

Denne evalueringen av en laboratoriumtest på QMI PTFE viser at produktet ikke har en negativ virkning på smøreoljen. I tillegg viser evalueringen at QMI PTFE gir under visse forhold en ekstra bonus i form av 88% reduksjon av slitasjen. Det blir påpekt at QMI PTFE filmen kan gi andre fordeler som økt effekt og mindre friksjonsvarme. Denne notat er skrevet av QMI Scandinavia. Hele evalueringen som består av 6 sider kan sendes til de som ønsker den.



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## TECHNICAL REPORT

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Client: QMI Scandinavia	Client ref.: Thor Johansen



### Summary:

DNV has been commissioned by QMI Scandinavia to evaluate effects of the anti-friction metal conditioner QMI PTFE when added to lubricating oil.

QMI Scandinavia has provided documentation on the use of QMI PTFE in combustion engines and other machinery in normal operation, and a test report from Southwest Research Institute (SwRI), San Antonio, TX, USA.

Based on the documentation provided by QMI Scandinavia it is concluded that treatment with QMI PTFE has been observed by users to have a smoothing/conditioning effect on wear surfaces in combustion engines and in other machinery with moving parts. This effect will lead to reduced friction and wear, which in turn will have other beneficial effects such as reduced heat generated by friction, reduced fuel consumption/increased power output. Improved function of e.g. piston rings has reduced exhaust emissions as a potential side effect.

The documentation provided contains no evidence that QMI PTFE has caused negative effects to the engine, or that other negative effects have been reported. However, such questions were not addressed specifically in the documentation.

An ASTM Sequence IIIIE test was carried out by SwRI. The test resembles driving 7,000 km in very hot climate at high load and medium rpm in a car powered by a small conventional gasoline fueled engine. The reference lubricating oil with QMI PTFE did pass the test, and the wear of the valve train was reduced by 88 % of the average for the reference oil. Compared to the reference oil alone, there was no effect observed on sludge and varnish deposits. The test did not reveal that QMI PTFE treatment caused any negative effects to the engine.

The possible improvement by adding QMI PTFE will depend on several parameters, e.g. the amount of reduction in friction and wear in a combustion engine will depend on the materials and finish of wear surfaces, loads, type of fuel, operating conditions, etc. At this stage, the documentation is not sufficient for DNV to arrive at definite and quantitative conclusions on this or on other improvements claimed, and it is recommended that trials under relevant and controlled conditions are carried out and documented.

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### Indexing terms

Lubricating oil  
Additive  
Friction

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