

ISO 16954:2015-07 (E)

Dentistry - Test methods for dental unit waterline biofilm treatment

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

8.2.1	Sampling	12
8.2.2	Biofilm assessment test procedure	12
9	Test Report	13
	Bibliography	14