ISO 31657-1:2025-10 (E)

Plain bearings - Hydrodynamic plain journal bearings under steady-state conditions - Part 1: Calculation of multi-lobed and tilting pad journal bearings

Contents

Page

Foreword iv

Introduction v

1 Scope 1

2 Normative references 1

3 Terms and definitions 1

4 Symbols and units 1

5 General principles, assumptions and preconditions 7

6 Calculation method 12
6.1 General 12
6.2 Load-carrying capacity 14
6.3 Frictional power 14
6.4 Lubricant flow rate 14
6.5 Heat balance 15
6.6 Maximum lubricant film temperature 17
6.7 Maximum lubricant film pressure 18
6.8 Operating states 18
6.9 Further influencing parameters 18
6.10 Stiffness and damping coefficients 19

Annex A (informative) Calculation examples 24

Bibliography 38