LUBRICANT CASE STUDY #3

Objective: To replace petroleum oil based machining oils with vegetable oil based chemistry in high speed, screw machining applications.

Customer: An international manufacturer of surgical pins, screws and implants.

Recommended Coral product: CORLUBE SN

Observed test results:

1. Improved tool life significantly over incumbent, chlorine and sulfur containing oils.
2. Provided easier to clean fluid residue on finished parts.
3. Decreased down-time associated with tooling changes – increasing production efficiency.

Estimated savings: approximately $90,000 per production cell (a total of 3), yielding an estimate savings in tooling and production downtime of an estimated $270,000 annually.

We worked closely with our customer to address their various production and environmental concerns. Of greatest concern were the presence of chlorinated and/or sulfur bearing additives in the machining oils and the tool life in these severe, metal removal processes.

CORLUBE SN was recommended for extensive laboratory testing prior to obtaining approval for field testing in a screw machine. Because of the sensitive nature of medical instrument and implant use, stringent testing and approval processes are in place to evaluate the overall impact a chemical may have on the finished part. Through the extensive machining tests, surface analyses, cleaning evaluations and safety approvals, Coral provided all support and information necessary to provide ultimate approval for process use of **CORLUBE SN**.

Initial testing involved machining stainless steel and titanium parts in a Swiss style screw machine six months. Over this time frame, extensive tool life data and production volumes were recorded and the projected cost savings of implementing **CORLUBE SN** were generated. Based on this information, **CORLUBE SN** spread in its use throughout the remaining machines performing similar applications on both titanium and stainless steel stock.

Coral continues to support cost reduction projects at this customer's multiple facilities and continues to address any production variables or chemical needs.