

DIN EN ISO 6872:2019-01 (E)

Dentistry - Ceramic materials (ISO 6872:2015 + Amd.1:2018) (includes Amendment :2018)

Contents	Page
European foreword.....	4
A1 European foreword to Amendment A1 A1	5
Foreword	6
Foreword to Amendment 1	7
Introduction	8
1 Scope	9
2 Normative references	9
3 Terms and definitions	9
3.1 Material.....	9
3.2 Processing.....	11
3.3 Properties	12
4 Types, classes, and their identification	12
5 Requirements	14
5.1 Uniformity.....	14
5.2 Freedom from extraneous materials	14
5.3 Mixing and condensation properties of type I ceramics.....	14
5.4 Physical and chemical properties	14
5.5 Biocompatibility	14
5.6 Shrinkage factor	14
6 Sampling.....	14
6.1 Type I ceramics	14
6.2 Type II ceramics.....	15
7 Test methods	15
7.1 Preparation of test specimens.....	15
7.1.1 Components of test specimens (type I ceramics)	15
7.1.2 Apparatus for mixing.....	15
7.1.3 Method of mixing.....	15
7.1.4 Procedure for specimen fabrication	15
7.1.5 Firing.....	16
7.2 Radioactivity of dental ceramic	16
7.2.1 Preparation of samples.....	16
7.2.2 Counting procedure.....	16
7.2.3 Assessment of results	16
7.3 Flexural strength.....	16
7.3.1 Three-point and four-point bending tests	16
7.3.2 Biaxial flexure test (piston-on-three-ball test)	20
7.4 Linear thermal expansion coefficient.....	22
7.4.1 Apparatus.....	22
7.4.2 Preparing of test specimens (type I and type II ceramics).....	22
7.4.3 Dilatometric measurement	22
7.4.4 Assessment of results	22

7.5	Glass transition temperature	22
7.5.1	Operating procedure	22
7.5.2	Assessment of results.....	23
7.6	Chemical solubility.....	23
7.6.1	Reagent.....	23
7.6.2	Apparatus	23
7.6.3	Preparation of test specimens	24
7.6.4	Procedure	24
7.6.5	Calculation and assessment of results	24
8	Information and instructions.....	24
8.1	Information.....	24
8.1.1	General	24
8.1.2	Type I Ceramics	24
8.1.3	Type II ceramics	24
8.2	Instructions for use.....	25
9	Packaging, marking, and labelling	25
9.1	Packaging.....	25
9.2	Marking and labelling	25
Annex A (informative)	Fracture toughness	27
Annex B (informative)	Weibull statistics	34
Bibliography	36