

# ISO 14997:2017-08 (E)

## Optics and photonics - Test methods for surface imperfections of optical elements

---

<b>Contents</b>		<b>Page</b>
Foreword .....		iv
Introduction .....		v
<b>1</b>	<b>Scope .....</b>	<b>1</b>
<b>2</b>	<b>Normative references .....</b>	<b>1</b>
<b>3</b>	<b>Terms and definitions .....</b>	<b>1</b>
<b>4</b>	<b>Symbols .....</b>	<b>2</b>
<b>5</b>	<b>Inspection methods and levels .....</b>	<b>2</b>
<b>6</b>	<b>General information regarding visual inspection .....</b>	<b>3</b>
<b>7</b>	<b>Evaluation methods for the visibility based specification of surface imperfections .....</b>	<b>3</b>
7.1	Visual evaluation (IVV) .....	3
7.1.1	General .....	3
7.1.2	Typical visual evaluation method .....	3
7.2	Visibility comparison inspection (ISV) .....	4
7.2.1	General .....	4
7.2.2	Typical transmitted light visibility comparison method .....	4
7.2.3	Alternative transmitted light visibility comparison method .....	4
7.2.4	Reflective light visibility comparison method .....	5
<b>8</b>	<b>Evaluation methods for the dimensional based specification of surface imperfections .....</b>	<b>5</b>
8.1	Visual evaluation (IVD) .....	5
8.1.1	General .....	5
8.1.2	Typical visual evaluation method .....	5
8.2	Dimensional comparison inspection (ISD) .....	5
8.2.1	General .....	5
8.2.2	Typical dimensional comparison inspection method .....	6
8.3	Dimensional comparison inspection with magnification (IMD) .....	6
8.3.1	General .....	6
8.3.2	Typical stereo microscope evaluation method .....	6
<b>9</b>	<b>Test report .....</b>	<b>7</b>
<b>Annex A (normative) Visual inspection equipment .....</b>		<b>9</b>
<b>Annex B (informative) Recommended dimensions of artefacts on a dimensional comparison standard .....</b>		<b>12</b>
<b>Annex C (informative) Number of allowed smaller imperfections with equivalent area of the specified grade .....</b>		<b>13</b>
<b>Bibliography .....</b>		<b>14</b>