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CASE STUDY

Global Plastic Manufacturer Increases Productivity and Reduces Maintenance Man-hours

Fluitec's DECON decontaminates hydraulic oil system and enables increased plant productivity and reduction of maintenance man-hours

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Global Plastic Manufacturer Increases Productivity and Reduces Maintenance Man-hours

INCREASED PRODUCTIVITY
5%

REDUCED MAINTENANCE MAN-HOURS
14%

CLIENT: Plastic Manufacturer

COUNTRY: USA

APPLICATION: Injection Molding Machine

MAN-HOUR REDUCTION: 14%

PRODUCTIVITY: Increased by 5%

SOLUTION: Fluitec DECON

PROBLEM

A global leader of manufacturing everyday plastic products was being was plagued oil varnish issues. In the mornings, the plant experienced frequent valve seizures upon start-up, requiring regular replacement and reduced operational output.

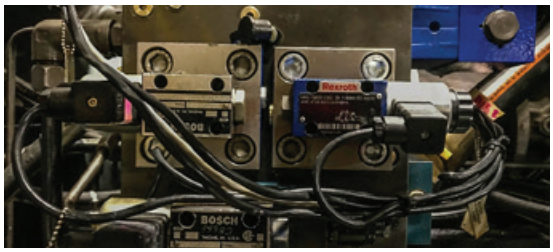
SOLUTION

Fluitec's DECON™ Fluid Enhancement Solution utilizing a patent-pending lubricant varnish and deposit mitigation technology, **Solvancer™** has maintained high levels of success enabling increased productivity for injection molding plants.

PROBLEM

- Drastic reduction in valve replacement
- Increased daily operation time by 5%
- Reduced man-hours focused on machine start-up by 14%
- Mold clamp speed and system efficiency has increased translating to a higher cycle time and production yield
- Increased the life of the oil by approximately 4X
- Reduce approximately 5,000 pounds of waste oil disposal per year

DEEPER DIVE



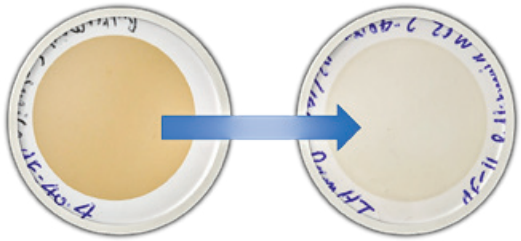
Plastic Injection Molding Machines depend on high quality hydraulic oil for successful operation. There are several critical motion-activated hydraulic circuits on these machines such as the injection of the plunge screw, extruder screw rotation and closing of the mold. Degraded hydraulic oil produces varnish, which not only impairs the operation of these circuits, but may cause the pump to fail, servo-valves to stick or seize and heat exchangers to plug.

A leading consumer product company uses plastic injection molding machines to manufacture their products. This particular plant was operating a Milicron 1000-ton extruder. Their operation was plagued with oil varnish issues. Mornings, the plant experienced frequent valve seizures upon start-up, requiring regular replacement and reduced operational output.

Their heat exchanger was plugged, allowing the oil to operate at 140F (60C).

The internals of the system were coated with brown, sticky varnish.

DECON was added to the reservoir during operation to solubilize the varnish, decontaminate the system and prevent further deposits from forming.



Within 2.5 hours, the Membrane Patch Colorimetry (MPC) results had dropped from 40 to 11. Within 24-hours, the heat exchanger started working. Oil reservoir dropped from 140F (60C) to below 100F (37C). Based on Arrhenius rate equation, this lower temperature translates to >4X oil life and significantly less thermal stress on the fluid. Their mornings now are easy and relaxed. The machine starts up instantly and no servo-valves have been replaced. Inspection of machine components and system internals reveal no deposits.

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