



# Development of Centrifugal Cast Roll

## for Finishing Stands of Hot Strip Mill\*



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### *Synopsis:*

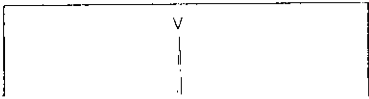
*A high C-high V type alloyed steel roll has been developed, which significantly increases wear resistance while maintaining the same productivity as the conventional roll. This paper describes the manufacturing concept of the developed roll and its characteristics: (1) The difference in specific gravity between primary crystals and residual molten steel segregates vanadium-carbides*

Table 1 Chemical compositions of primary crystal or an eutectic of  $\gamma$  plus VC in the molten steel at

1.0	3.6	2.0	3.1	0	0	0	0
-3.7	-20.0	-15.0	-8.6	-2.5	-11.1	-3.0	-6.0

als used for investigating the effect of alloy element on the wear resistance of rolls. These materials were made by the atmospheric melting process and subjected to the

cates that in the case of the centrifugal cast roll, the carbides of VC with a small specific gravity segregate in the inner surface side of the equiaxed grain region owing to the centrifugal force, as shown in Fig. 1. This phenomenon can be explained in terms of the difference in specific gravity between the primary crystal and the residual molten steel. To prevent this carbide segrega-



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