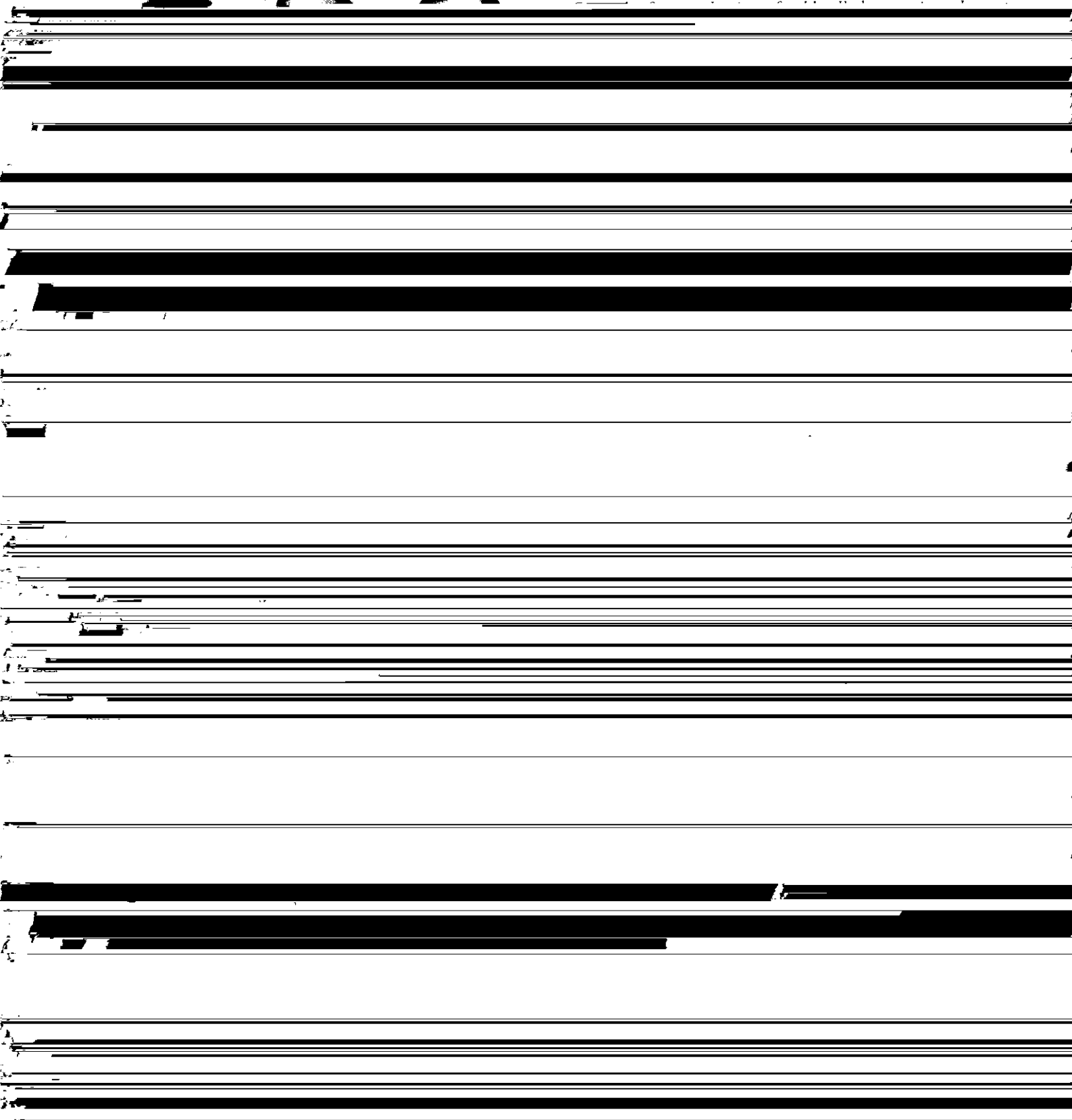


History and Recent Development of Non-Oriented Electrical Steel in Kawasaki Steel*

Synopsis:



period when the strip mill at the plate works of try and high Si products for large rotating machinery

Kawasaki Dockyard Co. Ltd (later renamed Fukiai) were developed. The 1960s saw remarkable growth in

punchability, P Coat,²⁾ which is advantageous for punch-

low iron loss as well as to reduced size, stress relief

1974 and C Coat, which markedly improves punch-

annealing is performed after the sheet is punched. A

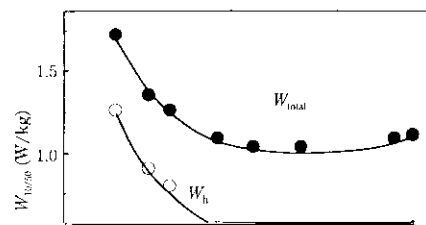
bility by adding an organic resin, were developed. In
1974 semi-permanent coating, AL Coat,³⁾ was developed

material which simultaneously provides both high induc-
tion and low iron loss after stress relief annealing was

3 Recent Progress in Non-Oriented Electrical Steel

3.1 Factors Influencing Magnetic Properties

Various properties are required in non-oriented electrical steel, depending on the application. Among these,



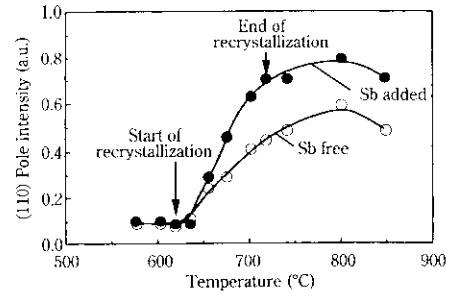
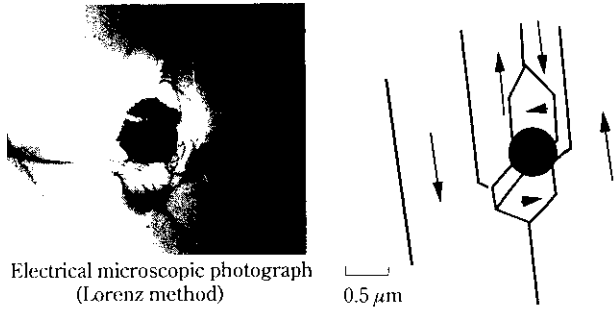


Fig. 7 Change in (110) pole intensities during

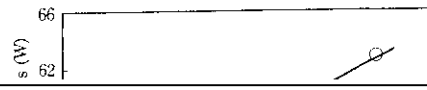
form (100) [0 vw] texture with no anisotropy, or the so-called isotropic texture, is ideal. On the other hand, for EI cores, ballast cores, and other stationary equipment

The Si content decreases in the order RP1, RP2, RP3. The best grade RP-1H, which displays the highest induction, satisfies $B_m \leq 1.70T$. These steel sheets are

lated and organized data on the properties of these respective coatings so as to be useful in the optimum selection by the customer.



properties suited to the customer's processing methods, for example, ensuring punchability and punching accuracy. Minimum strength of Hardware and



and others.

In the future, the applications of electrical steel sheets will become more diverse, and from the viewpoint of energy conservation, higher efficiency will be required not only in generators and other large equipment, but

- 7) K. Matsumura, B. Fukuda, K. Kinoshita, T. Imai, Y. Obata, and S. Miyazaki: *Kawasaki Steel Giho*, 15(1983)3, 208
- 8) Kawasaki Steel Corp.: U.S. Patent 4 204 890
- 9) Kawasaki Steel Corp.: U.S. Patent 4 293 336
- 10) T. Irie, K. Matsumura, Y. Shono, H. Nakamura, and H.