

Advanced Simulating Software for Continuous Casting

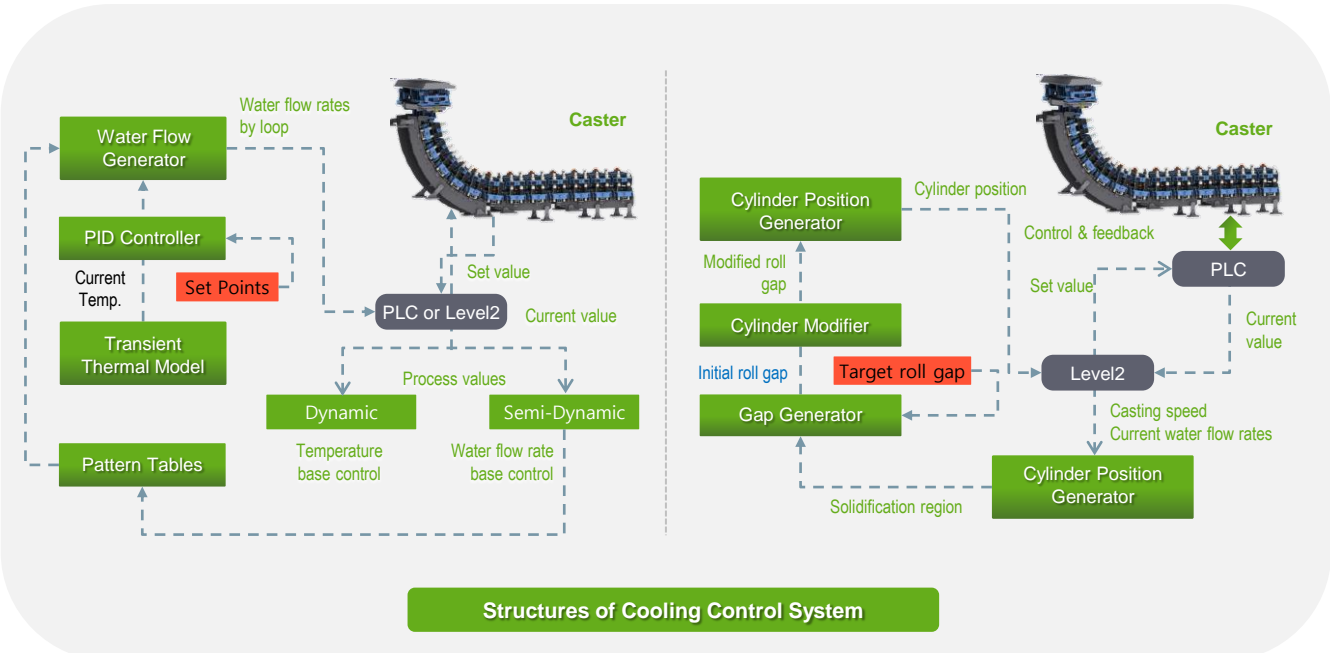
CC-COOL N GAP

Dynamic control of secondary cooling and roll gap for continuous casting

CC-COOL N GAP was developed to control secondary cooling water flow and roll gap dynamically for continuous casting based on predefined surface temperature profile. Dynamic secondary cooling and roll gap control is very useful for obtaining good qualities of strand consistently. CC-COOL N GAP can be used for on-line control and off-line simulation of secondary cooling and roll gap. Target surface temperature profiles included CC-COOL N GAP are optimized for minimizing internal/surface crack of strand.

Features

- Using on-line thermal tracking model (based on Finite Element Method)
- Using actual casting conditions (casting speed, cooling water flows)
- Tunable model by user (provide open parameters for tuning of thermal model)
- Using both dynamic mode (target temperature base) and semi-dynamic mode (cooling water flow base)
- Using on/off margin control logic (modifying water flow by width of strand)
- Using movable spray margin control logic (modifying water flow by nozzle height determined by corner margin length)
- Tracking of steel grade, strand width, and cooling pattern
- Using PID control for maintaining surface temperature
- Using stabilizing logic for minimizing fluctuation of water flow (in case of casting start)
- Coupled with dynamic control of strand gap for soft reduction
- Supplying dynamic and semi-dynamic cooling pattern obtained by process optimization based on qualities(internal/surface crack) of strand
- Flexible GUI (Customizing operating and monitoring GUI by user's convenience)



Structures of Cooling Control System

