

Model based Level 2 Systems for cold mills

Beside product quality also productivity, recovery and flexibility are crucial for the production of cold rolled flat products.

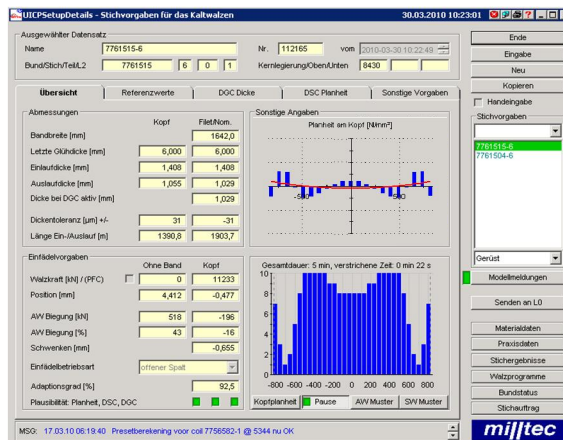
Due to detailed and self-learning process models which are integrated in customised strategy modules, the *milltec* Level 2 systems offer a powerful platform to achieve the targets.

The pass schedules are generated automatically ensuring highest productivity and quality.

The pass schedule generator *Schedule* ensures optimum productivity with highest quality and minimal energy consumption. Pass schedules are initially determined upon planning of a coil. They are updated prior to each pass, to cope with the actual product and mill situation. The pass schedule generator also supports changes of the product target during progression and automatically optimises remaining passes.

The model based and adaptive optimisation of the mill presets prior to each pass ensures good flatness at the strip head and thus provides ideal start conditions for the gauge and flatness control. This improves productivity and recovery likewise.

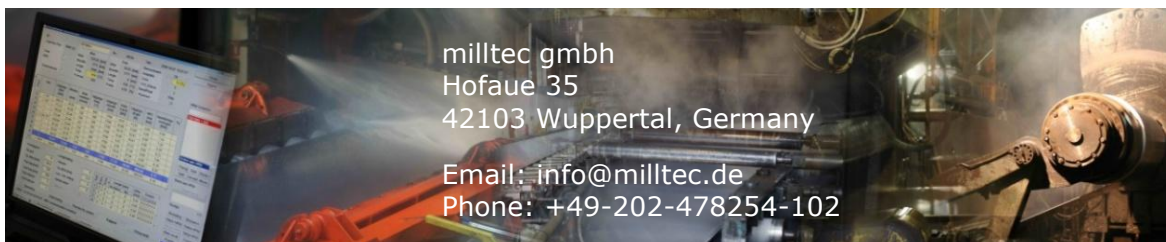
The Level 2 system of *milltec* will be equipped with a dynamic intermediate cooling where required:



Different to normal intermediate cooling strategies with only fixed coolant pattern, a dedicated work roll coolant pattern is calculated and cyclically updated by the *Setup* function based on the forecasted flatness at the strip head of the following pass.

Due to the adaptation of the roll coolant pattern to the flatness requirements, the average coil change time will be reduced and the flatness after product changes will be improved.

The dynamic intermediate cooling feature is optionally also available for the *milltec* shape controller with integrated *Setup*.



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