ISO 18555:2016-02 (E)

Metallic and other inorganic coatings - Determination of thermal conductivity of thermal barrier coatings

Contents

Page

Foreword iv

Introduction v

1 Scope 1

2 Normative references 1

3 Termsanddefinitions 1

4 Principle 4

5 Apparatus for measuring thermal diffusivity 4

6 Specimen 5
6.1 Shape and dimensions 5
6.2 Surface treatment 7

7 Measuring procedure 7
7.1 Specimen thickness 7
7.2 Thermal diffusivity 7
7.2.1 Measurement of temperature-rise curve 7
7.2.2 Calculation of thermal diffusivity of substrate 7
7.2.3 Calculation of thermal diffusivities of BC and TC 7
7.3 Specific heat capacity 10
7.4 Bulk density 10

8 Thermal conductivities of BC and TC 11

9 Report 11
9.1 Items to be reported 11
9.2 Additional items to be selected for the report 12

Annex A (informative) Areal heat diffusion time method 13

Annex B (informative) Examples of theoretical temperature-rise curves 16

Bibliography 18