

Objective

Hydrogen is suspected to play a role in limiting the fatigue life of bearing steel. Under certain conditions, contaminated lubricant or high concentration of water, hydrogen may be generated on the raceway and diffuse into the steel.

Develop a method to detect how hydrogen enters into the bearing steel from lubricant environment.

Research topics

- Electrochemical hydrogen permeation measurements were used to determine hydrogen diffusivity and flux in bearing steel (AISI 52100; 1%C, 1.5% Cr)

Industrial benefits

- Completion and installation of a hydrogen measurement setup in SKF laboratory

