

# 4-HIGH TANDEM COPPER MILL

## PROCESS

Tandem copper mill consists of Payoff, Mill Stands E1 and E2, Recoiler and auxiliary equipment such as hydraulic, lubrication, air-oil system, and chiller.

Gauge control with tolerances to  $\pm 0.0001$ " inch for hard and soft tempered products with yield strengths ranging from 20,000 lbs to 75,000 lbs. Tension setting ranging from 50 lbs to 4000lbs and speed of up to 2000 fpm.

## SCOPE

Design, supply, install and commission all electrical and automation equipment including DC drives and motors, Motor Control Center, Process control equipment and systems, control panels and one operator's console.

Training of the operators and electrical maintenance is also included.

## APPROACH

Develop low cost, state of the art solution to upgrade existing mill. Cost reduction realized by using standard proven equipment and technologies from reputable manufacturers, assembled and wired in local shops under Quad's supervision.

Develop and test all software including AGC system utilizing PLC motion controllers.

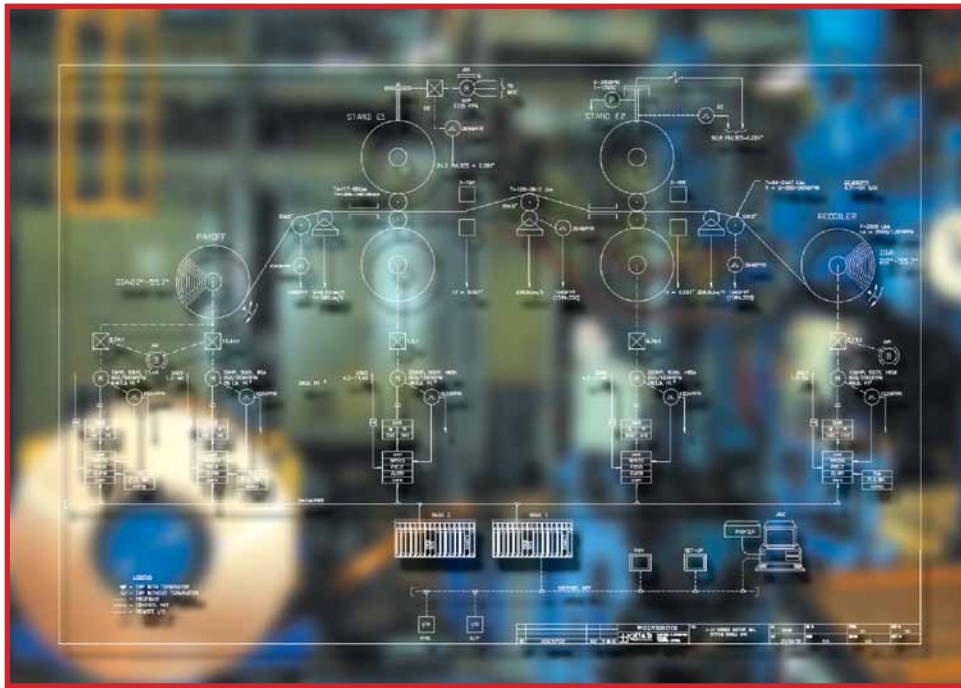
Simulate site condition, calibrate and test equipment in-house, reduce site commissioning and start up cycle.

## BENEFITS

State of the art copper mill at significantly reduced cost. Intuitive and user-friendly control system.

Operators' participation in the hot commissioning, leading to a shorter start up.





## TECHNICAL DETAILS

**PLC:** Allen Bradley ControlLogix, with real time processing capability

**Modules:** Servo, High Speed Counters, Discrete and Analog Inputs and outputs,

**Total I/O's:** 250

**Networks:** ControlNet, DeviceNet, Ethernet

**Features:** Tension Control, Speed Control, AGC system, Feedback, Feed forward and Mass Flow Control, Adaptive gain tension regulation, Profile measurement, DATA Acquisition.

**DC Drives:** Eurotherm

**Quantity:** 5

**Sizes:** 10, 50, 100 and 300HP

**Features:** DeviceNet communication, Variable inertia compensation

**HMI:** PanelBuilder32, Labview

**Hardware:** Two PanelView1000 touch screens , and one PC based station with 15" touch screen

**Network:** ControlNet, Ethernet

**Features:** Mill configuration, Set up schedules, Process Monitoring and Control, Online Analysis and SPC, Trending, Alarms, Report generation using NI Labview 6I



SES Automation Inc. Toronto, Ontario, CANADA  
Tel: 416.391.1255 Fax: 416.391.2254  
[www.sesenga.com](http://www.sesenga.com)

