Molten Steel Flow Control System in Mold by Electromagnetic Force*

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In continuous casting of steel, the following are essential goals:

(1) Stable high efficiency casting (breakout-less continuous casting)
(2) Casting of very clean steel with minimal inclusions
(3) Improved yield by eliminating the need for CC slab conditioning
(4) Energy saving by direct rolling

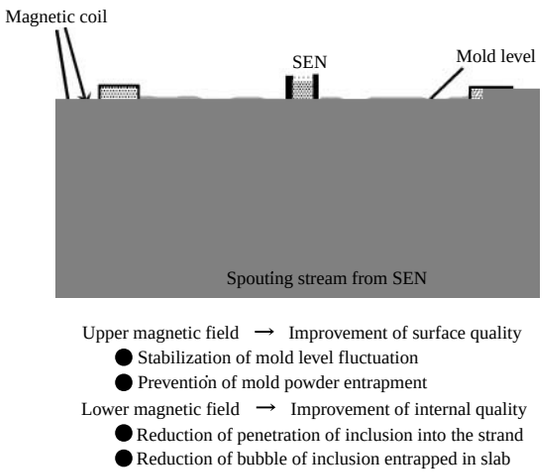

Fig. 1 Molten steel flow control by static magnetic field

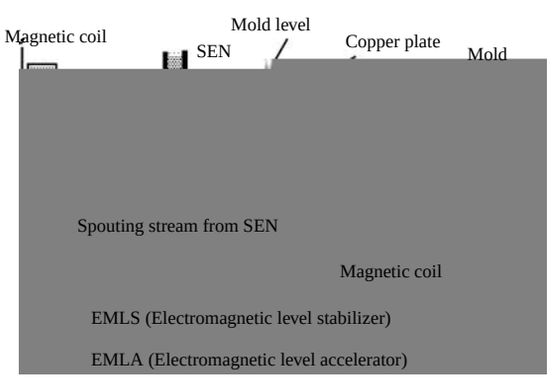

Fig. 2 Molten steel flow control by traveling magnetic field

ling the flow rate at the molten steel meniscus
(3) Prevention of inclusion entrapment by controlling the downward flow of molten steel

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JFE-type molten steel flow control systems are superior in the following points:

(1) Optimization of the molten steel flow pattern in the mold is possible.
(2) Automatic computer control of the applied magnetic flux density is possible.

FC-Mold: Unique automatic control of applied magnetic flux density

EMLS/EMLA: Automatic control of direction and intensity of traveling magnetic field

As a result, it is possible to realize stable, highly efficient continuous casting operation in the production of high quality, as-cast (conditioning-free) slabs.

1+ Bu^ j mib lc >mmif`^qflk lc @l j mrqbo ql >`qr^i @lkqfkrlrp @^pqfkd J ^`efkb

JFE Group's molten steel flow control system enables automatic computer assisted operation from the start

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