Coating process for ta-C on piston ring

KIMS

Surface coating for tribological applications

- Coating Time: 1 batch/ 24 hr
  (Semi-maintenance + cleaning + loading + coating)

Sample loading

Heating to reducing outgassing
(120 °C up)

(1) Ion cleaning
(Ion-source)
- Power : 2kV/700mA
- Etching rate : 300 nm

Substrate cleaning

Ultra sonic cleaning

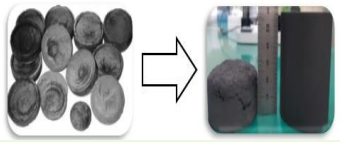
Baking

Coating Process

(3) ta-C coating
- Thickness : 5.0~6.0 ㎛

Control of Internal stress & Anti-wear

(4) Piston ring



Stable cathode usage

Control of Thermal stability

(2) Buffer layer coating
(Magnetron Sputtering)
- Power : 8A/ 560 V
- Thickness : 0.7 ~ 1 ㎛

ta-C (FVAS) : New Technology & Market

□ Durability coating → To require the Functionality & Durability