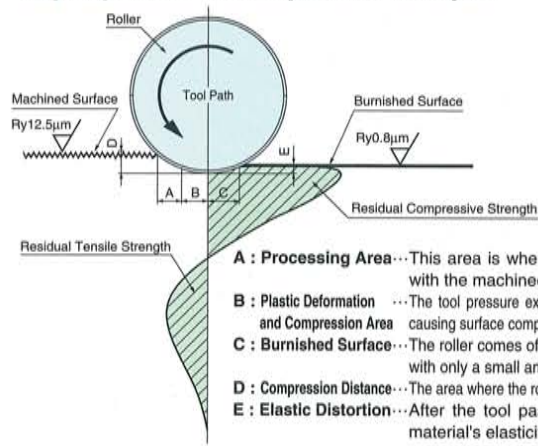


How it Works

The roller burnishing process creates a "mirror" finish in a single pass by plastic deformation and compressing the high points of a given surface. This process is similar to compressing asphalt in the construction industry.

This plastic deformation is limited to the surface of a feature. This in turn creates more precise finishing, higher productivity rates and an increase in tensile strength and surface hardness.

[Synopsis of the Superroll Principle]

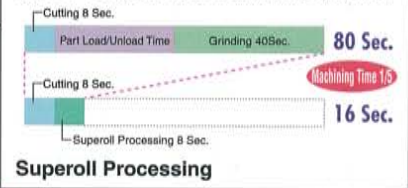


Processing Effects

Cycle Time Reduction

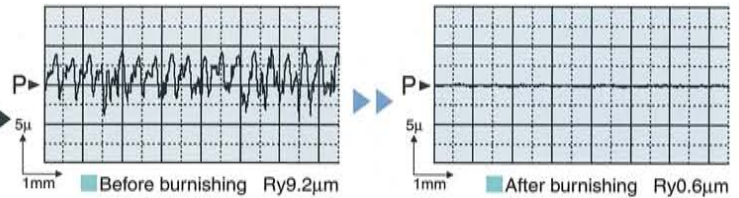
Cycle times can be reduced by 1/5-1/20 of the time of a grinding operation. The work piece can be finished in a single operation on a CNC lathe or CNC machining center.

Typical Comparison to a Grinding Operation



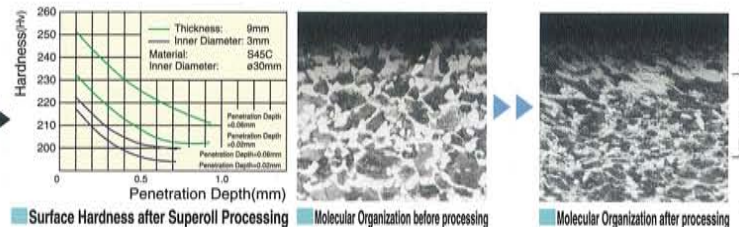
High-Speed Burnishing

Superroll provides $Ry.004'' \sim .032'' \mu\text{inch}$ [$Ry0.1-0.8\mu\text{m}$] surface finish in one pass. This process is ideal for mating or seal surfaces.



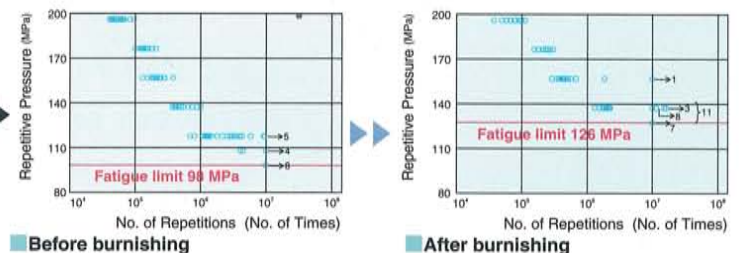
Improves the Abrasion Resistance of a Surface.

The molecular organization is so dense after the burnishing process that it actually increases the surface hardness, which in turn improves abrasion resistance.



Increased Tensile Strength

Residual compressive stress is produced during the burnishing process increasing the surface tensile strength by more than 30%. Improved tensile strength affords design engineers the flexibility to design lightweight components.



No Sludge Produced

Since the burnishing operation produces no sludge or by-products, no special waste treatment procedures are required.

