

# ISO 6336-6:2019-11 (E)

## Calculation of load capacity of spur and helical gears - Part 6: Calculation of service life under variable load

---

<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, definitions, symbols and abbreviated terms .....</b>	<b>1</b>
<b>3.1</b>	<b>Terms and definitions .....</b>	<b>1</b>
<b>3.2</b>	<b>Symbols and abbreviated terms .....</b>	<b>1</b>
<b>4</b>	<b>General .....</b>	<b>5</b>
<b>4.1</b>	<b>Determination of load and stress spectra .....</b>	<b>5</b>
<b>4.2</b>	<b>General calculation of service life .....</b>	<b>7</b>
<b>4.3</b>	<b>Palmgren-Miner rule .....</b>	<b>8</b>
<b>5</b>	<b>Calculation of service strength on the basis of single-stage strength according to 5.1</b>	
	<b>Basic principles .....</b>	<b>9</b>
<b>5.2</b>	<b>Calculation of stress spectra .....</b>	<b>13</b>
<b>5.3</b>	<b>Determination of pitting and bending strength values .....</b>	<b>14</b>
<b>5.4</b>	<b>Determination of safety factors .....</b>	<b>14</b>
<b>Annex A (normative)</b>	<b>Determination of application factor, <math>K_A</math>, from given load spectrum using equivalent torque, <math>T_{eq}</math> .....</b>	<b>16</b>
<b>Annex B (informative)</b>	<b>Equivalent cumulative damage .....</b>	<b>22</b>
<b>Annex C (informative)</b>	<b>Example calculation for safety factor from given load spectrum .....</b>	<b>30</b>
<b>Bibliography .....</b>		<b>37</b>