

Cast Iron Rust and Fungus Issues Eliminated

MACHINERY MANUFACTURE (USA)

RESIDENTIAL COMPRESSORS

Castrol Syntilo® 2109 Oil-Absorbing Synthetic

ANNUAL SAVINGS: \$160,000



THE SITUATION

A competitive coolant was running for 3 years and experiencing a myriad of issues. These included rusted compressor heads, tooling issues (welded tools to holders), excessive amounts of clinkering, increased coolant usage, the need for a dedicated person to de-rust, and added cost for de-rust chemicals.

An anti-rust additive was regularly added to the coolant but not successful.

BEFORE

- Company “M” synthetic coolant in use
- Part and chip rust (clinkers)
- Tools welded to holders
- High coolant usage
- Fungus on coolant system walls

AFTER

- Syntilo 2109 oil-accepting synthetic in use
- Part and chip rust eliminated
- Improved tool life
- Lower coolant usage
- Fungus eliminated

THE SOLUTION

- Castrol evaluated the issues and determined that a different technology coolant could help solve them.
- Syntilo 2109 was selected as a synthetic coolant that will accept 2% tramp oil to provide rust protection and lubrication.
- The operators were included at all stages to ensure the coolant met their expectations.
- The result was a dramatic improvement in the operations.
- Syntilo 2109 was soon put in a second system and scheduled for 2 more after that.

- **Eliminated rust**
- **Improved tool life**
- **Reduced coolant usage**

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RECOMMENDATIONS

Castrol implemented a more rigorous control plan for the coolant, including weekly samples sent to our lab for evaluation. We recommended additional oil skimming to achieve even longer coolant life.

In addition to the coolant improvements, Castrol Engineers assisted with changes to the tooling that resulted in longer tool life.

CONCLUSION

Working closely with the customer, Castrol implemented a new technology coolant that eliminated rust & fungus, reduced labor & chemical costs, and lowered tooling spend.

Overall, savings of \$160,000 was achieved in two systems with more savings (potential of \$300,000 total) when all systems are converted.



Machining Details	
Metallurgy:	Cast Iron
Operations:	Drilling, boring, tapping, valve seat
Fluid Capacity:	(2) 18,000 gal systems
Filtration:	Henry

Fungus and clinkering in the coolant system before Syntilo 2109 →



OTHER POTENTIAL APPLICATIONS

Syntilo 2109 is an oil-absorbing synthetic coolant that will accept a small amount of tramp oil to improve rust protection and lubrication over traditional synthetics. It is an excellent choice for cast iron and other ferrous machining.

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