

T H E X T E K *Difference*

Xtek Service and Reconditioning Center **Caster Shear Gearbox Rebuild**



A critical component in modern thin strip steel mills is the Caster Shear Gearbox. Located at the base of the Continuous Caster, this gearbox shears a 2" thick by up to 80" wide strip of steel to the proper length for processing in the Hot Strip Mill.

The gearbox required for this application is by no means small. The completed assembly weighs some 130,000 pounds, and includes a flywheel, clutch and brake. Xtek has worked closely with the users of this equipment to not only rebuild these units, but to improve the performance by upgrading gear quality, lubrication and sealing systems.

The following summarizes the work that Xtek provided on a gearbox for this application, and typically for many of the gearboxes we rebuild:

- ◆ Upon receipt of the gearbox, it was completely disassembled, cleaned and inspected:
- ◆ The housing was reassembled for inspection of bore sizes and alignment
- ◆ Non-destructive (magnetic particle and/or ultrasonic inspections) and dimensional inspections were completed on all critical rotating components
- ◆ Evaluation of both the gear and bearing load ratings
- ◆ Lubrication system evaluation



The reconditioning work scope included the following:

- ◆ Gear components were ground to address wear problems and increase the AGMA quality level
- ◆ Housing bores were welded and machined to proper specifications
- ◆ A new fly wheel was reverse engineered and manufactured
- ◆ Brake and clutch systems were rebuilt
- ◆ Complete lubrication system was upgraded
- ◆ At reassembly, the gear contact patterns and backlash were documented
- ◆ 24-hour no load run test to monitor bearing temperatures and overall quality of the reassembly
- ◆ On site installation support

