ISO/TS 21913:2022-06 (E)

Temperature verification method applied to dynamic fatigue testing

Contents

Page

Foreword iv

Introduction v

1 Scope 1

2 Normative references 1

3 Terms and definitions 1

4 Measurement behaviour 3

5 Representative verification equipment 4
5.1 Reference measurements 4
5.2 Direct physically connected thermocouples (welded to specimen) 5
5.3 Contacting thermocouples and other contacting devices not welded to specimen 5
5.4 Non-contacting thermo-optical devices 6
5.4.1 Constant emissivity coatings 6
5.4.2 Native surfaces 6

6 Basic isothermal verification methods 6
6.1 Equipment set up 6
6.2 Measurement of system resolution 7
6.3 Summation of component bias errors 7
6.4 Single point measurement of system bias error 7
6.5 Multiple point assessment of resolution and bias error 7

7 Evaluation of long term measurement drift 8
7.1 Single point method (Post-test measurement) 8
7.2 Time profile method (System assessment) 8

8 Verification of dynamic temperature measurement 8
8.1 Time lag 8
8.1.1 Continuous ramp method 8
8.1.2 Turning point method 9
8.2 Stabilisation time 9

9 Reporting 9

Annex A (informative) Specific considerations for specimen temperature measurement during fatigue tests 10

Bibliography 13