ISO 6621-2:2020-03 (E)

Internal combustion engines - Piston rings - Part 2: Inspection measuring principles

Contents

Page

Foreword iv

Introduction v

1 Scope 1

2 Normative references 1

3 Termsanddefinitions 1

4 Measuring principles 5
4.1 General measuring conditions 5
4.2 Characteristics and measuring principles 6
4.2.1 Ring width 6
4.2.2 Radial wall thickness, a1 8
4.2.3 Total free gap m, p 8
4.2.4 Closed gap, s1 9
4.2.5 Tangential force, Ft (in Newton) 10
4.2.6 Diametral force, Fd (in Newton) 15
4.2.7 Ovality, U (in millimetres) 16
4.2.8 Point deflection, W (in millimetres) 17
4.2.9 Light tightness (percentage of ring circumference) 17
4.2.10 Taper on peripheral surface (in micrometres or degrees) 18
4.2.11 Barrel on peripheral surface, t2, t3 (in millimetres) 18
4.2.12 Land width, h4, h5 (in millimetres) 20
4.2.13 Land offset (in millimetres) 21
4.2.14 Plating/coating thickness (in millimetres) 21
4.2.15 Nitrided case depth (in millimetres) 22
4.2.16 Keystone angle (in degrees) 22
4.2.17 Obliqueness (in degrees) 24
4.2.18 Twist (in millimetres) 25
4.2.19 Unevenness Ter, Teu 26
4.2.20 Helix (axial displacement of gap ends) (in millimetres) 27
4.2.21 Free flatness (in millimetres) 27
4.2.22 Surface roughness Ra, Rz (in micrometers) 28
4.2.23 Circumferential waviness -- Bottom side face (in micrometres) 28

Bibliography 30