The Challenge
The world’s leading supplier of forging die steels, plastic mold steels, die casting tool steels and customer open-die forgings located in the US Midwest was experiencing premature failure and a high rate of downtime on their 8,000 ton (7,200 tonne) press hydraulic system. These failures, while utilizing a competitive premium product, included the systems servo valves and the axial piston pumps which were operating off an 8,000 gallon (30,000 liter) hydraulic oil reservoir. The company’s maintenance department expressed the need to mitigate or eliminate these failures while meeting with RelaDyne, a local Chevron ISOCLEAN® Certified Lubricants Marketer, and Steve Synko, Chevron Industrial Specialist.

Investigation and Site Assessment
RelaDyne and Chevron completed an RBL® Best-In-Class site assessment. Key maintenance personnel from the steel company, Shawn Waggoner of RelaDyne and Steve Synko documented current practices from the plant including product storage and handling, filtration, system operation, hydraulic system failure/repair history, historical oil analysis data and extracted oil samples. The samples were sent to a lab which developed the baseline findings. The final analysis identified opportunities for improvement in product storage and handling. The current ISO Cleanliness level of 25/24/15 was 500 times higher than the hydraulic system manufacturer required. Utilizing the Noria hydraulic oil life extension table, the opportunity for system life improvement was estimated at 10 times.

Solution – Start Clean & Stay Clean
After reviewing the site assessment, the plant switched from their current supplier to RelaDyne and implemented the Chevron ISOCLEAN Certified Lubricants program. The competitive product was replaced with Chevron Rando® HD 46 – ISOCLEAN Certified which meets the ISO Cleanliness target level of 15/13/10 established by the team. RelaDyne worked with the plant personnel to install improvements to product storage and handling. Due to the extreme environment, a stay clean program (ISOCLEAN Service) was also implemented to help the company maintain targeted cleanliness levels of the in-service hydraulic fluid while operating the presses.

Results – Extended Equipment Life Cycles and Improved System Performance
The company began to see immediate improvement. In only a few months, the company reported a savings of over $125,000 USD on their hydraulic systems. The company has increased production, extended equipment life cycles, improved lubricant system performance and reduced annual lubricant consumption by partnering with RelaDyne and Chevron. The combination of premium hydraulic technology of Chevron Rando HD 46 and the ISOCLEAN Certification has enabled them to achieve these results.