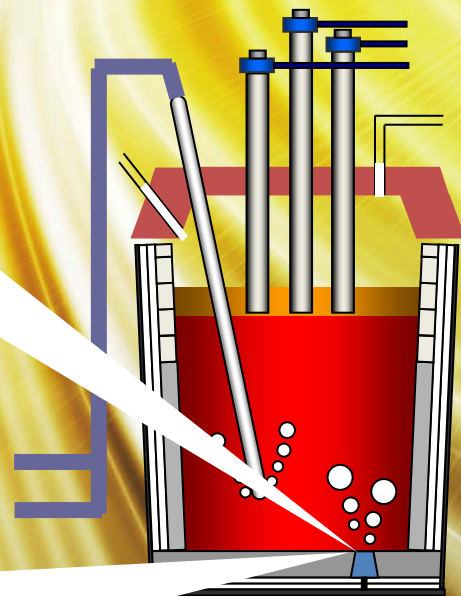


# *Purging plug* for Ladle Refining



**For various demands of steel refining, SHINAGAWA proposes optimal gas purging solution.**

Porous plug is recommended for sophisticated refining by adequate stirring along with removal of inclusion due to sensitive bubble controllability.

For the purpose of strong stirring and long service life, slit plug with high gas permeability and high steel infiltration resistance is desirable.

Porous-slit hybrid type is also available.



## Porous type



Examples of porous media

### Variety in structure of SHINAGAWA's porous media allows sensitive bubble control.

Suitable selection / arrangement of raw material and control of manufacturing parameter materializes wide variety in porous media, pore size and flow rate. Customers can find the best pore size material suitable for individual operating condition.

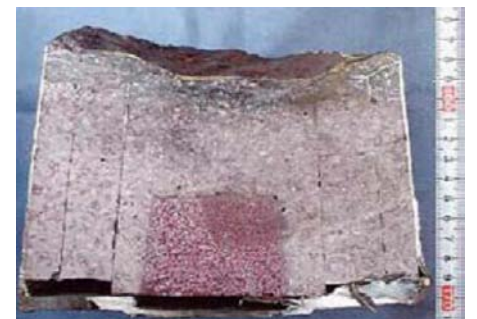
## Slit type

### Continuity of slit ensures easiness of gas flow recovery.

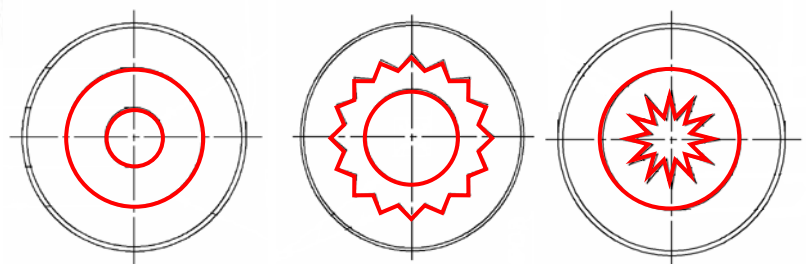
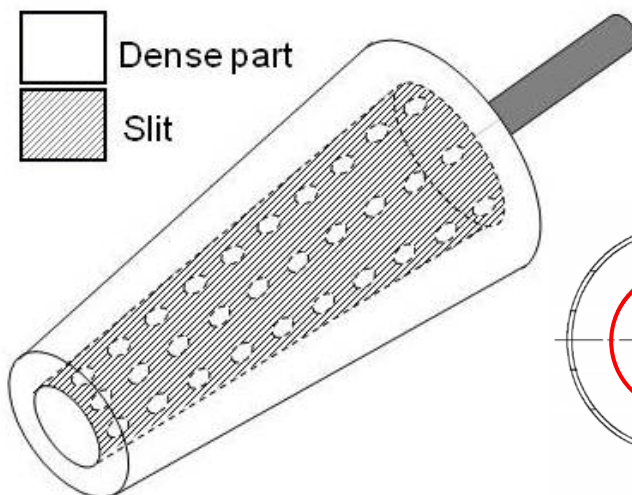
Since slit face continues, sufficient gas flow is recovered by brief oxygen cleaning which makes small gas flow channels. Long service life is attributable to the dense precast material in addition to the brief oxygen cleaning. Gas flow rate is controlled by tailor-made slit shapes.



Porous 12heats



Slit 15heats



Examples of slit shape