameters	9
6 Test equipment	9
6.1 Design	9
6.2 Test platens	9
6.3 Metal Foils	10
6.4 Surface finish	10
6.5 Measurement of gasket thickness	10
6.6 Loading	10
6.7 Temperature	10
6.8 Leakage measurement	11
7 Test gaskets	11
7.1 Number of gaskets	11
7.2 Procurement and identification of gaskets	11
7.3 Pre-conditioning of the gaskets	11
7.4 Dimensions of test gaskets	11
7.5 Measurement of test gaskets as received	12
7.6 Influence of gasket dimensions	12
8 Test procedures	13
8.1 General	13
8.2 Testing Strategy	13
8.3 Reference gasket thickness	13
8.4 Compression curve	13
8.5 Determination of Q_{smax}	14
8.6 Determination of the values of EG	17
8.7 Determination of PQR and e_{Gc}	19
8.8 Determination of $Q_{min}(L)$ and $Q_{smin}(L)$	19
8.9 Determination of $Q_{smin}(L)$ at elevated temperatures	22
8.10 Determination of axial coefficient of thermal expansion	22
8.11 Determination of the coefficient of static friction	23
9 Report details	23
Annex A (informative) Generalised test rig schematic	24
Annex B (informative) Test rig schematic for compression and compression creep tests	25

Annex C (informative) Test rig schematic for ambient temperature leakage measurement	26
Annex D (informative) Schematic of leakage rig allowing use of interchangeable face plate	27
Annex E (informative) Transferability of measured leakage rates to service conditions	28
Annex F (informative) The measurement of the sealing parameter $Q_{smin}(L)$ after long term service simulating exposure to elevated temperature	29
Figure F.1 -- The measurement of sealing parameters of heat aged gaskets	29
Annex G (informative) Determination of the sealing characteristics of strip sealing materials available in coil form	31
Annex H (informative) Proposed method for the determination of the coefficient of static friction, μ_G, of gaskets	32
Bibliography	34