# LUBRICANT CASE STUDY

**Objective:** Replace competitive synthetic emulsion chemistry to improve fabrication and porcelain enamel processes.

**Customer:** Outdoor cooking equipment manufacturer

**Recommended Coral product**: **CORDRAW 6189**

**Observed test results:**

1. Improved die life on all presses.
2. Reduced overall scrap rates on formed parts.
3. Eliminated difficulty associated with cleaning parts stored for several weeks.
4. Eliminated numerous spot welding associated defects.
5. Dramatically extended bath life of spray wash cleaning chemistry.
6. Decreased consumption of cleaning chemistry needed to remove lubricant from part surface.
7. Decreased amount of sludge formed in process cleaner bath.

**Estimated savings**: approximately $150,000 in associated chemical costs annually.

In cooperation with our customer, Coral developed a fully synthetic metal forming fluid to form all of the cooking equipment parts, while reducing numerous production related issues.

The greatest issues faced by our customer were scrapped parts and difficulty in cleaning parts left in storage for several weeks. Additional issues associated with part cleanliness involved welding defects (the lubricant film was spot welded through) and overall department cleanliness (presses and floors).

We submitted **CORDRAW 6189** for comparative field testing along side three other competitive fluids. All throughout testing, Coral personnel were present and helped to compile and record trial data and address any questions or concerns our prospective customer had. After the fabrication trial data had been accumulated, additional weld, storage and cleaning studies were performed and **CORDRAW 6189** was selected for an extended field trial of several months.

During the lengthy field testing, Coral personnel met with the prospective customer to discuss progress and address any questions that arose. In addition to working with the fabrication department, Coral personnel worked closely with the porcelain enamel department to insure no disruption of production or quality.

Throughout the multiple and lengthy field tests conducted, Coral personnel proposed and implemented new ideas for process improvements that generated very significant cost reductions for our customer. At the end of our cooperative tests, lubricant related scrap rates were dramatically lowered, lubricant costs were lowered by at least 25% overall, associated welding defects were eliminated and costs associated with cleaning the fabricated parts decreased by more than 85%.