

Flaking Rolls



Application:

Flaking Rolls produce corn, bran, wheat and rice flakes for the cereal industry. In a flaking mill application, two rolls are used to form a high-pressure nip that crushes the pellets into flakes.

Roll Specifications:

Flaking rolls require carefully machined internal water passages integrally machined into the inner assembly for cooling the hardened outer shell. Outer shells are manufactured from alloy steel and hardened to meet the customer's specific requirements. PFE uses one of two methods for heat-treating:

- 1) A through hardened shell to Rc 50-55
- 2) A case hardened shell to Rc 58-62 X .3 deep.

On the roll ends, we install special mechanical seals to seal the inner and outer assemblies. The outer shell is shrunk on the inner assembly top using a predetermined fit that will minimize hoop stresses. The roll is ground to within .0002" TIR and straightness. Full documentation is provided with each roll that includes all material certifications, heat treatment oven charts, pressure test results, and all internal and external dimensions.

Benefits:

PFE flaking rolls are designed to minimize problems with shell cracking, weld cracking, ends leaking, and poor run-out.

By eliminating the welding of the high alloy materials, and with the addition of special mechanical seals on the roll ends, PFE has eliminated the cracking problems found in welded construction. This design also enables re-shells to be performed with ease. PFE holds close tolerances, not only on the external dimensions, but in the critical internal dimensions as well. Our experienced craftsmen hold run-out tolerances within .0002" TIR and straightness. Rolls with such close tolerances will produce consistent flakes every time.

PFE Rolls offers complete flaking roll services that include:

- Roll Re-shells – PFE Rolls will completely refurbish your existing Flaking Roll with a new hardened shell, repair seal and bearing areas on the journals, and install our special mechanical seals which eliminate the weld seams that have historically created cracking problems in the flaking application. All this for approximately half the cost of a new roll.
- Roll Re-grinds – PFE Rolls will regrind the face of your flaking roll and repair seal and bearing areas on the journals back to their original specifications.
- Bearing Inspections – Dismount bearing, thoroughly clean and inspect, mount and grease pack, ready for installation in your mill. PFE Rolls machine assemblers have the experience to inspect and mount your roller bearings to achieve maximum service

PFE has provided over 100 flaking mill rolls (new and re-shelled) to OEMs and processing facilities over a period of 8 years. We have not had a single failure or warranty issue due to shell cracking or water leakage. We have a proven record of 100 percent success!