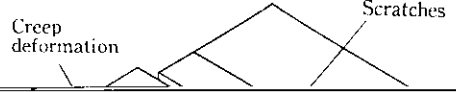
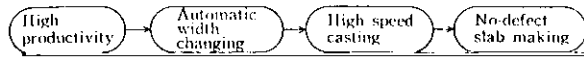




Low Temperature Properties of High Strength Steel\*

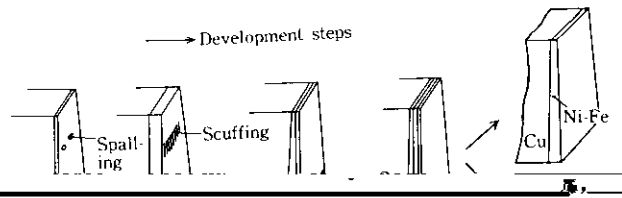


Development of continuous casting



(3) Casting mold cooling techniques for defect-free and the time of the casting start and sequential casting of dif-  
ferent steel grades and further at the time of casting per

Based on the above-mentioned findings, the authors have developed a system which automatically controls the clamping force continuously according to the operation process and cast slab widths. The system is shown in Fig. 4. Features of this system are as follows:



applied to the medium-speed (0.6 to 0.8 m/min) casting mold in which the thermal load at the meniscus is comparatively small and the NURF is of the order of 100.

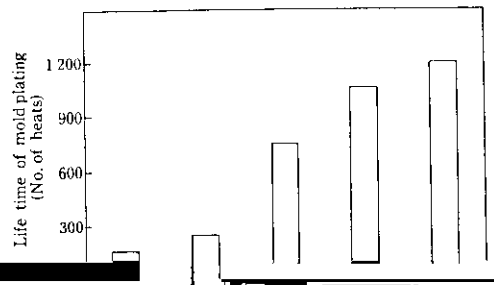
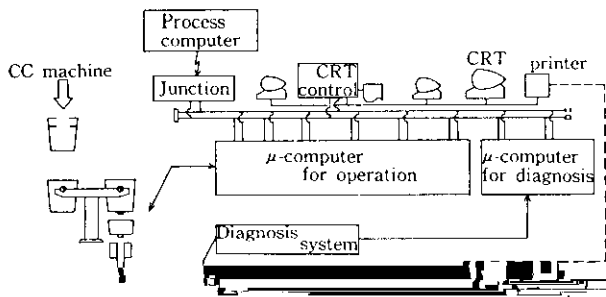




0.11



6





increased cooling power and uniformed cooling velocity were applied, taking as examples the number of times of generations of the sticking type corner breakouts under the conditions of 260-mm thick  $\times$  900~1 300-mm wide slabs and a casting speed of 1.5 m/min. From the results of the thermal analysis of uneven degrees of cooling and cooling deterioration, it was verified that the probabilitv

breakouts which were liable to generate during the manufacture of defect-free and high-temperature slabs, thereby achieving stabilized production of high-quality-slabs.

In the future, operation processes are foreseen to change drastically, and new problem are also occurring. The authors intend to investigate these matters as fast as

of breakout occurrence would become higher under these operating conditions. After corrective measures were taken on the basis of these analysis results, the number of the sticking type breakouts was reduced from

possible and continue studies on the prolongation of the mold life.

Finally the authors would like to express their deep gratitude to the staff concerned of Nomura Plating Co.