



LUBRICANT - WHAT IS IT?

G[®] LUBRICANT is a concentrate of GMG Graphene and lubricating oil (1%) that is designed for **ENERGY AND EMISSION SAVINGS** and wear prevention. It is then further diluted to a recommended concentration of 0.01% in a fully formulated lubricant.

The concentrate can be added to an existing fully formulated lubricant or can be tailored by Graphene Manufacturing Group as an addition to the clients' choice of fluid.

G[®] LUBRICANT's rich black colour evokes revolutionary, premium, power, elegance, protection, sophisticated, certainty, serious and dramatic performance enhancement elements for marketing creativity at nanotechnology level.



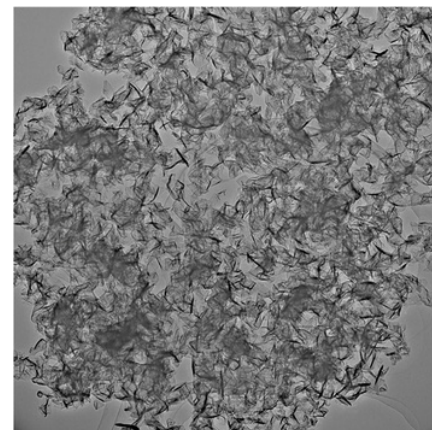
LUBRICANT PERFORMANCE & SUPERIORITY

G[®] LUBRICANT protects the friction surfaces and reduces the friction coefficient by forming a protective layer between metal interfaces.

Due to GMG's unique proprietary graphene manufacturing process GMG Graphene's purity, platelet size, number of layers and structure are dispersible within formulated lubricants and base oils. It has performance and functionality superior to other graphene's and friction modifiers.

G[®] LUBRICANT will not block filters, degrade, coagulate, or lower existing lubricants performance.

G[®] LUBRICANT is powered by GMG Graphene's high tensile strength, chemical stability, high melting point, and its low shear resistance enhancements.



GMG Graphene.
Magnification enables visibility of 1.0 nm

FEATURES

- Anti – Wear
- Friction Modifier
- Oxidation Inhibitor
- Tribochemical Action
- Thermal Conductivity
- Anti – Rust Properties
- Temperature Resistance

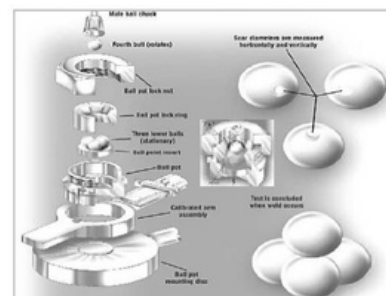
BENEFITS

- **ENERGY SAVINGS**
- **EMISSION SAVINGS**
- Asset Longevity
- Friction Reduction
- Lower Maintenance
- Increased Heat Dissipation
- Lower Operating Temperature

GMG's MODIFIED ASTM TESTING CAPABILITIES

GMG has the capability to undertake modified ASTM Lubricant testing in GMG's laboratory and technical facilities. GMG utilises its own Stanhope Seta 4 Ball Wear Test Machine to assess enhanced lubricant performance against base line lubricant.

G[®] LUBRICANT in a client's fluid can be tested by GMG to the following modified ASTM tests:

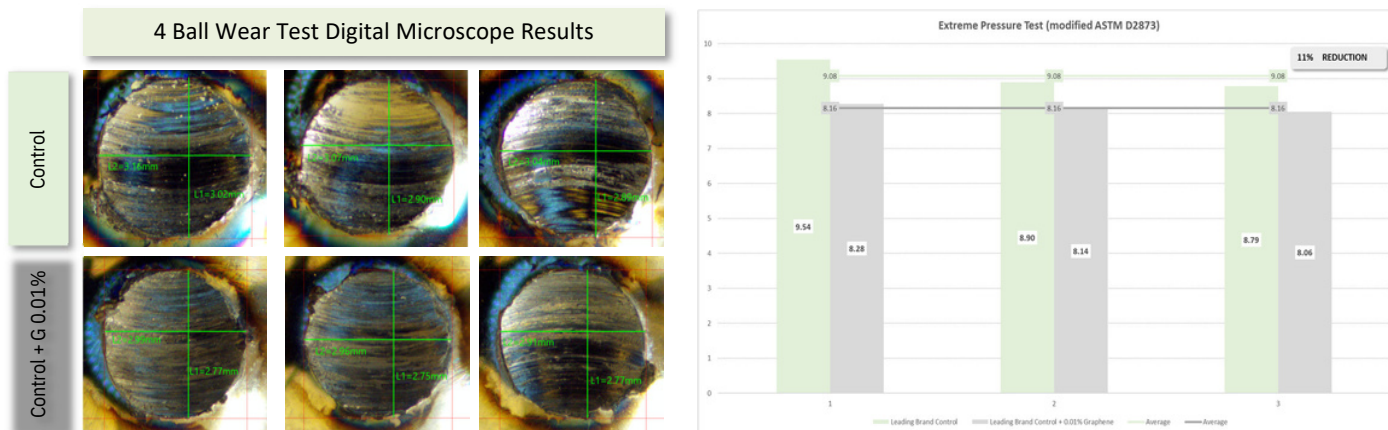


- ASTM D2783 ASTM Extreme Pressure Test for Lubricating fluids
- D4172 Coefficient of Wear Preventative Test for Lubricating fluids
- Friction Differential

GMG's MODIFIED ASTM TESTING CAPABILITIES

Extreme Pressure Test results have experienced reductions of wear up to 20% ▼.

