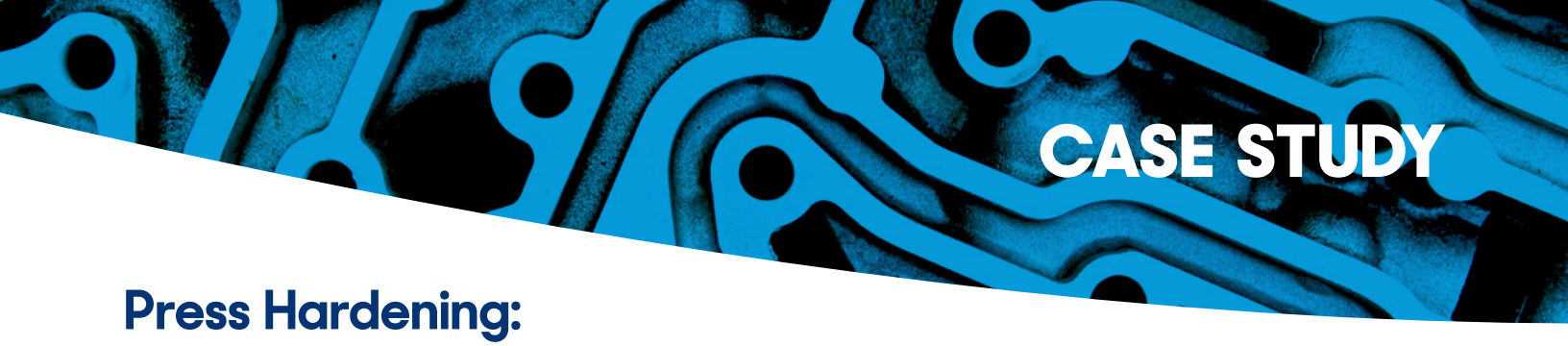

CASE STUDY

Press Hardening:
Minimizing the Risk of Fire Hazards

QUINTOLUBRIC® 888-46

The Challenge

In a press hardening operation the following potential issues may arise in the hydraulic system:

- Ruptured hoses
- Leaking couplings
- Disconnected pipework

If the operation uses mineral oil in its system these issues can lead to the following risks:

- Large exploding fires, resulting damage on the press
- Loss of production
- Security of the ability to supply the customers
- Personnel injuries

The Solution

One automotive parts supplier decided to take the necessary actions to stop these events from happening, and engaged different departments within their organization to look for a solution.

The press hardening company reached the conclusion that the safest and most cost effective alternative was to replace the mineral oil currently being used with QUINTOLUBRIC® 888-46, a synthetic water free HFD-U fluid.

The Benefits

To start the conversion of one hydraulic press to QUINTOLUBRIC® 888-46, the company had to:

- Conduct extensive long term compatibility testing and thorough performance checks with the components used
- Collect written approvals from component suppliers
- Define a specific procedure for a conversion from mineral oil to a synthetic water free HFD-U fluid, so less than 3% of the mineral oil would remain
- Trial of QUINTOLUBRIC® 888-46 including regular fluid analysis

Approval and implementation at the customer

- The press hardening company decided that all units installed in the future will be directly filled with QUINTOLUBRIC® 888-46
- Since the hydraulic fluid conversion, QUINTOLUBRIC® 888-46 has demonstrated its fire resistant properties by keeping the situation under control and production uninterrupted during fire related accidents

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The Solution

FINANCIAL AND TECHNICAL EVALUATIONS OF ALL POSSIBLE SOLUTIONS		
Solution	**Positive**	**Negative**
Change design of the press to avoid mineral oil leakages close to the hot blank	Company can keep the same oil technology	• Does not avoid using a straight hydraulic oil (HLP) coming close to the hot blank in the tools
Installation of a fire extinguisher system	Company can keep the same oil technology	• Very expensive and it does not catch the explosive ignition
Change hydraulic fluid to a Water Glycol HFC type	Offers a safe solution	• Reduction in lubrication performance • Expensive design modifications necessary (cost involved: ± 200,000 € ($211,000 USD)/press
Change hydraulic fluid with HFD-U type	Closest product to mineral oil and no investments on hydraulic systems	• Low risk of fire (under control) but still possible on a 900°C (1,650°F) blank

The Product

QUINTOLUBRIC® 888-46 was designed to replace anti-wear, mineral oil-based hydraulic fluids used in applications where fire hazards exist. QUINTOLUBRIC® 888-46 can also be used in environmentally sensitive hydraulic applications without compromising the overall hydraulic system operations. This fluid does not contain water, mineral oil, or phosphate ester, and is based on high-quality, synthetic, organic esters and carefully selected additives to achieve excellent hydraulic fluid performance. QUINTOLUBRIC® 888- 46 offers the lubrication level of premium, anti-wear hydraulic oils, and can be used with hydraulic components from all major manufacturers.

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