

Development of Thin Slab Caster

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 € Z 8 • 9x3ÿ5ê4 x È Ý ° ¥ î , • á ç ^ ] \_ | ~>\*! " • ! Ö % \$ 3æ } @ •+ ^9x 5ê"&  
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Synopsis :

Thin slab caster of the vertical twin belt type has been developed to realize an innovative continuous casting technique. Key techniques required for the development are follows: (1) The use of a high speed water film to uniformly cool and support the belt, (2) progressive reduction in mold thickness along casting direction to enable us to apply conventional- type pouring systems. A commercial size caster termed KH was installed to establish stable casting techniques and to see the qualities of the product. Casting experiments of more than 100 heats made it clear that thin slabs of 30 mm in thickness and 800 to 1000 mm in width with good surface quality were able to be stably cast over 40 t per charge at the maximum casting speed of 10 to 12.5 m/mm. The thin slabs were directly hot rolled without reheating; the resultant hot coil showed a good appearance and good mechanical properties comparable to those of conventional products.

# 薄スラブキャスターの開発\*

川崎製鉄技報  
21 (1989) 3, 175-181

## Development of Thin Slab Caster



### 要旨

薄スラブの連続鋳造技術の確立を目的として、双ベルト式の垂直型連鋳機の研究開発を行った。主な開発項目は、ベルトの支持と全面均一冷却が可能な高速水膜冷却法および従来連鋳法と同様な浸漬ノズルの使用を可能とする上広がり型鑄型である。本方式を採用したKHキャスターにより、厚み30mm、幅800~1000mmの鑄片40tを最高10~12.5m/minで安定に鋳造する技術を確立した。鑄

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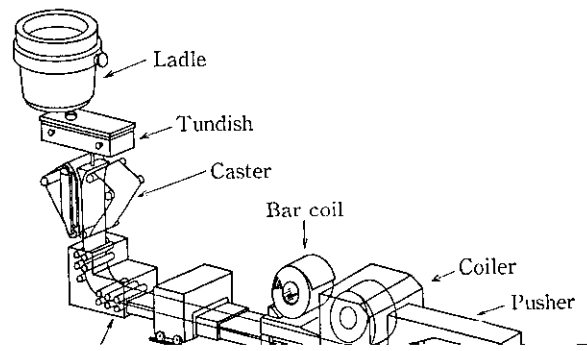
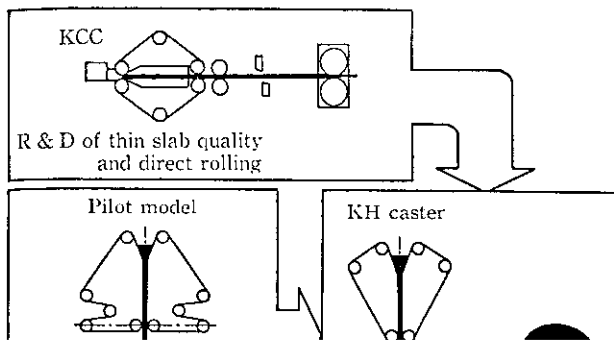
安川 登  
Noboru Yasukawa

速鋳造やベルトコーティングなどにより、無加熱直送圧延が可能な高温鑄片が得られた。鋳造中に連続的に巻き取り、鑄片の仕上げ圧

左右の端に、傾斜を付し、両面不可成り、液の均一、凝固時間、...

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技術の普及に貢献し、品質を向上させること、(株) 株式会社 日本製鉄...





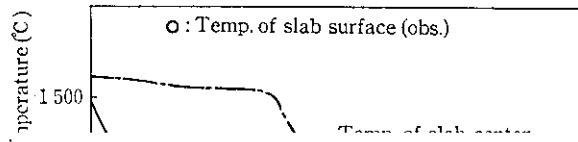


⑥ 

○ L.C. (with coating)
△ M.C. (with coating)

また、ベルトと冷却水間の熱流束  $q'$  は、

$$q' = \alpha_w \cdot (\theta'_m - \theta_w) \dots\dots\dots (4)$$



## 7 結 言

薄スラブ連铸機の開発を目的として、200 kg, 5 000 kg の溶鋼を