

EDGEWIPE

A FLEXIBLE SYSTEM FOR EFFECTIVE CONTROL OF STRIP EDGE DRYNESS

The Edgewipe technology works in conjunction with the conventional mill strip drying equipment, to effectively control the strip edge dryness.

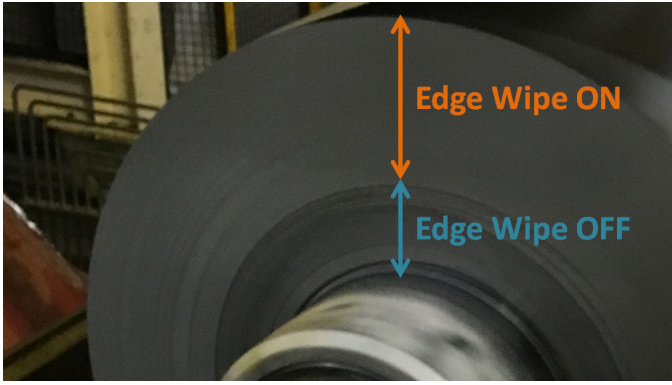
Strip contamination is caused when roll coolant is carried over to the exit side of the mill. A key part of this coolant carryover presents itself as a bead of coolant sticking to the edge of the strip. Migration of the edge bead coolant between the individual laps of the coil results in potential issues such as staining of the coils, environmental contamination and excessive coolant consumption.

Edgewipe by Primetals Technologies, is designed to address these problem areas. The system has blow-off jets and suction ducts to extract the coolant beads from the strip edge. This results in efficient removal of coolant beads from the aluminum strip during the rolling process.

MAIN DESIGN FEATURES

- Multi-nozzle air sweeper jets to clear the underside of the strip edge
- Targeted knock-off jets to clear the vertical edges of the strip
- Air mover system directs unwanted coolant away from the strip
- Stainless steel nozzle manifolds, pipework and fittings
- Quick disconnect electrical connectors
- Integrated PLC control and alarm status display
- User friendly diagnostics
- Incoming signals can be TCP/IP, profibus or hardwired
- E-Stop can be integrated into the mill control system

80% REDUCTION
EDGE BEAD
CONTAMINATION



Edgewipe introduced mid coil



Dedicated edge wiping technology

CONSTRUCTION

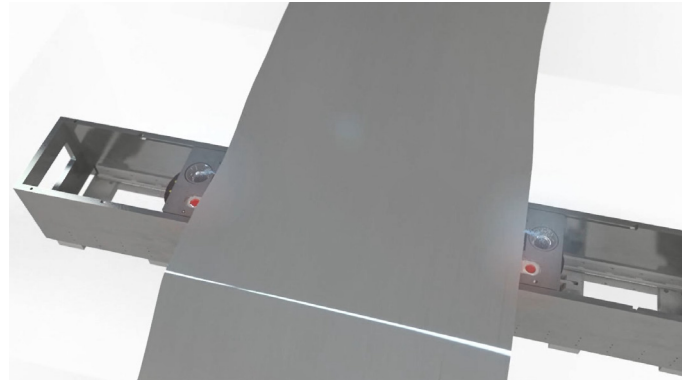
Edgewipe is designed to work in conjunction with the conventional mill strip drying equipment. The technology consists of the edge wipe unit, PLC system and an integrated I/O, which connects to the necessary field signals. The I/O interface units are housed in an environmental enclosure which can be conveniently located close to the mill.

OPERATING PRINCIPLE

A bead of fluid forms on the edge of the strip as it leaves the roll bite. To achieve dryness at the strip edge, the Edgewipe blows the beads of fluid away from the strip edge which are then removed via a suction duct. This prevents the coolant migrating into the body of the coil, resulting in reduced coil staining and other downstream quality problems.

The Edgewipe system is installed below the pass line on the exit side of the mill, close to the mill bite. The equipment comprises of:

- Infra-red (IR) light sensors to detect each strip edge
- An actuating system to position the air blow off jets accurately at each strip edge
- An air suction system to remove the excess fluid
- A PLC based system provides the control algorithms required to interface with the IR and actuating system
- A profinet connection links the PLC to the interface box



Edge bead removal

MAIN BENEFITS

- Efficient removal of residual edge bead coolant from the strip
- Automatically adjusts to strip width and position
- Improves the yield, quality and performance of the production process
- Improves strip edge dryness for full product range, reducing staining and coil telescoping
- With a width of only 300 mm, Edgewipe easily fits into existing or new mill installations
- Reduces harmful emissions to the environment
- Improves environmental performance of the mill
- Significant cost savings achieved through coolant recycling
- Modular construction for ease of maintenance

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