

# ISO/TR 10657:2021-11 (E)

## Explanatory notes on ISO 76

---

<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 and symbols</b> .....	<b>1</b>
3.1	Terms and definitions.....	1
3.2	Symbols.....	1
<b>4</b>	<b>Basic static load ratings</b> .....	<b>3</b>
4.1	General.....	3
4.1.1	Basic formula for point contact.....	3
4.1.2	Basic formula for line contact.....	5
4.2	Basic static radial load rating $C_{0r}$ for radial ball bearings.....	6
4.2.1	Radial and angular contact groove ball bearings.....	6
4.2.2	Self-aligning ball bearings.....	8
4.3	Basic static axial load rating $C_{0a}$ for thrust ball bearings.....	8
4.4	Basic static radial load rating $C_{0r}$ for radial roller bearings.....	10
4.5	Basic static axial load rating $C_{0a}$ for thrust roller bearings.....	10
<b>5</b>	<b>Static equivalent load</b> .....	<b>11</b>
5.1	Theoretical static equivalent radial load $P_{0r}$ for radial bearings.....	11
5.1.1	Single-row radial bearings and radial contact groove ball bearings (nominal contact angle $\alpha = 0^\circ$ ).....	11
5.1.2	Double-row radial bearings.....	17
5.2	Theoretical static equivalent axial load $P_{0a}$ for thrust bearings.....	18
5.2.1	Single-direction thrust bearings.....	18
5.2.2	Double-direction thrust bearings.....	21
5.3	Approximate formulae for theoretical static equivalent load.....	23
5.3.1	Radial bearings.....	23
5.3.2	Thrust bearings.....	24
5.4	Practical formulae of static equivalent load.....	24
5.4.1	Radial bearings.....	24
5.4.2	Thrust bearings.....	28
5.5	Static radial load factor $X_0$ and static axial load factor $Y_0$ .....	29
5.5.1	Radial bearings.....	29
5.5.2	Thrust bearings.....	33
<b>Annex A (normative) Values for <math>\gamma</math>, <math>\kappa</math> and <math>E(\kappa)</math></b> .....		<b>35</b>
<b>Bibliography</b> .....		<b>38</b>