Chevron

DEFEAT DESTRUCTIVE VARNISH TO OPTIMIZE TURBINE PERFORMANCE

INDUSTRIAL LUBRICANTS

VARTECH™ Industrial System Cleaner

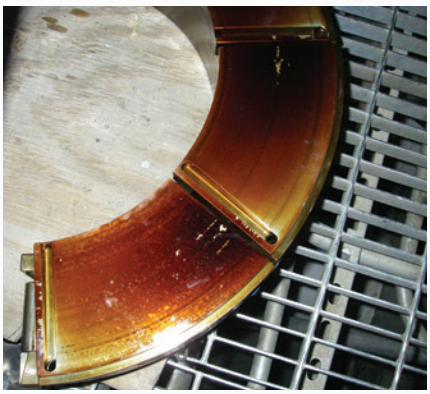
To defeat varnish, you first must understand it

The Culprit

Varnish is a coating that adheres to internal surfaces, wears out equipment components, restricts performance and can ultimately cause failures. It is composed primarily of organic residue mixed with metals, inorganic salts and other contaminants. Varnish can take different forms, from a sticky coating to a hard lacquer, and ranges in color from gray to brown to amber. Varnish is very destructive and hard to remove.

The Causes

Varnish is formed when high operating temperatures deplete protective additives, causing the lubricant to oxidize and break down. Water, chemicals, particles, gasses and other contaminants also act to degrade the oil. Elements of this degradation, known as varnish precursors, precipitate out of the oil and attach themselves to internal surfaces. The tacky nature of these deposits attracts more and more precursors, and varnish builds up layer by layer.



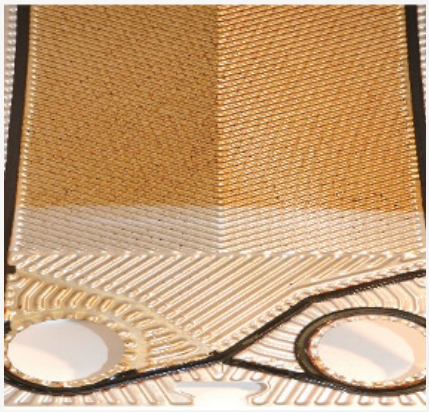
THRUST BEARING TILT PAD

RESERVOIR HATCH COVER

The Cycle of Failure

As varnish worsens, a vicious cycle is often set in motion. The coating insulates metal surfaces which prevents efficient oil cooling which raises the temperature. This causes more degradation and less effective lubrication. More precursors are created, more varnish layers are formed, and the problem spirals toward equipment failure.

RESERVOIR FLOOR



HEAT EXCHANGER
COOLING PLATE

The Consequences

Even the smallest amount of varnish can result in poor system performance and equipment failures. Valves stick, bearings overheat, components wear out, oil inlets and filters clog, and the internal mechanics of your turbine begin to malfunction. These issues tend to worsen over time as more varnish builds up, leading to shortened oil life, poor equipment performance and premature shutdowns.

VARTECH™ Industrial System Cleaner

Eradicate varnish that has infiltrated your turbine system

VARTECH™ Industrial System Cleaner (ISC) utilizes proprietary technology to do the most thorough and efficient cleaning job without creating operational constraints.

Its triple-action technology:

CUTS

It cuts through the hard varnish layers and removes them as micro-sized particles.

CAPTURES

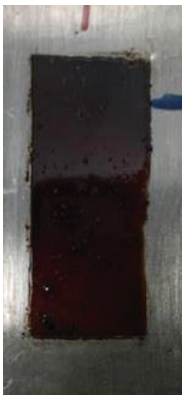
It captures and stabilizes these varnish particles in a protective barrier so they can be removed from your system without redepositing in other parts of the equipment.

COMPATIBLE

It is compatible with the in-service oil for optimum operational flexibility while maintaining performance during the cleaning cycle that prepares the system for change out to fresh oil.

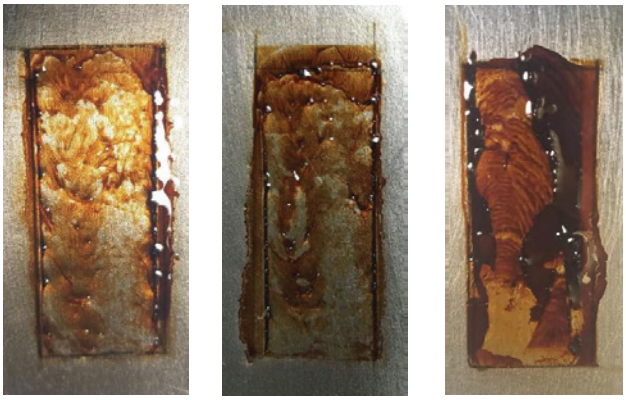
VARTECH™ ISC helps prepare your equipment for fresh oil. A Chevron lubrication specialist can work with you to recommend an optimized cleaning cycle time to effectively remove sludge and stubborn, baked-on varnish from your system. However, if unexpected delays are encountered, you can feel confident knowing that the cleaner can temporarily remain in your system without damaging internal components.

Clean without compromise



BEFORE CLEANING

AFTER CLEANING WITH VARTECH™ ISC



AFTER CLEANING WITH COMPETITIVE CLEANERS

VARTECH™ ISC	COMPETITIVE CLEANERS
• Turbines remain online and productive	• Large pieces of varnish can break loose and settle in other areas of the system
• Varnish micro-particles are gradually removed to avoid overwhelming filters	• Harsh chemicals can damage seals and cause leaks
• Compatible with internal equipment components, including seals	• Has the potential to lower lubricant flash point causing higher fire and explosion risk
• Demonstrated compatibility with most turbine and compressor oils	• May accelerate oil degradation, shorten oil life and cause system corrosion
• Minimally impacts performance of new oil	• Short cleaning cycle doesn't effectively clean
• Compatibility with the in-service oil can allow longer residence time (if needed) for better removal of stubborn, baked-on varnish	• Repeated filter plugging and shorter filter life
• Can temporarily remain in the system, causing no operational constraints	• Shorter equipment life and higher maintenance costs
• Efficient cleaning process saves time and money	

Maximize operational efficiency

The VARTECH™ Industrial System Cleaner (ISC) cleaning process is simple, streamlined and economic. Conventional system cleaners are more complex and require additional steps, external filtration and multiple rinses and compatibility tests.

To learn more, visit

chevronlubricants.com/industrial

chevronlubricants.ca/industrial

Always follow OEM recommendations.

The manufacturers identified in this brochure did not participate in, nor do they endorse any results described or shown in this brochure.

A **Chevron** company product

DDVOTP_04-20