

DIN EN ISO 16954:2015-11 (E)

Dentistry - Test methods for dental unit waterline biofilm treatment (ISO 16954:2015)

Contents		Page
European foreword		3
1	Scope	4
2	Normative references	4
3	Terms and definitions	4
4	Treatment methods	6
5	Test water and bacterial challenge suspensions	6
5.1	Test water	6
5.1.1	Reagents	6
5.1.2	Preparation of hardness stock solution 1	6
5.1.3	Preparation of hardness stock solution 2	6
5.1.4	Preparation of test water prior to inoculation	6
5.2	Bacterial challenge	7
5.3	Inoculated test water	7
6	Test apparatus	7
6.1	Test apparatus design	8
6.1.1	General	8
6.1.2	Considerations specific to antimicrobial materials and materials which prevent microbial adhesion	9
6.2	Test apparatus operation	9
6.2.1	Flow rates	9
6.2.2	Flow patterns (on-off cycles)	9
6.2.3	Test environment temperature and preconditioning period	10
7	Test procedures	10
7.1	Testing sequence	10
7.2	Biofilm prevention or inhibition	10
7.2.1	General	10
7.2.2	Pretreatment of the test apparatuses	11
7.2.3	Concurrent exposure to inoculated test water and the treatment method for biofilm prevention or inhibition	11
7.2.4	Microbiological sampling and testing	11
7.2.5	Test duration	11
7.2.6	Analysis of results	12
7.3	Biofilm removal	12
7.3.1	General	12
7.3.2	Initial microbiological sampling and testing	12
7.3.3	Application of the biofilm removal treatment method	13
7.3.4	Final microbiological sampling and testing	13
7.3.5	Analysis of results	13
8	Microbiological sampling and testing	14
8.1	Enumeration of bacteria levels in procedural water	14
8.1.1	Sampling	14
8.1.2	Total viable count test procedure	14
8.1.3	Alternative total viable count test procedure	14
8.2	Biofilm on waterline surfaces	15
8.2.1	Sampling	15
8.2.2	Biofilm assessment test procedure	15
9	Test Report	16
Bibliography		17