ISO/TR 6336-30:2022-12 (E)

Calculation of load capacity of spur and helical gears - Part 30: Calculation examples for the application of ISO 6336 parts 1,2,3,5

Contents

Page

Foreword iv

Introduction v

1 Scope 1

2 Normative references 1

3 Terms,definitions,symbolsandunits 1
3.1 Terms and definitions 1
3.2 Symbols and units 1

4 Worked examples 6
4.1 General 6
4.2 Qualifying comments 6
4.2.1 Calculation of base pitch deviation, fpb 6
4.2.2 Calculation of running-in allowance, y, for the transverse load factors KH and KF 7
4.2.3 Calculation of mesh stiffness, c 7
4.2.4 Application of lubricant film ZL, Zv and ZR, hardness ZW and size ZX influence factors 7
4.2.5 Calculation of the permissible contact stress in the limited life range (ZN and ZNT) 7
4.2.6 Application of work hardening factor, ZW 8
4.2.7 Determination of Rz 8
4.2.8 Facewidth for calculations involving double helical gears 8
4.2.9 Calculation of for double helical gears 8
4.2.10 Calculation of fH5 and fH 8
4.2.11 Helix tolerance fH5 and fH for double helical gears 8
4.2.12 Calculation of root diameter, df 8
4.2.13 Calculations for internal gears 8
4.2.14 Rounding of values 8
4.2.15 Deviations of values 8
4.2.16 Nominal and generated values 9
4.2.17 ISO 1328-1:2013 9
4.2.18 Values for reference only 9
4.3 Example 1: Single helical case carburized gear pair 9
4.4 Example 2: Single helical through-hardened gear pair 14
4.5 Example 3: Spur through-hardened gear pair 18
4.6 Example 4: Spur case carburized gear pair 22
4.7 Example 5: Spur gear pair with an induction hardened pinion and through- hardened cast gear 26
4.8 Example 6: Spur internal through-hardened gear pair 30
4.9 Example 7: Double helical through-hardened wrought gear pair 34
4.10 Example 8: Single helical case carburized gear pair 38

Annex A (informative) Example 1 detailed calculation 43

Bibliography 63