

DIN EN 12923-1:2007-03 (E)

Advanced technical ceramics - Monolithic ceramics - Part 1: General practice for undertaking corrosion tests

Contents		Page
Foreword		4
1	Scope	5
2	Normative references	5
3	Terms and definitions	6
4	Significance and use	6
5	Assessment of corrosive attack	7
5.1	Introduction	7
5.2	Method A: Depth of penetration	7
5.3	Method B: Mass change	8
5.4	Method C: Change of test piece size	9
5.5	Method D: Strength change	9
5.6	Method E: Change in surface roughness	9
5.7	Method F: Change in hardness	9
6	Apparatus for laboratory corrosion testing	10
6.1	Container for corroding medium	10
6.2	Heating device	10
6.3	Thermocouple	10
6.4	Chemical balance	10
6.5	Oven	10
6.6	Dye penetrant equipment	10
6.7	Travelling microscope or optical microscope	11
6.8	Micrometer	11
6.9	Vernier callipers	11
6.10	Surface roughness measuring equipment	11
6.11	Flexural strength test facility	11
6.12	Hardness measurement equipment	11
7	Test pieces	11
7.1	General requirements	11
7.2	Specific requirements	11
7.3	Number of test pieces	12
8	Test procedure	12
8.1	Safety considerations	12
8.2	Corrosion test	12
8.3	Procedure	12
9	Expression of results	14
9.1	Calculation of mass change (Method B)	14
9.2	Change of component or test piece size (Method C)	14
9.3	Calculation of flexural strength (Method D)	15
10	Test report	15
Annex A (informative) Appropriate container and specimen holder materials for corrosion testing ..		17

A.1	Mineral acids, excluding hydrofluoric acid	17
A.2	Hydrofluoric acid (HF)	17
A.3	Aqueous-based alkaline solutions	17
A.4	Molten metal alloys	17
A.5	Molten slags	18
A.6	Corrosive gases	18
Bibliography		19