Engineering

CASE HISTORY – SYNTILO 9954 (AS A QUENCHANT)

Customer: A precision metals company
Customer Location: Ohio
Report by: Tim Stiers, Application Engineer

I. ADMINISTRATIVE

Fluid Information

Fluid Name:	**Syntilo 9954**
Concentration:	10% initially, cut to 5% and works great
Key Benefits:	Quench curves nearly identical to previous quenchant Consolidation of coolants and quenchants

II. APPLICATION INFORMATION

Previous Fluids

Previous Fluid 1 type:	**Non-nitrited aqueous polymer quench**
Manufacturer:	**Company "D"**
Characteristics:	Polymer quench Non-nitrite corrosion inhibitor (to prevent nitrosamine formation in the presence of amines) Fast quenching speeds Designed to have flexible quench speeds ranging from high speed (water) to medium speed (straight oil) Ferrous and non-ferrous applications
Previous Fluid 2 type:	**Non-nitrited aqueous polymer quench**
Manufacturer:	**Company "H"**
Characteristics:	Non-nitrite corrosion inhibitor Fast quenching speeds Designed to have high to medium quench speeds

Quenched Part

Feedstock Alloy:	Steel
Finish Component Type:	Race line, Sleeve line
Type of Heating:	Induction Hardening

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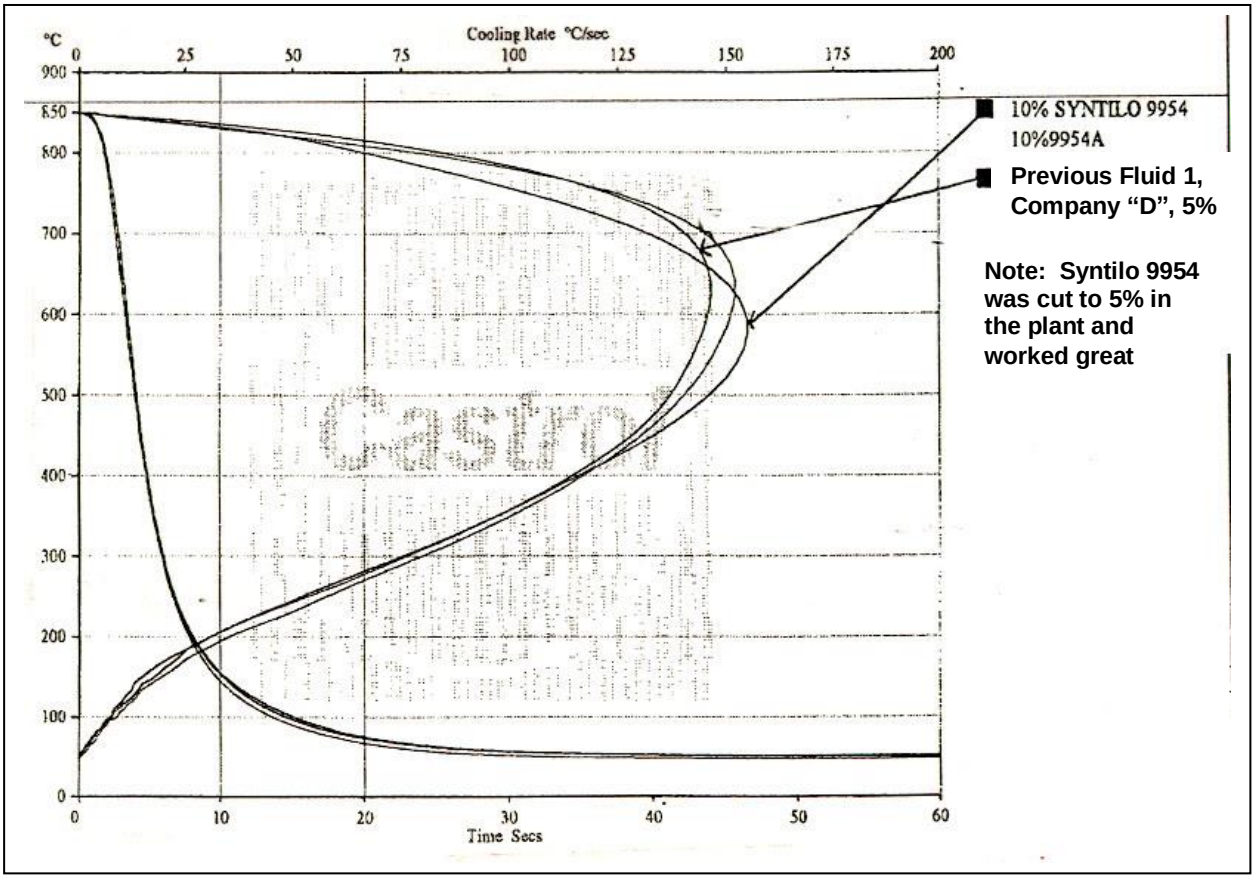
III. QUENCH CURVES



IV. SUMMARY

Syntilo 9954 has worked well as a polymer quenchant to replace both previous fluids in use. In many plants, a big advantage will be consolidation of coolants and quenchants into this single fluid. Syntilo 9954 works well because of the strong polymer additive package, making it very similar to products marketed as aqueous polymer quenchants. By varying concentrations, it has met all aqueous quenching needs in the plant.