

ABSTRACT OF THE DISCLOSURE

A METHOD OF SURFACE PROCESSING, A SURFACE PROCESS DEVICE, AND A VTR DRUM, CYLINDER, PISTON, ROLLER OR ELECTROPHOTOGRAPHY PHOTSENSITIVE DRUM WITH THE SURFACE THEREOF PROCESSED

Formation of a glass surface layer having sufficient adhesion to a material and surface smoothness on the surface of material, for enhancing hardness, surface smoothness and wear resistance of the material. By rotating a VTR rotary drum and discharging plasma from an electrode to a periphery of the drum, a melted layer is formed on the periphery. Water glass is discharged from a nozzle to the melted layer, thereby forming a water glass layer. The melted or half-melted part of the melted layer as well as the water glass layer are compressed and plastically deformed with a roller. The water glass layer, cooling down the melted layer, is heated to transform into a glass layer. The glass layer has a sufficiently hard, smooth and dimensionally precise surface. The mixed layer of glass and metal firmly bonds the glass layer to the drum periphery. The VTR drum becomes durable against wear caused by a VTR tape. Since the non-porous and smooth surface is formed on the drum, the tape sliding on the drum is also protected from wear and tear.

This Sheet Has Been Replaced



THIS SHEET HAS BEEN
REPLACED