

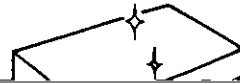
# Methods for Detecting Phosphorus Segregates in Steel\*

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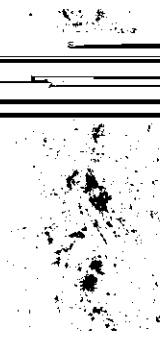
## 1 Introduction

In response to recent demand for more diverse and sophisticated steel products, remarkable progress has



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(a) without EMS



(b) with EMS



10 mm

Photo 3 Prints of centerline segregation in a stainless steel slab cast with  $P = 0.025\%$

stirring (specimen cast by segregation simulator, midsection of CC slab,  $P = 0.025\%$ )

(a) As cast

(b)  $1050^{\circ}\text{C} \times 8 \text{ h}$ , AC (c)  $1250^{\circ}\text{C} \times 8 \text{ h}$ , AC

#### 4 Concluding Remarks

Phosphorus segregation in steel products is closely related to their chemical composition and thermal history. The P-print test method discussed here can be applied to advanced steels which cannot be evaluated by the conventional sulfur print method. Because the P-  
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effective information can be obtained for the investigation of the relationship between the internal structure and the distribution and magnitude of phosphorus segregates.<sup>1)</sup>

#### Reference