

ISO 24687:2023-04 (E)

Fine ceramics (advanced ceramics, advanced technical ceramics) - Measurement of Seebeck coefficient and electrical conductivity of bulk-type thermoelectric materials at room and high temperatures

Contents	Page
Foreword	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Principle	2
5 Significance and use	4
6 Apparatus	4
7 Sampling	5
7.1 Shape and dimension of specimen	5
7.2 Pre-treatment	6
7.3 Storage	6
7.4 Number of specimens	6
8 Procedure	6
8.1 Dimension measurement of specimen	6
8.2 Placement of specimen	6
8.3 Evacuating and purging the chamber	7
8.4 Measurement of electrical conductivity	7
8.5 Measurement of Seebeck coefficient	7
9 Calculation	7
9.1 Seebeck coefficient	7
9.2 Electrical conductivity	9
10 Expression of results	10
10.1 Seebeck coefficient and electrical conductivity	10
10.2 Variation of Seebeck coefficient as a function of temperature	11
10.3 Variation of electrical conductivity as a function of temperature	11
11 Test report	12
Annex A (informative) Interlaboratory evaluation of Seebeck coefficient and electrical conductivity of bulk-type thermoelectric materials	14
Annex B (informative) Periodic check of the apparatus (or equipment) by using a certified reference material (CRM) or a reference material (RM)	20
Bibliography	21