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Lubricants, industrial oils and related products (class L) — Family C (gears) —

Part 2: Specifications of categories CKH, CKJ and CKM (lubricants open and semi-enclosed gear systems)

*Lubrifiants, huiles industrielles et produits connexes (classe L) —
Famille C (engrenages) —*

*Partie 2: Spécifications des lubrifiants de catégories CKH, CKJ et CKM
pour engrenages nus et sous carter semi-fermé*



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Foreword

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Introduction

Lubricants for gear systems are used in diverse types of gear designs, ranging from simple parallel spur to gears to bevel gears (straight or helical), worm gears and hypoid gears. Industrial gear systems, which are either of open type or enclosed type, vary in size from small enclosed systems used in machine tools to very large systems used in mining, steel mills and cement plants.

Lubricants for these applications vary in composition from refined straight mineral oils to more complex blends, based on mineral oils, synthetic oils (e.g. poly α -olefins, esters, poly-glycols) and additives friction modifying and / or extreme-pressure. Depending on the type of application and range, viscosity grades, in accordance with ISO 3448, vary from the low viscosity ISO VG 32 to high viscosity ISO VG 1 500; even more for the very low velocities and very high loads. In exceptional cases, viscosity grades may be even higher. Temperature conditions to which the gear systems are exposed also vary considerably, not only due to the ambient conditions of operation, but also depending on the sliding between the gear teeth, on the size of the casings, on the presence on the circulating systems of heat exchangers, on the vicinity of sources of heat like in the cement industry or in the steel industry.

Greases can also be used for the splash lubrication of enclosed gears or for the application on open gear teeth.