

ISO/TS 6336-22:2018 (E)

Calculation of load capacity of spur and helical gears — Part 22: Calculation of micropitting load capacity

Contents

	Foreword
	Introduction
1	Scope
2	Normative references
3	Terms, definitions, symbols and units
3.1	Terms and definitions
3.2	Symbols and units
4	Micropitting
5	Basic formulae
5.1	General
5.2	Safety factor against micropitting, $S\lambda$
5.3	Local specific lubricant film thickness, $\lambda_{GF,Y}$
5.4	Permissible specific lubricant film thickness, λ_{GFP}
5.5	Recommendation for the minimum safety factor against micropitting, $S\lambda_{min}$
6	Material parameter, GM
6.1	General
6.2	Reduced modulus of elasticity, E_r
6.3	Pressure viscosity coefficient at bulk temperature, $\alpha_{\theta M}$
7	Local velocity parameter, UY
7.1	General
7.2	Sum of tangential velocities, $v_{\Sigma,Y}$
7.3	Dynamic viscosity at bulk temperature, $\eta_{\theta M}$
7.3.1	General
7.3.2	Kinematic viscosity at bulk temperature, $\nu_{\theta M}$
7.3.3	Density of the lubricant at bulk temperature, $\rho_{\theta M}$
8	Local load parameter, WY
8.1	General
8.2	Local Hertzian contact stress, $p_{dyn,Y,A}$, according to Method A
8.3	Local Hertzian contact stress, $p_{dyn,Y,B}$, according to Method B
8.3.1	General
8.3.2	Local nominal Hertzian contact stress, $p_{H,Y,B}$
9	Local sliding parameter, SGF,Y
9.1	General
9.2	Pressure viscosity coefficient at local contact temperature, $\alpha_{\theta B,Y}$
9.3	Dynamic viscosity at local contact temperature, $\eta_{\theta B,Y}$
9.3.1	General
9.3.2	Kinematic viscosity at local contact temperature, $\nu_{\theta B,Y}$
9.3.3	Density of the lubricant at local contact temperature, $\rho_{\theta B,Y}$
10	Definition of contact point Y on the path of contact
11	Load sharing factor, XY
11.1	General

- 11.2 Spur gears with unmodified profiles
- 11.3 Spur gears with profile modification
- 11.4 Local buttressing factor, $X_{but,Y}$
- 11.5 Helical gears with $\epsilon\beta \leq 0,8$ and unmodified profiles
- 11.6 Helical gears with $\epsilon\beta \leq 0,8$ and profile modification
- 11.7 Helical gears with $\epsilon\beta \geq 1,2$ and unmodified profiles
- 11.8 Helical gears with $\epsilon\beta \geq 1,2$ and profile modification
- 11.9 Helical gears with $0,8 < \epsilon\beta < 1,2$
- 12 Local contact temperature, $\theta_{B,Y}$
- 13 Local flash temperature, $\theta_{fl,Y}$
- 14 Bulk temperature, θ_M
 - 14.1 General
 - 14.2 Mean coefficient of friction, μ_m
 - 14.3 Load losses factor, H_v
 - 14.4 Tip relief factor, X_{Ca}
 - 14.5 Lubricant factor, X_S
- Annex A (informative) Calculation of the permissible specific lubricant film thickness for oils with a micropitting test result according to FVA-Information Sheet 54/7
- Annex B (informative) Guideline for reference values of λ_{GFP}

Page count: 38