

Steel Roll Grinding - Improved Quality

Application Details

- **Application:** Grinding
- **Grinder:** Churchill
- **No. Of machines:** 2 nos.
- **Material:** Forge Steel
- **Grinding wheel:** Conventional (width-100mm,600-700rpm)
- **Coolant:** Water based emulsion
- **Total flow rate:** 170 lpm

Earlier Filtration System

- Only Magnetic Separator



Customer Concerns

- Scratch marks and burn marks after Grinding
- Geometry
- Grinding wheel life
- Coolant life
- Frequent tank cleaning



Earlier - Grinding Set-up

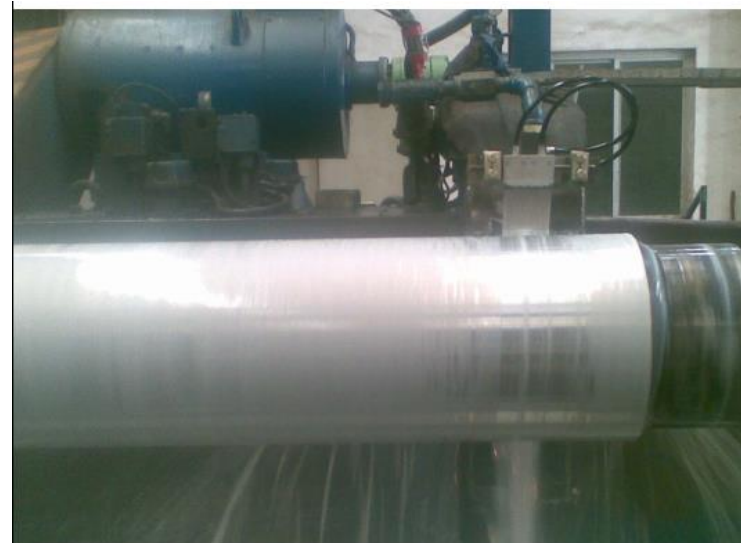
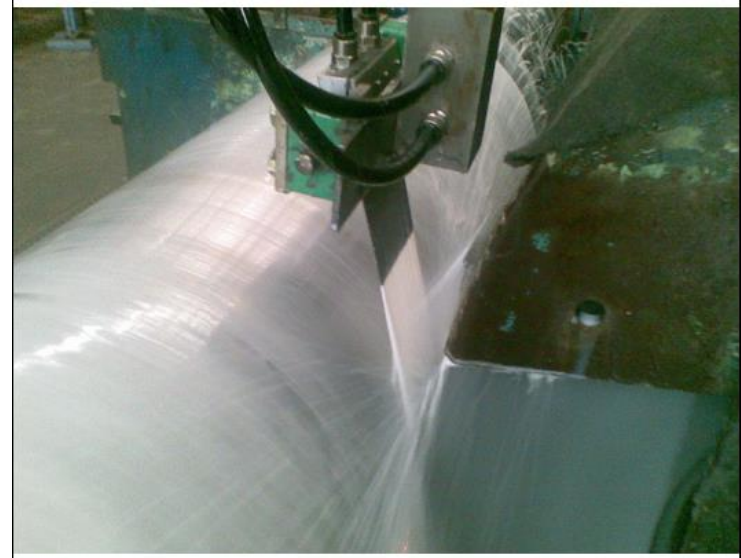


Upgradation in Filtration

- Sovereign KBF 1002/1040 for fine coolant filtration.
- Application specific filter media



Improved Grinding Set-up



Benefits Achieved after implementation

Sr. No.	Observed Parameters	Results
1	Roughness	With in desired range
2	Roundness	With in desired range
3	Surface finish	Consistent 0.2 μ Ra as desired.
4	Scratch marks	Considerably reduced
5	Burn marks	Considerably reduced
6	Grinding wheel life	Improved

Benefits

Additional benefit observed:

- The coolant consumption reduced to 65 LPM.

Benefits achieved by upgrading the Filtration system

- Enhanced lubricity at the point of grinding
- Reduced grinding frequency of rollers
- Reduction in the power drawn by the grinder
- Reduced dressing frequency of the wheel
- Enhanced grinding wheel life
- Superior surface finish
- Optimum coolant consumption
- Overall reduction in coolant cost