DIN ISO 9211-4:2023-07 (E)

Optics and photonics - Optical coatings - Part 4: Specific test methods: abrasion, adhesion and resistance to water (ISO 9211-4:2022)

Contents

Page

National foreword 3

National Annex NA (informative) **Bibliography** 5

Foreword 6

1 Scope 7

2 Normative references 7

3 Terms and definitions 7

4 Preparation prior to testing 7

5 Abrasion tests: cheesecloth/eraser test (conditioning method 01) 8
5.1 General 8
5.2 Test conditions 8
5.2.1 General 8
5.2.2 Moderate abrasion test 8
5.2.3 Severe abrasion test 8
5.3 Degree of severity: abrasion – cheesecloth/eraser test (conditioning method 01) 8
5.4 Recovery 9
5.5 Evaluation 9

6 Adhesion test: tape test (conditioning method 02) 9
6.1 General 9
6.2 Test conditions 9
6.3 Degree of severity: adhesion – tape test (conditioning method 02) 10
6.4 Recovery 10
6.5 Evaluation 10

7 Adhesion test: crosshatch test (conditioning method 03) 10
7.1 General 10
7.2 Test conditions 10
7.3 Degree of severity 10
7.4 Conditioning 11
7.5 Recovery 11
7.6 Evaluation 11

8 Resistance to water: exposure to water (conditioning method 04) 11
8.1 General 11
8.2 Test conditions 11
8.3 Degree of severity: resistance to water – exposure to water (conditioning method 04) 12
8.4 Recovery 12
8.5 Evaluation 12

9 Adhesion test: pull-off test (conditioning method 05) 13
9.1 General 13
9.2 Test conditions 13
9.3 Degree of severity: adhesion – pull-of test (conditioning method 05) 14
9.4 Evaluation 14

10 Environmental test code 14

Annex A (normative) **Materials for abrasion testing of optical coatings** **15**

Annex B (informative) **Cheesecloth pad, pad cover and fixture preparation for moderate abrasion testing of optical coatings** **18**

Annex C (normative) **Visual examination of optical coatings** **20**

Bibliography **21**