

STICK IT TO VARNISH

Learn why it will take more than a simple system flush to prevent varnish formation and keep your operation pushing forward

Varnish...

...is a coating that's made up of organic residue mixed with metals, inorganic salts and other contaminants that stick to surfaces and restrict equipment performance.

What's the cause...

The main culprit is **oil degradation** over time in your system.

High operating temperatures deplete the protective additives in your lubricant. The byproducts precipitate out and attach to surfaces, building up **varnish**.

and the effects?

Component damage

- Reduced lubricant, filter and seal life
- Seized or stuck valves
- Inefficient heat exchangers
- Bearing failures

Lower operational efficiency

- De-rated equipment
- Unplanned shutdowns
- Failure to meet peak demand
- Increased maintenance workload

Higher costs and lost profits for the business owner

Operating costs

Filtration hardware capital costs

Incremental oil analysis costs

Maintenance costs for servo valves and last-chance filters

Top-treat chemical costs

Estimated
\$40,000
per turbine, per year

Penalties and lost revenue due to failure to start or trip event

Approximate range from **\$100K to \$1M**

The real impact: A vicious cycle

As varnish builds up over time, it raises the temperature of your system and causes further degradation.

Even with a flush, more varnish layers will continue to form.

The problem spirals toward inevitable equipment failure—and its consequences.

Flushing is necessary, but not enough

Waiting to react to varnish after it causes problems won't solve them. You need to take action sooner—and if oil degradation is part of the problem, then oil choice needs to be part of the solution.

A more holistic varnish solution

Regular oil analysis can give you vital information about lubricant health to help you fight varnish when—and before—it forms. The real answer is a combination of reliable cleaning and an oil that's designed to prevent varnish formation in the first place.

Discover the VARTECH™ Solution



Clean

Using VARTECH™ Industrial System Cleaner (ISC)

Developed to excel where conventional competitive cleaners fall short, VARTECH™ ISC is added near the end of the in-service oil's life to clean existing varnish. It provides drain schedule flexibility and prepares the system for fresh oil—all while the operation remains online.



Cuts through hard varnish to remove it as micro-sized particles



Captures and stabilizes varnish particles in a protective barrier to enable removal



Provides compatibility with in-service oil for optimum operational flexibility and performance

Control

Using GST Advantage™ with VARTECH™ Technology

Formulated with advanced chemistry to limit varnish precursors, GST Advantage™ with VARTECH™ Technology turbine oils help maintain peak performance, reliability and productivity by preventing varnish formation before it starts.



Helps reduce oil degradation



Helps improve oxidation stability



Helps extend oil life by limiting varnish precursors

Most importantly, you need to work with a partner who understands your policies for management of change. We understand that process, and what it will take to make a lubricant switch work while keeping your operation pushing forward.

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