



Load Capacity for Fitted Bearings of Hydrodynamic Lubrication under Low and High Rotation Number

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Abstract

By the extended generalized Reynolds equation, second order rotatory theory of hydrodynamic lubrication was founded on the expression obtained by retaining the terms containing first and second powers of rotation number. In the present paper, there is analysis about the Load capacities for low rotation number and high rotation number. The comparisons of the Load capacities have been done with the help of geometrical figures, expressions, calculated tables and graphs for the fitted bearings in the second order rotatory theory of hydrodynamic lubrication. The analysis of equations for Load capacities, tables and graphs reveal that Load capacities increase with increasing values of rotation number. For high rotation number the pressure increases much rapidly than that of the low rotation number. The relevant tables and graphs confirm these important investigations in the present paper.

Keywords: Continuity, Rotation number, Reynolds equation, Film thickness.

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