



## Monolec® R & O Compressor / Turbine Oil (6404)

*General Clinical Plastics Corp. – La Mirada, Calif.*

*50 HP Mattei ES500 Air Compressor*

- **Reduced operating temperature by 10°F**
- **Reduced power consumption by 6 amps**

### **Customer Profile**

General Clinical Plastics manufacture plastic medical products such as medicine cups, wash basins and various size containers. David Marlow is the maintenance superintendent and Klaus Shesnack is the vice president at this location.

### **Application**

General Clinical Plastics Corp. uses a 50 hp Mattei ES500 air compressor for the primary air supply for their equipment and tools.

### **Challenge**

In June of 1990, the local LE lubrication consultant contacted them and presented LE's ZAP Energy Savings Program. Using a commercial grade SAE 30 air compressor oil, they were experiencing a number of problems. This compressor was only one year old, and already the customer was experiencing sludging, bearing failures and carbon deposits. They also felt the compressor was running too hot, with a casing temperature of 180°F (82°C). According to David Marlow, maintenance superintendent, the associated downtime and repair costs were unacceptable.

### **LE Solution**

It was recommended to change to Monolec® R & O Compressor / Turbine Oil (6404) because the excellent oxidation resistance of this oil would help combat the effects of the extreme temperatures of air compression. Also, the special additive package would control carbon deposits and give protection against wear and rust. Best of all, LE's 6404 contains Monolec®, LE's exclusive wear-reducing additive. The LE consultant also explained that they could reduce their annual electrical consumption by using Monolec 6404.

### **Results**

Since changing to Monolec 6404, General Clinical Plastics Corp. has realized a number of benefits. The Mattei air compressor runs cooler, with a casing temperature of only 170°F (77°C). According to operators, the compressor also runs quieter and they have experienced a 6 amp reduction in power consumption. The electric energy savings are considerable as this compressor operates 24 hours a day, five days a week. The following calculations shown document this substantial savings.

The following formula is used to find the cost of operation of a unit's electrical consumption. This is the same formula used by the local utility.

$$\begin{aligned} \text{kW Savings} &= \text{Volts} \times \text{Amperes Saved} \times 1.73^* \\ \text{Annual kWh Savings} &= \text{kW Savings} \times \text{Hours of Operation Per Year} \\ \text{Annual Electrical Savings} &= \text{Annual Savings} \times \text{Electrical Charge} \end{aligned}$$

$$\begin{aligned} \text{kW Savings} &= .480 \times 6 \times 1.73 = 4.98 \text{ kW} \\ \text{Annual kWh Savings} &= 4.98 \text{ kW} \times 6,240 \text{ hpy} = 31,075 \text{ kWh} \\ \text{Annual Electrical Savings} &= 31,075 \text{ kWh} \times \$ .07 = \$2,175 \end{aligned}$$

Monolec 6404 saves \$2,175 annually in electrical energy costs.

*Thank you to David Marlow, maintenance superintendent, Klaus Shesnack, vice president, and to Bob Sodergren, LE lubrication consultant (pictured), for providing the information used in this report.*





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Based on actual user experience. Individual results may vary. Not intended to supersede manufacturer specifications.

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