

... and it makes a difference!

RÖSLER

RÖSLER
finding a better way ...

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After the ISF® process



Before the ISF® process

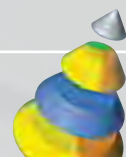
finding a better way

Isotropic Superfinish (ISF®) Process

Chemically accelerated mass finishing achieves surface finishes as low as $R_a = 0.02 \mu m$ ($R_a = 0.8 \mu inch$), $R_z = 0.2 \mu m$ ($R_z = 8 \mu inch$)



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Two strong partners!

The Rösler Company and REM Chemicals, Inc., leaders in vibratory mass finishing, and chemically accelerated surface finishing have combined their knowledge and experience to make the ISF® process available to a wider group of users.

What applications is the ISF® process suitable for?

Materials

- Carbon steel and high-alloy steel
- Stainless steel
- Titanium, zinc, etc.

Typical applications

- Aerospace and automotive gearbox components (mainly gears)
- Race car engine components (cam shafts, tappets, rocker arms)
- Bearing parts (races, rollers)
- Aerospace and power generation turbine components (blades, blisks, disks)
- Turned and milled precision components
- Hand tools, medical implants, surgical instruments, cutting tools



How does the ISF® process work?



The patented ISF® process (chemically accelerated mass finishing) is based on proven components from mass finishing technology.

Reactive ISF® compounds generate a thin oxide layer (black mode) on the surface of the component. Special non-abrasive ceramic media wipes the film from the part's surface.



Peaks on parts are removed without metal removal in the valleys, thus leveling and smoothing the parts surface down to $R_a = 0.02 \mu\text{m}$ ($R_a = 0.8 \mu\text{inch}$), $R_z = 0.2 \mu\text{m}$ ($R_z = 8 \mu\text{inch}$).

The ISF® process is then followed by a burnishing step.



ISF® surfaces improve your components' performance characteristics ...

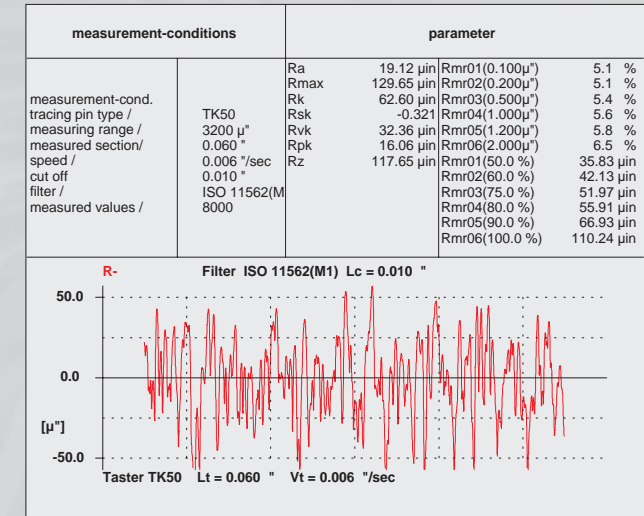
... by

- reducing running noise, friction heat and wear, energy consumption and operating costs
- extending service intervals and overall component life
- allowing the design of lighter weight components

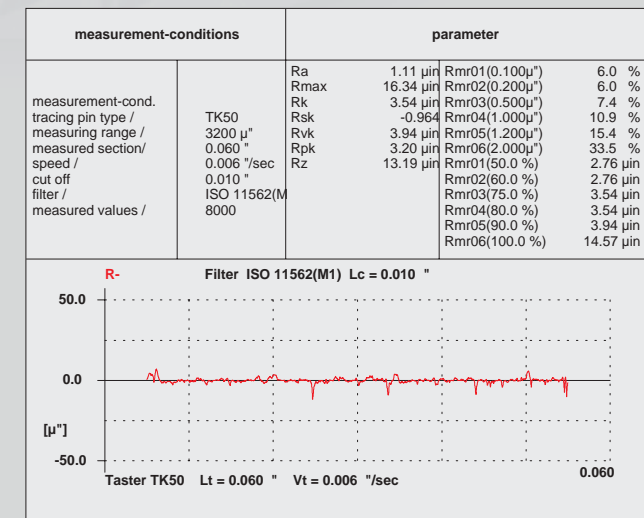


A finish that convinces

- Surface roughness levels as low as $R_a = 0.02 \mu\text{m}$ ($R_a = 0.8 \mu\text{inch}$), $R_z = 0.2 \mu\text{m}$ ($R_z = 8 \mu\text{inch}$).
- Contact area with increased load capacity
- Components geometry maintained
- Surfaces free of abrasive contamination
- Matte to high-gloss surface finishes



Surface roughness before the ISF® process



Surface roughness after the ISF® process