

# HOT ROLLING OF STEEL

## NOZZLES FOR MORE EFFECTIVE

## DESCALING

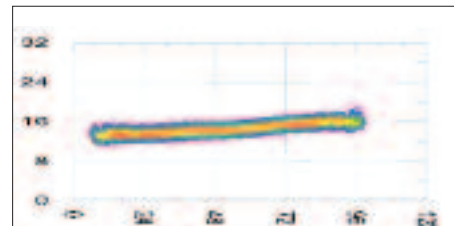


**This is one of our specialist areas – hardly anyone knows more about this than we do**

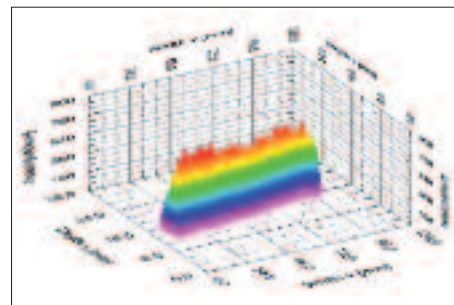
When steel is hot-rolled, the quality of the rolled product surfaces depends very significantly on effective descaling. The selection of the best descaling nozzles and their optimum arrangement is crucial here. Also, rising energy costs and ecological considerations are increasingly forcing rolling mill operators to define energy-saving measures and to implement them in the form of concrete measures.

The new **SCALEMASTER Superior**® from Lechler has immediately started to set new standards in this area. When this nozzle was developed, the use of computer-based design methods (CFD) enabled us to largely eliminate internal liquid turbulences and pressure losses. This meant that a maximum impact increase could be achieved. Thanks to compatibility with earlier models, this allows even more effective descaling for the same energy input. In addition, it also opens up significant saving potentials due to reduced cooling of the rolled product by reducing the amount of water sprayed.

The use of new materials and the reduction in the number of individual components increase both service lives and operational reliability – two further economy advantages. Nozzle configurations can be determined quickly and reliably thanks to the combination of measured values and calculation models in conjunction with the Lechler DESCALE configuration software. This ensures planning reliability and is one of the reasons why globally, several hundred descaling systems have been very successfully fitted with Lechler **SCALEMASTER**® nozzles.

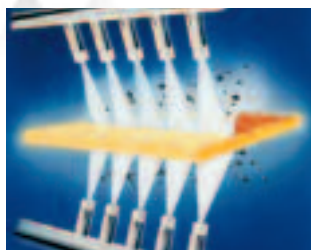
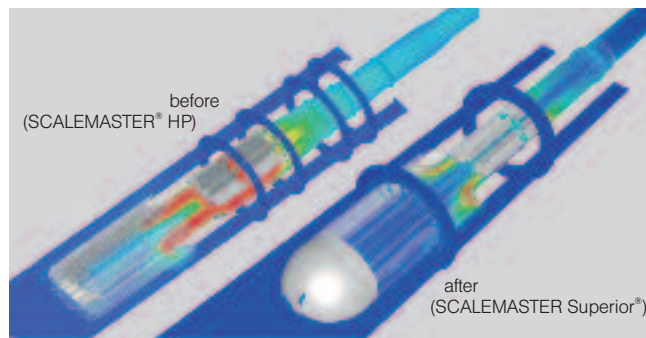


Descaling spray foot print protocol



Three-dimensional representation of the impact distribution.

Stabiliser filter unit with optimised flow thanks to Computational Fluid Dynamics (CFD)



# HOT ROLLING OF STEEL PERFECT TECHNOLOGY FOR ROLL COOLING AND MUCH MORE



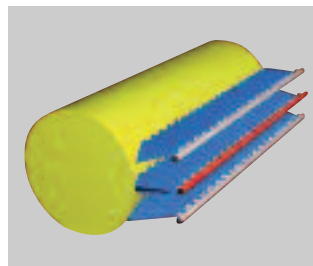
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## Lechler has a solution for all other nozzle applications in hot rolling

Only the optimal nozzle arrangements in roll cooling, for strip surface quenching (Anti peeling spray) in front of the roll bite or for interstand strip cooling guaranties a long service life of the work rolls and the required strip shape. Systems for strip surface inspection, measurements of strip thickness gauge and shape deliver only reliable data if the strip surface is free of dirt and water. With nozzles from Lechler very good results can be achieved here, too.



Roll cooling nozzle arrangement



Complete roll cooling spray header from Lechler

- Flat jet nozzles for roll cooling
- Flat jet and tongue nozzles for strip whipping in front of strip thickness gauge measuring units and surface inspection systems
- Nozzles for strip cooling in the run-out roller table
- Anti-peeling and interstand cooling nozzles
- **WHISPERBLAST**<sup>®</sup> air nozzles for blowing off strips in front of strip thickness gauges and surface inspection systems
- Studies and nozzle arrangement proposals
- Complete spray headers
- Application systems for the work roll lubrication (**LSC**)

