

Syntilo 9902 Replaces Water for Quenching

MACHINERY MANUFACTURING (USA)

ENGINE PART QUENCHING

Castrol Syntilo® 9902

Improvements: Eliminated rust and bacteria



THE SITUATION

A major construction equipment company was using water to quench crankshafts and engine liners. They needed the quench speed of water but were not happy with the problems associated with it including rust, bacteria, foul odors, build-up in the system, and the need for constant biocide additions.

BEFORE

- Water used for quenching (46,000 gal system)
- Rust in quench system, bacteria, and foul odors
- Regular biocide additions
- Regular system cleanings

AFTER

- Syntilo 9902 @ 3% concentration
- Rust, bacteria, and foul odors eliminated
- No biocide needed
- System maintained very clean

THE SOLUTION

- The customer's primary need was a fluid that would quench as quickly as possible, which is why they had always used water.
- Castrol evaluated quench curves and chose Syntilo 9902, because it does not have any components to slow down the quench speed.
- Syntilo 9902 does contain very effective additives to prevent bacteria, rust, and to maintain a clean system.
- Testing of the parts after the conversion showed that the quality was not affected.

- **Eliminated rust, bacteria, and foul odors**
- **Part quality was not affected**

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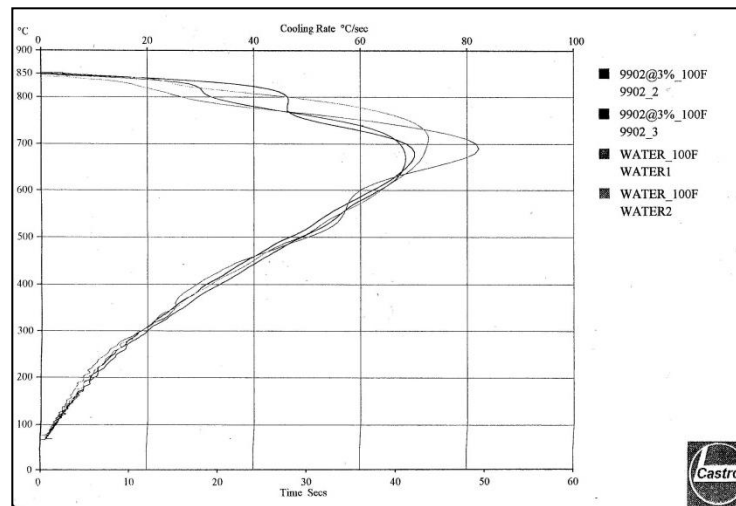
RECOMMENDATIONS

Syntilo 9902 is a full synthetic coolant containing no components to slow the quench speed when added to water at low concentration (3%). For this reason, part quality is not affected but other major improvements are gained by providing a high level of rust and bacteria protection in the system. The synthetic nature of Syntilo 9902 also keeps the system exceptionally clean.

Quench Curve Testing
Verified as suitable based on
in-plant part quality testing

CONCLUSION

With the addition of a low concentration of Syntilo 9902, the customer saw tremendous benefits in their quenching system, eliminating rust, bacteria, biocide additions, and the need for regular cleanings.



OTHER POTENTIAL APPLICATIONS

Syntilo 9902 is well suited for quenching applications where water-like quench speeds are desired. In addition, it is a great fluid for light to moderate duty ferrous grinding and machining operations.