

KAWASAKI STEEL TECHNICAL REPORT

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Stainless Steel and Steel Plate

Stainless Steel Production Technologies at Kawasaki Steel Features of Production Facilities and Material Developments

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Synopsis :

Kawasaki Steel has careers of more than 40 years in stainless steel flat rolled products. History of the company in terms of production facilities and developments of stainless steel is described. Features of the latest facilities are also described. Significant points are steelmaking process of Cr-ore smelting reduction with combined blowing converter,

Stainless Steel Production Technologies at Kawasaki Steel —Features of Production Facilities and Material Developments—*



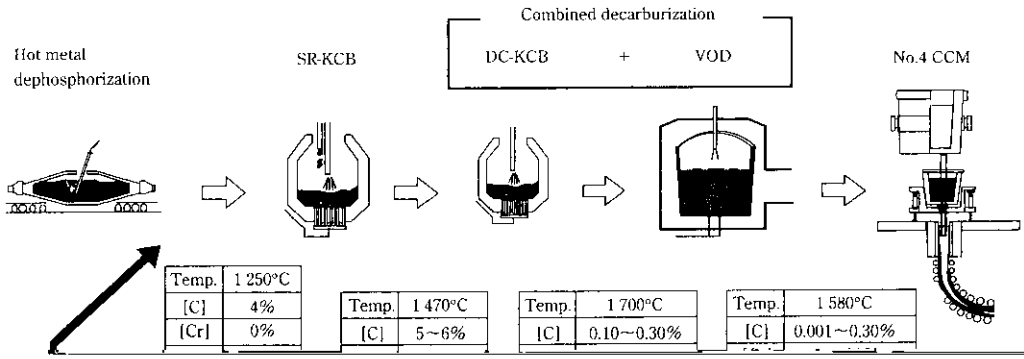
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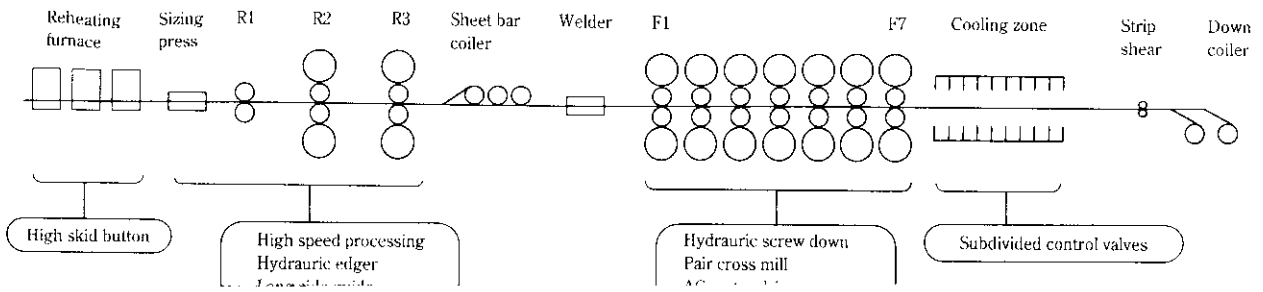
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Table 1 Stainless steel history of Kawasaki Steel

