

CASE STUDY

Cross Manufacturing Co. Ltd. Centralised Grinding System

GENERAL DATA

1. Cross manufactures Sealing Rings - Axial Grind Function
2. No data exists for the particle size that must be removed to achieve a given CLA

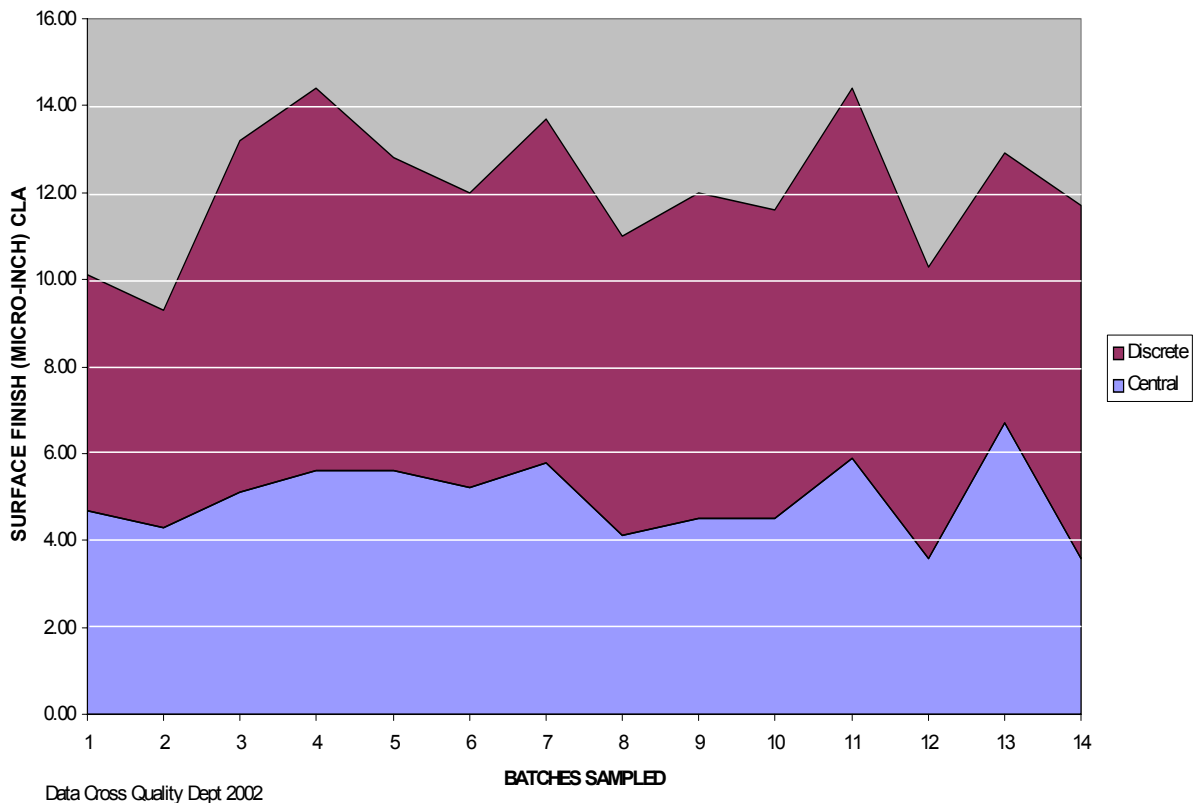
SYSTEM DATA

1. System flow rate of 8 L/s (127 gpm) of clean coolant supplied to 8 double disk grinders with provision for 3 more.
2. Dirty coolant from grinders is pumped at 80 psi to the Maggie separator. The Maggie discharges to a 'semi-clean' tank. The Maggie purges to a magnetic drum and paper bed filter. Between 4.0 & 5.0 Kg (8.8 to 11 pounds) removed every 12 hours.
3. The clean coolant from the paper bed filter is to the 'semi-clean' tank.
4. The 'semi-clean' tank has a sloped bottom. Coolant is pumped from the 'semi-clean' through a set of Phoenix filters. A single Phoenix at 35 micron and four filters in parallel at 25 micron. Backwash frequency of the 35 micron Phoenix is 8 per 12 hours and the 25 micron Phoenix filters are backwashing 10 times per 12 hours.
5. The clean discharge from the Phoenix filters is to a 'clean' tank, where it is then pumped back to the grinders.
6. Paper consumption is 4-5 Meters per 12 hour

BENEFITS

1. Significant improvement in CLA, see CLA Data Table below.
2. Swipes, sometimes called flicks, have been totally eliminated (were 3-5%)
3. Stable coolant temperature and supply pressure
4. The period between wheel dressings is longer by more than 20%
5. Saving 280 Square Feet of internal floor space (versus 95 Outside)
6. Weekly and 3 monthly clean outs are eliminated.
7. We seem likely to achieve the savings originally envisaged for this project.

SURFACE FINISH DISCRETE MACHINE FILTERS V CENTRAL FILTRATION



Data provided by Nick Alford – Cross Manufacturing, Devizes August 2002