ISO 4821:2022-05 (E)

Plain bearings - Dynamic adhesion test method for DLC coated parts under lubricated condition

Contents

Page

Foreword iv

Introduction v

1 Scope 1

2 Normative references 1

3 Termsanddefinitions 1

4 Specimens 2
4.1 General 2
4.2 Ball specimen 2
4.3 Disk specimen 2

5 Apparatus 2
5.1 Testing equipment 2
5.2 Specification of ball-on-disk equipment 2
5.3 Sample of disk holder 3
5.4 Sample of ball holder 3
5.5 Oil bath and equipment for controlling oil temperature 4
5.6 AE sensor and its holder 5
5.7 AE sensor amplifier 6
5.8 Universal counter for AE events 6

6 Testing procedure 6
6.1 Pre-treatment of specimen before test 6
6.2 Set up of adhesion test 6
6.3 Lubricant 6
6.4 Testing conditions for adhesion test 6
6.5 Measurement of AE events 7
6.6 Number of test repeats 8

7 Recommendation 8
7.1 Measurement of friction force 8
7.2 Observation of disk after the test 8
7.3 Observation of balls after the test 8

8 Test report 9

Annex A (informative) Example of stages for adhesion strength tests of coatings applied to engine parts 10

Annex B (informative) Example of the dynamic adhesion test result relationship between the cam/follower tester and ball-on-disk tester 11

Bibliography 13