

# DIN EN ISO 11990:2018-12 (E)

## Lasers and laser-related equipment - Determination of laser resistance of tracheal tube shaft and tracheal cuffs (ISO 11990:2018)

---

### Contents

	Page
<b>European foreword</b>	<b>3</b>
<b>Annex ZA (informative) Relationship between this European standard and the essential requirements of Directive 93/42/EEC [OJ L 169] aimed to be covered</b>	<b>4</b>
<b>Foreword</b>	<b>6</b>
<b>Introduction</b>	<b>7</b>
<b>1 Scope</b>	<b>8</b>
<b>2 Normative references</b>	<b>8</b>
<b>3 Terms and definitions</b>	<b>8</b>
<b>4 Principle</b>	<b>10</b>
<b>5 Significance and use of the test</b>	<b>10</b>
<b>6 Apparatus</b>	<b>11</b>
6.1 General	11
6.2 Containment box	11
6.3 Specimen holder	12
6.4 Lasers and delivery systems	13
6.5 Power meter	13
6.6 Gas supply system	13
6.7 Environment	13
6.7.1 Ambient air conditions	13
6.7.2 Oxygen enriched atmospheres	14
6.8 Smoke evacuation device	14
<b>7 Reagents and materials</b>	<b>14</b>
<b>8 Preparation of test specimens</b>	<b>14</b>
<b>9 Preparation of apparatus</b>	<b>15</b>
<b>10 Test methods</b>	<b>15</b>
10.1 General conditions	15
10.2 Shaft	15
10.3 Cuff	16
<b>11 Interpretation of results</b>	<b>17</b>
<b>12 Test report</b>	<b>17</b>
<b>Bibliography</b>	<b>19</b>