

# Drilling Equipment Manufacturer Triples Equipment Uptime

## THE PROBLEM

A drilling equipment manufacturer faced recurring piston wear in high-pressure mud pumps. Abrasive drilling fluids, pressures up to 7500 PSI, and temperatures up to 250°F led to frequent replacements, unplanned downtime, and rising costs.

**“We needed a piston supplier who could help us deliver consistent quality to our customers.”**

PROCUREMENT MANAGER

## THE SOLUTION

To address these challenges, the equipment manufacturer partnered with MPC to implement custom-engineered polyurethane pistons. Key features included:

- **Advanced Polyurethane Materials:** Engineered for abrasion resistance and high-temperature stability up to 250°F
- **Custom Geometry:** Designed to ensure optimized sealing and reliable performance in high-pressure mud systems
- **Precision Manufacturing:** Refined mold designs for consistent, durable performance in demanding drilling environments

### MARKET

Energy

Onshore

### SOLUTION

Sealing

### PRODUCT

Mud Pump Valves & Pistons

### TECHNICAL SPECIFICATIONS

#### COMPONENT

Custom polyurethane piston

#### PRESSURE

Up to 7500 PSI

#### TEMPERATURE

Up to 250°F

#### PROCESS

Refined mold designs, precision manufacturing

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## — THE RESULT

The implementation of MPC's custom pistons transformed the customer's operations:

- **Extended Part Life:** Pistons achieved up to 3x longer lifespan, reducing replacement frequency and warranty claims
- **Reduced Downtime:** Improved durability kept rigs operational and projects on schedule
- **Cost Savings:** Lower maintenance and replacement costs allowed budget reallocation to critical projects

The customer has since standardized MPC pistons across their product lines, strengthening their reputation for quality and reliability with their customers.

**3x**

LONGER PISTON LIFESPAN

**7500**

PSI OPERATING PRESSURE

**250°F**

TEMPERATURE STABILITY

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