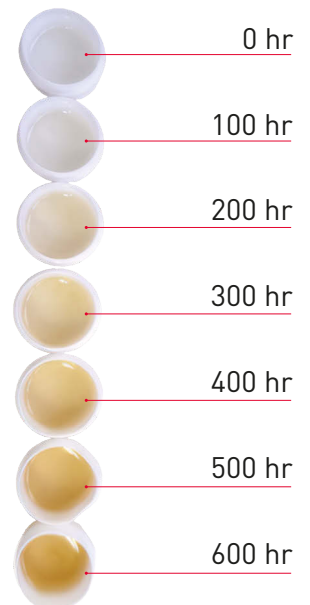


GREASE DEGRADATION DIAGNOSIS APP

NSK SOLUTION – VISUALISING GREASE DEGRADATION

- > NSK has been developing grease for over 40 years and our deep understanding of lubricants means we know just how to analyse them
- > By dissolving grease in a solvent, we can use changes in colour to measure its remaining lifespan
- > Using on this method, we have developed a mobile app which can diagnose degradation by judging the colour of even a small sample of grease
- > The colour changes because heat and oxidation alter the molecular structure of the grease, meaning it absorbs more short-wavelength light
- > The colour change depends on the total operation time, with the grease turning yellow or orange with use



BENEFITS

Naturally, NSK always keeps the environment in mind whenever we launch and develop a new product.

We believe this new app:

- › **Allows users to optimise their grease usage**, reducing the risk of machine failure and minimising the amount of energy and resources needed during manufacturing
- › **Provides for a predictive maintenance approach** and helps ensure good working conditions as well as preventing harmful substances from creeping into the manufacturing process
- › **Allows smartphones to be used as inspection devices**, meaning there is no need to introduce new inspection equipment and helping to maintain low levels of vibration, noise and dust in the workplace

HOW TO USE THE APP

- › Take a sample of grease and dilute it in a solvent like Hexane, Kerosene or any equivalent which will dissolve the oil in the grease
- › Take a photo of the diluted sample
- › Compare it to the colour card found in the app
- › The app will then diagnose the degradation and predict the remaining lifespan



World First, NSK Original, Patent Pending/Design Patent Pending

World's first rapid onsite diagnosis of grease life
World's first grease condition analysis using a mobile app alone