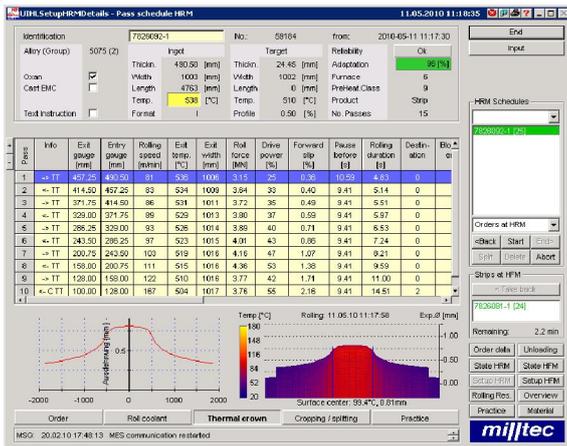


Model based Level 2 systems for hot rolling

milltec is specialised in the technological pre-setting and control of hot rolling mills based on self-learning process models.



The hot rolling process is by nature characterised by a large number of dynamic influences like time delays, product and roll temperatures and more. Furthermore, the hot rolling process is decisive for the recovery and quality of the whole production chain.

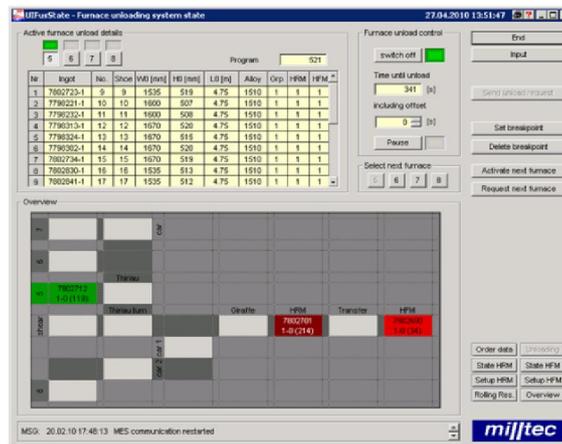
To reach the highest standards of productivity and product quality with respect to metallurgical and geometrical properties, model based process control is necessary.

Automatic closed loop adaptation in combination with state of the art process models embedded in customised strategy modules ensure precise prediction of all relevant process variables and thus precise and stable control of the process.

New alloys or clad compositions are automatically generated and adapted which ensures a maintenance free operation of the system.

The model based pass schedule generation ensures optimum throughput at best quality with minimized power consumption. Pass schedules are initially calculated when an ingot is planned and updated prior to each pass in order to suite the actual thermal condition of the mill and product.

Throughput is optimised via rolling speeds and pass reductions while the adaptive ingot pacing functionality ensures just in time extraction of the ingots from the furnaces, minimising delay times and ingot losses. Load balancing between hot roughing and finishing mill ensures best utilisation of the available drive power.



Especially the aluminium hot rolling process requires precise temperature control in order to meet the desired metallurgical properties.



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