Wear Preventative Test results have experienced reductions of wear enhancements up to 10% ▼.



*Leading lubricant brand GMG inhouse modified ASTM test result. 0.01% of GMG graphene.

COEFFICIENT OF FRICTION & FUEL SAVINGS

Coefficient of Friction reduction up to 30% ▼.

Energy Savings test results up to 12% ▼.

*Lubricant manufacturer testing.



LUBRICANT TYPICAL PROPERTIES

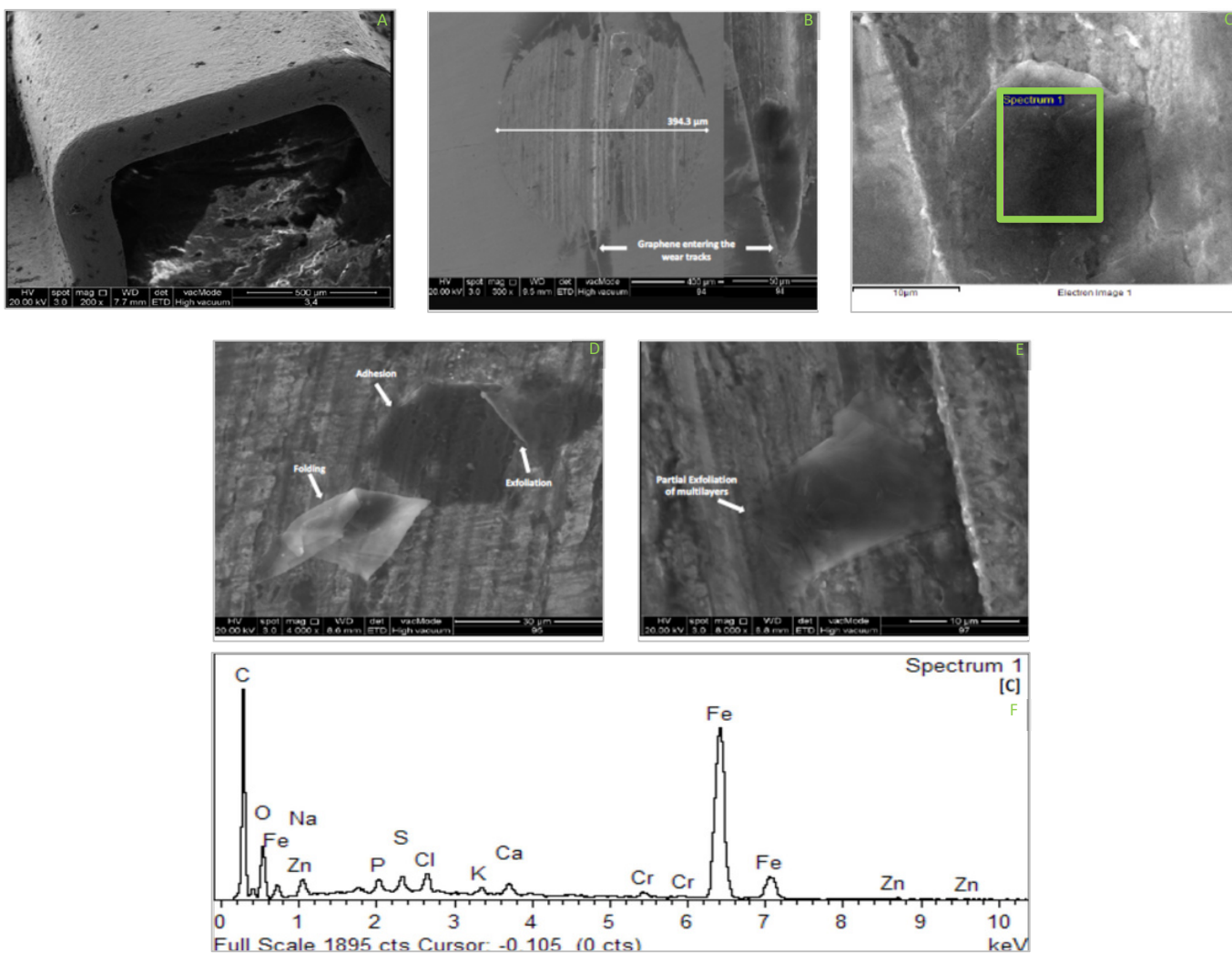
Silicon Contamination	Not detected in GMG graphene
Acidic Residue	Not detected in GMG graphene
Ash Contamination	Not detected in GMG graphene
Graphene Oxide	Not detected in GMG graphene
Colour	Translucent Rich Dark Black
Dispersion Base	As per client specification or Lubricating Oil
Concentration	1 :100 (0.01%) or as client specification

TRIBOCHEMICAL ACTION


Graphene has demonstrated Tribochemical Action – the Graphene is deposited into damaged metal interface pits as a “corrective action.”[1]

- A. Graphene deposited into the pitted piston oil ring surface after 100 operational hours.
- B. Graphene sliding through the scar tracks.
- C. Graphene deposited in valleys of steel ball surface.
- D. Folded, twisted, adhered, and exfoliated Graphene on wear track.
- E. Partially exfoliated Graphene sheets deposited in the wear tracks.
- F. Energy-dispersive X-ray graph - C (Carbon peak) corresponding to figure C.

[1] A.K. Rasheed et al, 2016, Tribology International, Volume 103, pages 504-515.



WARRANTY & DISCLAIMER

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SAFETY DATA SHEET

Contact your GMG representative for the Safety Data Sheet.

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