



LE PRODUCTS
MANUFACTURED
UNDER AN ISO
9001:2000
CERTIFIED QUALITY
SYSTEM

QUINPLEX®

An exclusive LE additive that enhances lubricant performance.

HISTORICAL BACKGROUND

QUINPLEX® is a proprietary LE additive that was adapted from little known research done in Europe. The Almasol Corp., LE's own additive company, adapted this research to lubricant technology and developed QUINPLEX®. The five lubricant characteristics of QUINPLEX® were discovered and documented when LE's R&D staff first developed and introduced LE's 3752 ALMAGARD® Vari-Purpose Lubricant.

WHAT QUINPLEX DOES

QUINPLEX® derives its name from the five principle characteristics it imparts to lubricants. They are:

- **Water Resistance** - QUINPLEX®, when dispersed in LE greases and oils, aids in forming a barrier that resists water spray-off.
- **Tackiness** - QUINPLEX® provides LE lubricants with an extraordinary ability to adhere to the applied surface. Lubricants with QUINPLEX® stay at the point of lubrication longer. Greases resist "pound out" better.
- **Cohesion** - The use of QUINPLEX® in greases enhances the "coupling" of the oil with the thickener. Because of this natural physical characteristic, QUINPLEX® must be incorporated into LE lubricants through a complex series of manufacturing techniques. The exact procedure for incorporating QUINPLEX® into lubricants must remain proprietary to LE, of course, but the process insures that QUINPLEX® is coupled to the grease base and, in turn, to the oil.
- **Mechanical Stability** - QUINPLEX® in its pure form is very thick and has an almost solid appearance. This characteristic (when QUINPLEX® is incorporated into a soap thickened grease) improves the overall mechanical stability of the grease.
- **Corrosion Resistance** - QUINPLEX® forms a barrier against corrosion. Laboratory tests on pure QUINPLEX® have demonstrated that QUINPLEX® is resistant to concentrations of strong acids. It has also shown resistance to strong bases and oxidizing agents.

Although finished greases with QUINPLEX® should not be directly subjected to these types of chemicals, the barrier formed by QUINPLEX® containing greases will protect against corrosion.

USER BENEFITS

Customer feedback has repeatedly demonstrated that lubricants containing QUINPLEX® have decisively out-performed competitive products.

- **STABILIZES VISCOSITY** - QUINPLEX® will increase the viscosity index of fluid products and grease base oils (QUINPLEX® white oils and white gear lubricants). This helps stabilize the viscosity against the influence of temperature change.
- **NO DETRIMENTAL EFFECTS** - Due to the chemical composition of QUINPLEX®, it will not interfere with other chemically active components of a lubricant. The benefit of this characteristic is that QUINPLEX® will not adversely affect the performance of other additives such as extreme pressure agents, rust inhibitors, oxidation inhibitors, or ALMASOL®.
- **HIGHER LOAD CARRYING ABILITY** - Research in the United Kingdom has shown that, in a journal bearing test rig, lubricants with QUINPLEX® carried more load than lubricants of equal viscosity and without QUINPLEX®. Research also indicates the load carrying capacity is substantially greater than existing theory predicts.

WATER SPRAY-OFF TEST RESULTS

3752 ALMAGARD Vari-Purpose Lubricant will typically have less than 10% water spray-off loss in the ASTM D-4049 test. This compares to 60% to 95% spray-off loss measured on competitive "high performance" NLGI No. 2 multi-purpose lithium greases.

4025 Food Machinery Lubricants will typically have less than 5% water spray-off loss in the ASTM D-4049 test. This compares to 30% to 50% spray-off loss measured on competitive NLGI No. 2 aluminum complex greases.

QUINPLEX PROVIDES:

- Longer lubricant life
- Longer equipment life
- Increased load carrying capabilities
- Less equipment down time and maintenance costs
- Unprecedented water resistance
- Extraordinary adhesion

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