

Die Casting: Increasing Sump Life by 250% Quenching Die Casted Engine Components

QUENCH SLICK™ 624 B

The Challenge

A major global die caster of small engines for the lawn and garden industry was looking to replace their quenchant. The customer was dissatisfied with the previous product's performance overall and was looking for a quenchant that would offer the following improvements:

- Eliminate staining and residue on castings
- Improve sump life
- Solve bacteria and odor issues
- Enhance oil separation

The Solution

Quaker Houghton reviewed the customer's concerns and proposed QUENCH SLICK™ 624 B, a mild alkaline quench tank additive. QUENCH SLICK™ 624 B was chosen because it is a clean, oil-free alternative that does not have issues with staining, residue, or bacteria growth and provides long sump life with short-term oxidation protection. The product was trialed in several quench tanks and the operators were thrilled with the performance.

In addition to the savings from increased sump life, Quaker Houghton was also able to help the customer lessen their environmental impact. By eliminating staining and residue on the castings, Quaker Houghton saved the customer on scrap and rework, reducing the cost per part and helping to conserve energy. The 250% improvement in sump life translates to reduced chemical consumption and waste treatment. Unlike the previous product, QUENCH SLICK™ 624 B separates oil from the bath so the customer can skim the tank, also extending the life of the fluid. In addition, by solving the microbiological issues, the operators were no longer exposed to bacteria and strong odors.

The Benefits

By switching to QUENCH SLICK™ 624 B the customer was able to benefit from the following:

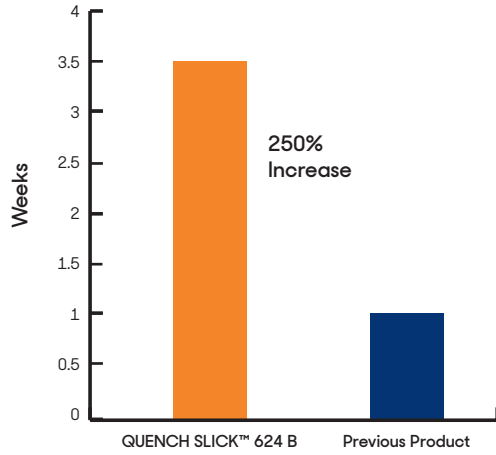
- 250% Increase in sump life
- Eliminated bacteria and odor issues
- Castings are clean and bright with no staining or residue
- Solved oil separation issue

Process and Equipment

PRODUCT TITLE	PRODUCT INFORMATION
Parts	Oil Pans, cylinders, rods and heads
Material	380 Aluminum
Machine	22, 100 gallon quench tanks
Water Hardness	100 - 120 ppm
Concentration	3-5% via Refractive Index
Operations	High oressure die casting, quenching



Sump Life



The Product

QUENCH SLICK™ 624 B is a mild alkaline quench tank additive that will quickly dissipate heat from castings while inhibiting oxidation, protecting parts and equipment from rust. This product is specially formulated to be non-foaming and microbiologically stable, extending bath life. QUENCH SLICK™ 624 B does not contain any strong acids, strong alkalis, nonylphenol ethoxylates (NPEs), solvents, ozone depleting compounds, silicates, phosphates or chelating agents. QUENCH SLICK™ 624 B has a mild operating pH and is nonflammable and noncombustible.

