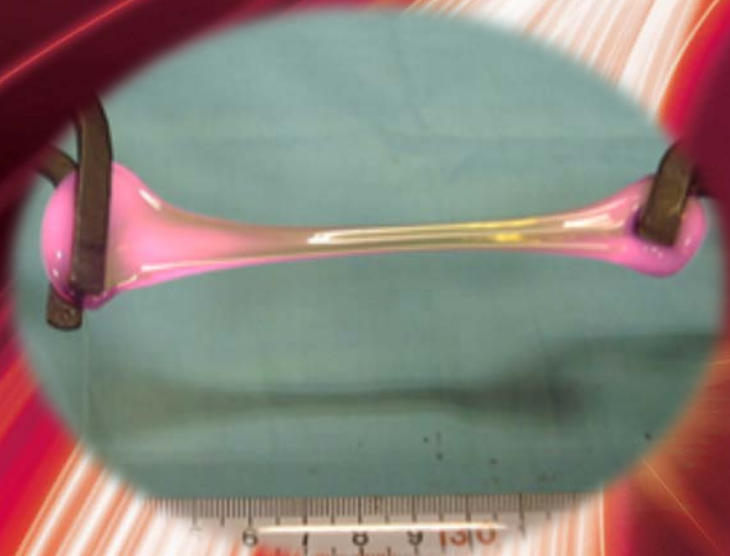
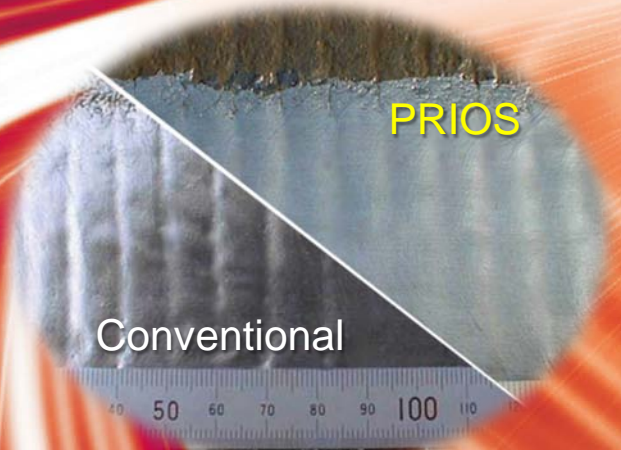


# PRIOS

Mold Powder for Bloom, Billet and Beam Blank Caster



Molten condition of PRIOS



Appearance of bloom surface

**SHINAGAWA's ultra high viscosity mold powder technology provide benefit for steel quality and cost.**

Mold powder "PRIOS" is a unique mold powder.

PRIOS has much different characteristics from conventional mold powder having an ultra high viscosity, 8 – 100 poise at 1300 °C.

PRIOS have been used with great success on bloom, billet and beam blank casters in the world.

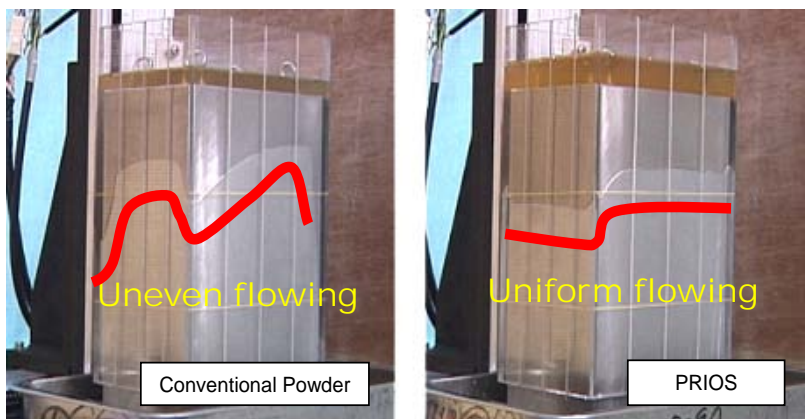
# PRIOS (Ultra High Viscosity Mold Powder)

## High Viscosity

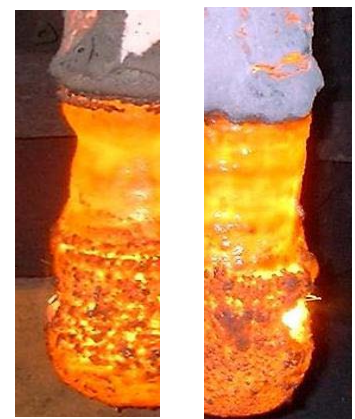
PRIOS series has an ultra high viscosity variation from 10 to 100 poise, though the viscosity of conventional mold powder is less than 5 poise. Powder slag of PRIOS is very strong. The effect of strong slag is to prevent sticking between the mold and the solidified steel shell, prevent entrapment of powder slag into the molten steel and preventing contact between the molten steel and the unmelted powder because of non-breakable powder slag. As a result, PRIOS can reduce break outs and improve quality.

## Heat Transfer

PRIOS is a high heat transfer mold powder due to its completely glassy slag film. However, it can reduce cracking and streak issues by uniform heat transfer. The slag flowing of PRIOS between the mold and the solidified steel shell is very uniform as the effect of ultra high viscosity.

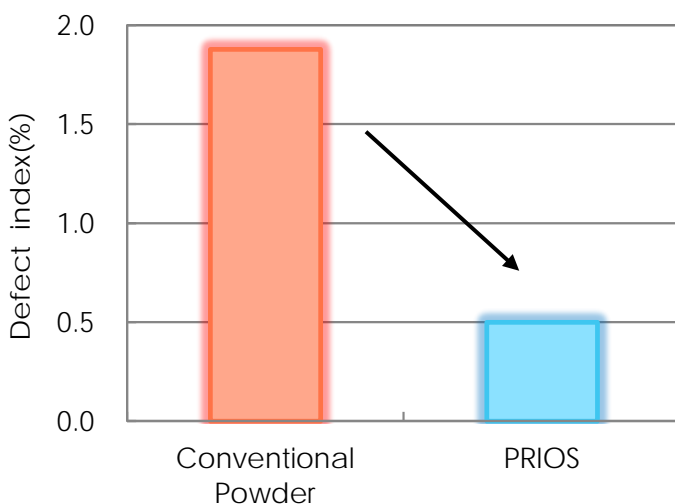


Cold Model Simulation



Conventional Powder      PRIOS

SEN Erosion



Example of steel quality improvement using PRIOS

- Ultra high viscosity, low fluorine mold flux
- Reduced breakouts
- Minimal corrosion of SEN
- Improved steel quality
- Lower powder consumption
- Reduced water treatment cost
- Applicable to various casting conditions