

KAWASAKI STEEL TECHNICAL REPORT

No.32 ( March 1995 )

Ironmaking Technology, Secondary Refining,  
and Center-Segregation Control with Forging in CC

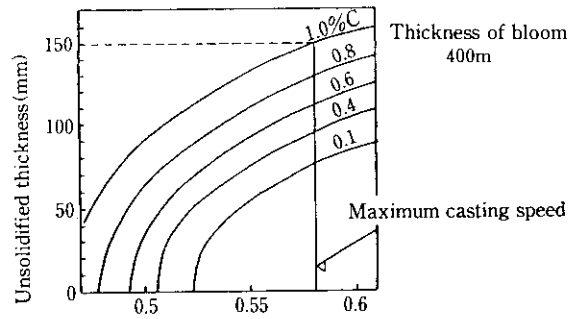
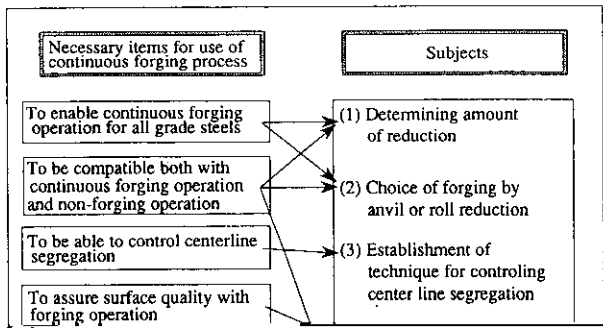
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# Production Facilities and Operational Techniques for Continuous Forging Process\*

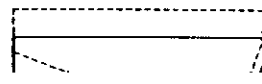


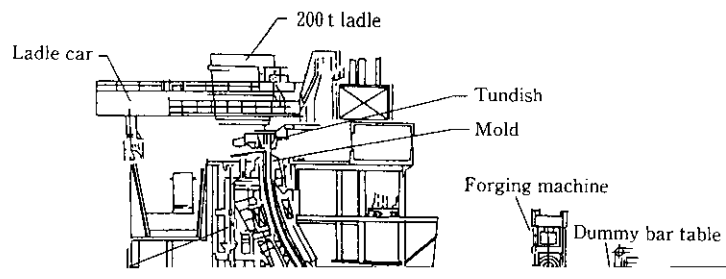
## *Synopsis:*

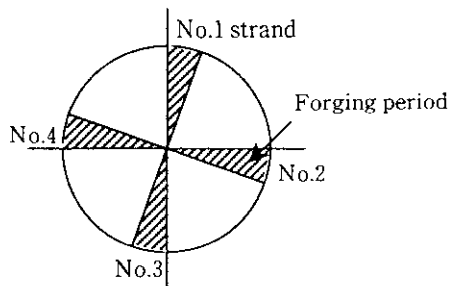
*To solve the problem of segregation in continuous casting, the continuous forging process was developed and installed at No. 3 Continuous Caster of Mizushima Works*



cracks, the maximum casting speed is 0.58 m/min.  
Under these conditions, the maximum amount of  
reduction we set at 150 mm based on the







## 5 Establishment of Mass Production Operating Techniques

### 5.1 Establishment of Travel Time Control Technique

As a method of controlling centerline segregation in blooms,<sup>13)</sup> control of the thickness of the solidus-liqui-

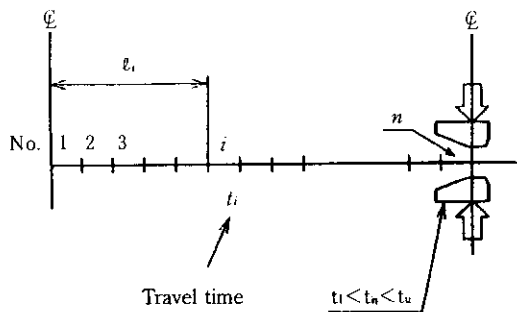


Fig. 9 Tracking method of controlling travel time

casting speed is selected based on the condition of minimizing the length of the nonconforming section.

$$(V_{i,\min})_{\max} \leq V \leq (V_{i,\max})_{\min} \dots \dots \dots (6)$$

where  $V$  is the set casting speed at the point in time of tracking.

- (4) The operation described above is tracked continuously and the optimum casting speed is set on a moment to moment basis, controlling the travel time to the aimed value.
- (5) In the allowable speed setting described in (3), adjustments can frequently be made in the later

allowable speed range. This makes it possible to

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