

# DIN EN ISO 16954:2015-11 (E)

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

### Contents

	Page
European foreword.....	3
<b>1 Scope.....</b>	<b>4</b>
<b>2 Normative references.....</b>	<b>4</b>
<b>3 Terms and definitions.....</b>	<b>4</b>
<b>4 Treatment methods.....</b>	<b>6</b>
<b>5 Test water and bacterial challenge suspensions.....</b>	<b>6</b>
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
<b>6 Test apparatus.....</b>	<b>7</b>
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
<b>7 Test procedures.....</b>	<b>10</b>
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
<b>8 Microbiological sampling and testing.....</b>	<b>14</b>
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
<b>9 Test Report.....</b>	<b>16</b>
<b>Bibliography.....</b>	<b>17</b>