

ISO/TS 10300-20:2021 (E)

Calculation of load capacity of bevel gears — Part 20: Calculation of scuffing load capacity — Flash temperature method

Contents

	Foreword
	Introduction
1	Scope
2	Normative references
3	Terms and definitions
4	Symbols
5	Virtual cylindrical gear
5.1	General
5.2	Local geometry parameters
5.2.1	Transverse path of contact
5.2.2	Length of contact lines
5.2.3	Local equivalent radius of curvature, ρ_{el}, Y
5.2.4	Local load sharing factor, X_{LS}, Y
6	Stresses and velocities
6.1	Local modified contact stress, $\sigma_{H, mod}, Y$
6.2	Sliding and sum of velocities
6.3	Local relative lubricating film thickness, λ_z, Y
6.4	Local coefficient of friction, μ_Y
7	Local contact temperature, θ_C, Y
7.1	General
7.2	Power losses influencing the bulk temperature
7.2.1	General
7.2.2	Method A
7.2.3	Method B
7.2.4	Method C
7.3	Bulk temperature, θ_M
7.3.1	General
7.3.2	Method A
7.3.3	Method B
7.3.4	Tip relief factor, X_{CA}
7.4	Local flash temperature, θ_{fl}, Y
8	Permissible contact temperature
8.1	Limit temperature from scuffing test, $\theta_{S, DIN}$
8.2	Permissible temperature, θ_{SC}
8.3	Permissible scuffing temperature, θ_{S}, Y
9	Local safety factor, SS, Y