

DIN EN ISO 28319:2018-08 (E)

Dentistry - Laser welding and filler materials (ISO 28319:2018)

Contents		Page
European foreword		3
Foreword		4
1 Scope		5
2 Normative references		5
3 Terms and definitions		5
4 Requirements		6
4.1 Chemical composition		6
4.1.1 Metallic materials to be joined		6
4.1.2 Filler material		6
4.1.3 Hazardous elements in filler material		6
4.2 Biocompatibility		6
4.3 Mechanical strength of laser welded joint (tensile strength)		6
4.4 Corrosion resistance		7
4.4.1 Static immersion test		7
4.4.2 Appearance after corrosion exposure		7
4.5 Laser welding process		7
5 Sampling		7
6 Preparation of specimens		7
6.1 General		7
6.2 Specimens for tensile testing		8
6.2.1 General		8
6.2.2 Procedure		8
6.3 Specimens for corrosion testing		9
6.3.1 General		9
6.3.2 Seam geometry		9
7 Measurement and test methods		10
7.1 Visual inspection		10
7.2 Chemical composition		10
7.3 Tensile testing		10
7.3.1 General		10
7.3.2 Evaluation of tensile testing results		10
7.3.3 Calculation of tensile strength		11
7.4 Corrosion resistance by static immersion test		11
7.4.1 Reagents		11
7.4.2 Apparatus		11
7.4.3 Test solution		11
7.4.4 Test procedure		11
7.4.5 Analysis		11
7.4.6 Microscopic inspection		12
7.4.7 Report		12
8 Instruction for use		12
9 Marking and labelling		12
9.1 Marking		12
9.2 Labelling		12
10 Test report		13
Annex A (informative) Laser welding process		14
Bibliography		17