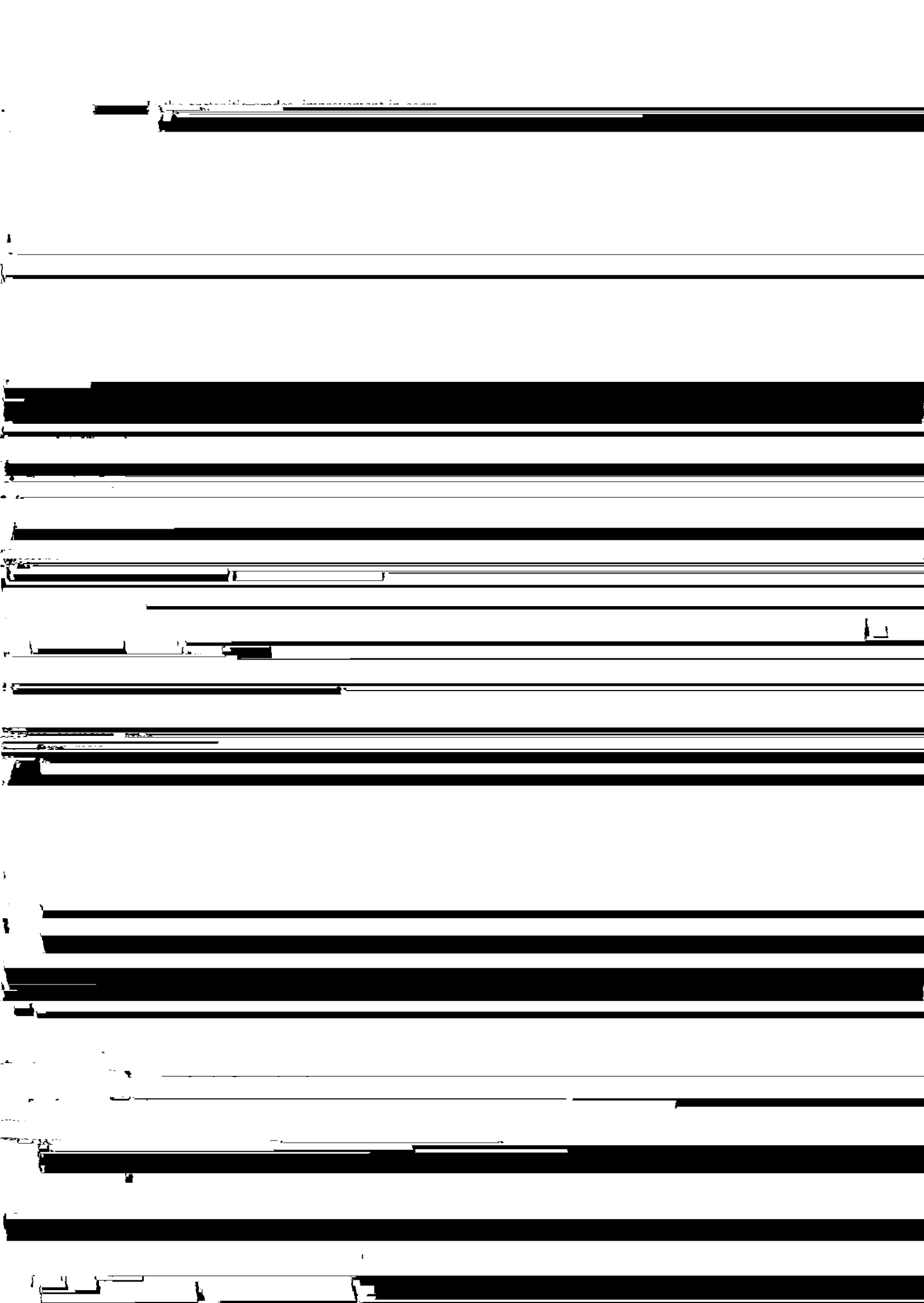
Year	Main facility installed	Developed steel	Note
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- Direct reduction of chromium ore and scrap melting
- Prevention of chromium oxidation by using mixed gas
- Lower cost refining for high grade steel by VOD process
- High quality and high speed casting





length of the vertical section is 2.5 m. The slab sizes were introduced and the capacity of the



temperature when C + N is low, as shown in Fig. 5,²¹⁾

composition design which gives the same P.I. as

11



Testing condition
Thickness: 0.68 mm
Punch dia.: 33 mm
Blanking force
for ferrite grade 0.5 t

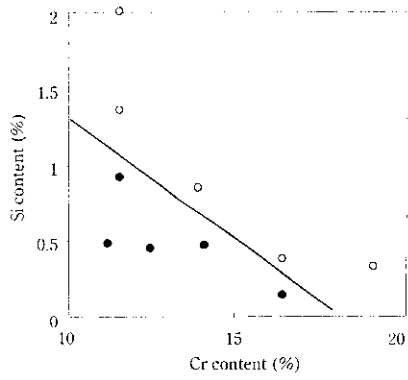


Fig. 9 Relation between Cr and Si content on the

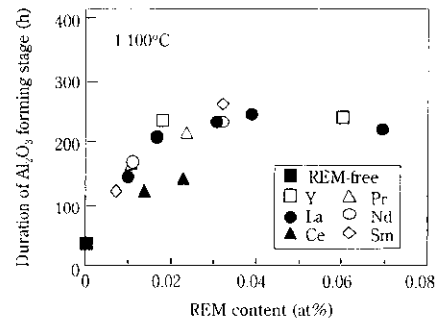


Fig. 10 Effect of rare-earth metals on duration of Al₂O₃ forming stage under oxidation of 50 μm thick Fe-20Cr-5Al alloy foils at 1100°C

950°C for 300 h. ● denotes abnormal oxidation.)

the exhaust system. As shown in Fig. 11, the corrosion

Procedure:
Specimen pre-oxidation in air at 400°C for 5 h.
Full immersion in synthetic condensate at 80°C



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