Advanced Simulating Software for Continuous Casting

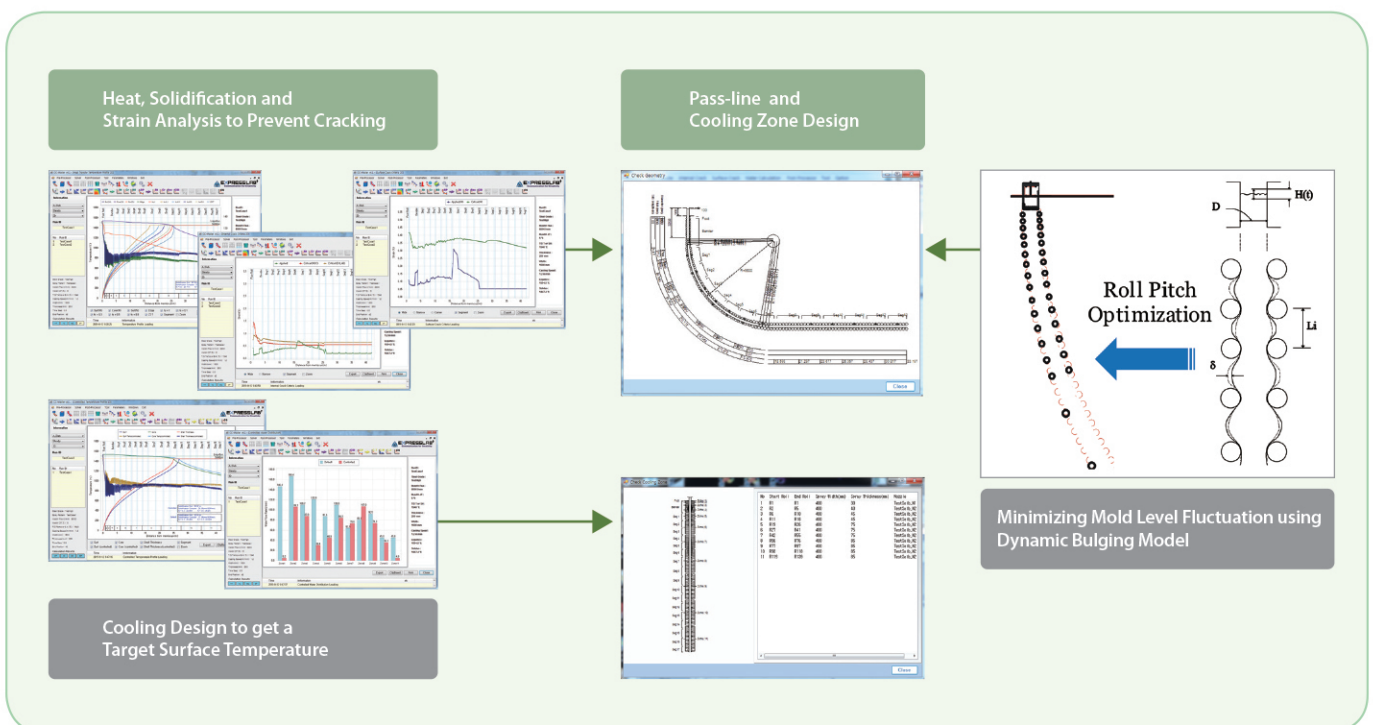# CC-DESIGN

The Right Tool for Caster Pass-line Design

CC-DESIGN coupled with CC-MASTER solver was developed to design roll geometry of pass-line under which internal and surface cracks are prevented. Therefore, CC-DESIGN can be used to check and feasibility of roll geometry and to edit the geometry. By checking the feasibility of achievement of target productivity with certain product-mix without internal cracks and surface cracks, roll geometry or segment can be designed or modified accordingly.

Easy-to-Use / Competitiveness / User-friendly environment

FEATURES

- Roll geometry and cooling zone design
- Coupled with process simulator (CC-MASTER)
- Roll geometry design or modification to prevent midway and transverse cracks
- Roll pitch modification to reduce mold level fluctuation due to dynamic bulging
- Checking the feasibility of and editing a roll geometry
- Useful results for roll and bearing design
- Useful results for choice of driving motor and layout of driving rolls

Heat, Solidification and
Strain Analysis to Prevent Cracking

Pass-line and
Cooling Zone Design

Roll Pitch
Optimization

Minimizing Mold Level Fluctuation using
Dynamic Bulging Model

Cooling Design to get a
Target Surface Temperature

MODULES

Basic module	Additional module	Material Database
■ Heat Transfer Module ■ Water Flux Calculation Module ■ User Interface	■ Internal Crack Module ■ Surface Crack Module ■ Dynamic Bulging Module ■ Design Toolkit	■ Thermal Properties DB ■ Internal Crack Properties DB ■ Surface Crack Properties DB

FUNCTIONS

- Pass-line Visualization
- Autocad Script Export of Roll Geometry Data
- Calculation of Roll Deflection by Split Type
- Calculation of Bearing Loads

- Calculation of Withdrawal Force
- Calculation of Driving Motor Power
- Calculation of Pinch Roll Force
- Calculation of Soft Reduction Force

- Optimized roller layout
- Optimized cooling zone layout
- Roll Geometry
- Cooling Zone
- Internal Quality + Surface Quality
- Withdrawal Force
- Roller Deflection
- Spec. & layout of driving motor
- Basic design data for Roller

Establishment of passline design process and technology

CC-MASTER	CC-MOLD
Defect Prediction, Process Optimization in Strand	Defect Prediction, Process Optimization in Mold
CC-EYE	**CC-SPRAY**
Mold-Strand Integration System	Dynamic Surface Temperature Control

PRODUCT FAMILY