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Our Segments like it hot –how Smart Segment Engineering directly influences Slab Surface Quality

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Continuous casting of slabs demands stringent control of thermal and mechanical conditions to ensure crack-free surfaces and dimensional accuracy. The rising concentration of tramp elements in steel, resulting from modern steelmaking practices, significantly increases susceptibility to hot cracking, particularly within the straightening zone. Maintaining temperatures above the second ductility trough is therefore critical. Smart Segment Engineering addresses these challenges through advanced design concepts such as Eco Star spiral rolls, enabling dry casting and eliminating secondary cooling infrastructure, thereby simplifying segment architecture. High structural stiffness minimizes bulging and mechanical deformation, while precise segment alignment—supported by tools like the Strand Checker—ensures consistent slab geometry as well as excellent internal quality. These integrated solutions deliver homogeneous temperature profiles and superior surface quality, establishing Smart Segment Engineering as a key enabler for reliable, high-performance continuous casting operations.

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