

Castrol Anvol SWX Eliminates Pump Failures

METALS (USA)

FIRE-RESISTANT HYDRAULICS

Castrol Anvol® SWX 68*

ANNUAL SAVINGS: \$45,000



THE SITUATION

A large producer of steel pipe in Texas used a leading fire-resistant hydraulic fluid from Company Q and experienced frequent axial piston pump failures in their rolling mill automatic gauge control (AGC) hydraulic system.

Castrol was challenged to prevent pumps failures, reduce total maintenance cost, and increase uptime of AGC.

BEFORE

- Seven (7) pumps have failed in 8 months
- Annualized number of pump failures: 10
- Pump cost: \$4,500 each
- Annual pump replacement cost: \$45,000

AFTER

- Customer initially topped up with Anvol SWX 68 and saw reduced pump failures (only 3 failures in 10 months).
- Once full conversion was made to Anvol SWX, pump failures were eliminated.

THE SOLUTION

- Oil analysis indicated that the existing hydraulic fluid from Company Q was losing viscosity over time, leading to pump failures.
- Against our recommendation to complete a full changeover, the customer initially topped up the system with Anvol SWX.
- During the 10-month conversion (top-up) period, Anvol SWX 68 reduced annual pump failures by 3 times.
- After 10 months, oil analysis confirmed that the system was fully converted to Anvol SWX. Upon full conversion, no more pump failures were experienced and no other parameters were altered.

*Formerly known as
Anvol SWX 68 FM

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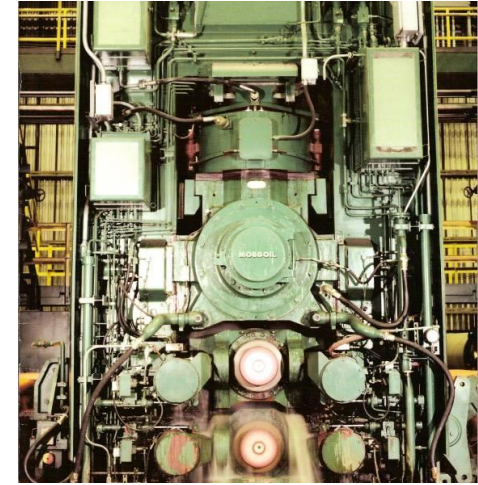
RECOMMENDATIONS

Castrol Anvol SWX is able to handle the harsh working conditions of the AGC hydraulic system and any other hydraulic system in the Melt Shop / Caster and Rolling Mill which requires fire-resistant hydraulic fluid.

Anvol SWX does not contain polymers or “droplet size control materials” and therefore is very shear stable. There is no resultant loss of viscosity over time due to shearing and no reduction of fire resistance.

CONCLUSION

The result after complete conversion to Anvol SWX 68 was \$45,000 in annual savings from elimination of pump failures with larger savings actually achieved when considering increased uptime and reduced labor costs.



Pump failure due to the destruction of piston ball joints

Root cause analysis of pump failures indicated significant viscosity reduction of the previous fluid after about 3 months in service. Viscosity reduction causes lower strength of the lubrication film and reduction of the wear protection properties.



Parker axial piston pump failures at rolling mill automatic gauge control hydraulic system and related downtime were completely eliminated after change to Castrol Anvol SWX fire-resistant hydraulic fluid.

OTHER POTENTIAL APPLICATIONS

Castrol Anvol SWX is ideal for any area of steel production where fire-resistant hydraulic fluid is required. The application of Anvol SWX will significantly increase equipment life and provide overall trouble-free operations.

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