Leading plastic packaging manufacturer ALPLA uses a Netstal-Maschinen HP 3500/3550 R plastic injection-moulding machine at its production plant in Zagreb, Croatia. The equipment manufacturer recommends a hydraulic fluid with a viscosity grade of 68 and a hydraulic-fluid-drain interval of 5,000 hours. However, ALPLA wanted to reduce costs by extending this fluid-drain interval, so sought help from Shell Lubricants.

The Shell technical team recommended that the company should switch to Shell Tellus S3 M 68, which could help to extend the fluid-drain interval. The team also recommended an additional 3-µm fluid filtration system and provided training on lubrication best practices to ALPLA’s maintenance staff.

ALPLA took advantage of the Shell LubeAnalyst oil and condition monitoring service, which confirmed that the company could safely increase its fluid-drain interval of its injection-moulding machine from 5,000 to 15,000 hours using Shell Tellus S3 M 68. As a result of extending this fluid-drain interval, ALPLA has benefited from reduced hydraulic-fluid consumption and maintenance, and increased equipment availability. The company has reported a total annual saving of US$16,500.
Shell Tellus S3 M 68, Premium, Zinc-Free Industrial Hydraulic Fluid

Shell Tellus S3 M hydraulic fluids are high-performance lubricants that use exclusive zinc-free technology to provide outstanding protection and performance in most manufacturing and many mobile equipment operations. They resist breakdown under heat and mechanical stress, thereby helping to prevent damaging deposits that can decrease the efficiency of your hydraulic system.

Applications
- Manufacturing and industrial hydraulic systems. Shell Tellus S3 M fluids are suitable for a wide range of hydraulic power applications found in manufacturing and industrial environments.
- Severe-duty hydraulic service. The long-life characteristics of Shell Tellus S3 M fluids can make them particularly suitable for severe-duty applications or where extended life is required.
- Marine and mobile hydraulic systems. Shell Tellus S3 M fluids are suitable for marine and mobile applications where ISO HM-type hydraulic fluids are recommended.

Performance features and benefits
- Long fluid life — maintenance saving. Shell Tellus S3 M fluids offer the possibility to extend fluid maintenance intervals and hence reduce equipment downtime through
- an extended ASTM D943 TOST lifetime and an oxidative stability that is designed for a minimum 5,000-hour TOST life
- excellent resistance to breakdown in the presence of water and heat.

Specifications and approvals
Shell Tellus S3 M 46 is approved by Denison Hydraulics HF-0, HF-1 and HF-2; Eaton Vickers Brochure 694; Fives Cincinnati Machine P-68 (ISO 32), P-70 (ISO 46) and P-69 (ISO 68); ISO 11158 (HM fluids); DIN 51524-2 (HLP oils); ASTM 6158 (HM mineral oils); and Swedish Standard SS 15 54 34 M.

Complementary products

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<tr>
<th>Equipment</th>
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<tr>
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<td>Shell Omala gear oils</td>
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<tr>
<td>Compressors</td>
<td>Shell Corena compressor oils</td>
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<td>Bearings</td>
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CHALLENGE
ALPLA wanted to reduce costs by extending the hydraulic-fluid-drain interval of a Netstal-Maschinen HP 3500/3550 R plastic injection-moulding machine, so sought help from Shell Lubricants.

SOLUTION
The Shell technical team recommended that the company should switch to Shell Tellus S3 M 68 hydraulic fluid and offered the Shell LubeAnalyst oil and equipment monitoring service. The team also provided lubrication training to ALPLA’s employees.

OUTCOME
By switching to Shell Tellus S3 M 68 and using the Shell LubeAnalyst oil and condition monitoring service, ALPLA found that it could safely increase the fluid-drain interval of its injection-moulding machine from 5,000 to 15,000 hours.

VALUE
As a result of extending the fluid-drain interval, ALPLA has benefited from reduced hydraulic-fluid consumption and maintenance, and increased equipment availability. The company has reported a total annual saving of US$16,500.1

1 The savings indicated are specific to the calculation date and mentioned site. These calculations may vary from siteto-site and from time to time, depending on, for example, the application, the operating conditions, the current products being used, the condition of the equipment and the maintenance practices.