



Eco Slide Disc in operation
(patent pending)

ECO SLIDE DISC

A NEW SIDE GUIDE SYSTEM FOR HOT-STRIP MILLS

EXTENSION OF OPERATION TIME AND ELIMINATION OF STRIP SURFACE DEFECTS CAUSED BY ENTRY SIDE GUIDES.

The new system significantly reduces maintenance costs in the downcoiler area of hot-strip mills. The replacement of wear plates can be avoided during operation. The risk of surface defects caused by burning burrs falling off the wear plate is eliminated.

YOUR CHALLENGE

The guidance of hot strip during the coiling process into marketable coils results in high wear of the downcoiler entry-side guides. Special strip steel grades, e.g. electrical steels, high-silicon grades, etc., also exert the risk of strip-surface defects caused by burning burrs falling off the wear plates. Both requires

frequent replacement and inline cleaning of the wear plate, sometimes daily, leading to high operational, maintenance and stockpiling costs.

OUR SOLUTION

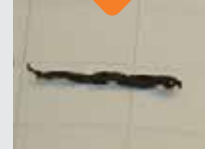
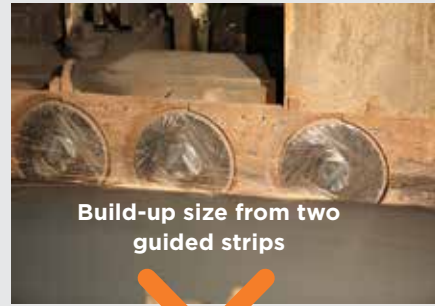
The new Eco Slide Disc system from Primetals Technologies which can be adapted to nearly all existing side guides significantly reduces such costs. The core of this solution integrates the wearing discs into gear beams fixed to the entry side guides. An electric drive partially rotates the discs between coils. For example, discs are rotated 8° after every second guided strip. As such, these slide discs can be kept in operation for up to several months without any replacement, inline cleaning or other service activities. The simple and inexpensive Eco Slide Discs can also be reversed for use on both sides.



CONVENTIONAL SLIDE PLATES



NEW ECO SLIDE DISC SYSTEM



CURRENT SITUATION

For special strip steel grades, e.g. electrical steels, high-silicon grades, etc., wear plates must be cleaned manually inline after each rolling sequence (60 to 90 rolled strips) during workroll exchange. Often unscheduled production stops are necessary for such cleaning activities in order to reduce the risk of strip surface defects caused by burning burrs falling off the wear plates.

SELF-CLEANING EFFECT OF THE ECO SLIDE DISC

Build-ups formed on permanently turning Eco Slide Discs are much smaller because they are created from a few strips only after the discs are rotated (e.g. discs are rotated after every two guided strips). After rotation, the strips themselves remove small build-ups. Small particles are easily removed from the strip surface with existing cross-spray water systems before pinch-roll units.

MAIN BENEFITS

• Increased lifetime of wear parts

Each set of Eco Slide Discs can be kept in operation for up to several months instead of only a few days (e.g. in continuous operation for 18 weeks on one disc surface side in a reference plant that produces 4.8 million tons of coils per year with two downcoiler units).

• Improved strip surface quality

- Self-cleaning effect can prevent damages to the strip surface caused by burning burrs falling off the wear plates
- Improved strip guidance can prevent damages to the strip edge

• Highest safety standards

Elimination of hazardous inline activities

• Increased Mill output

- Elimination of time-consuming exchange activities
- Elimination of shutdowns for cleaning activities

• Reduced operational costs

- Cost savings in wear parts up to a factor of 10 possible
- Simple and inexpensive carbon steel discs
- Tremendously increased lifetime of wear parts
- Increased availability of personnel and bay crane
- Elimination of storage and repair station
- Elimination of inline and offline cleaning and refurbishment

• Can be adapted to nearly all existing side guides

• Extreme short return on investment

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